Prince Sultan University

3rd Undergraduate Research Forum

URF 2017

Program and Book of Abstracts
February 20 - 21, 2017

http://info.psu.edu.sa/pscw/urf/

Scientific Sponsor

مدينة الملك عبدالعزيز للعلوم والتقنية KACST

Women's Program
Day 1 - February 20, 2017

Registration and Opening

8.30 - 9.00	Welcome Desk/Registration: Outside Large Auditorium
9.00 - 10.00	Opening Session: (Large Auditorium)
9.00 - 9.05	Quran Recitation
9.05 - 9.10	Welcome Dr. Dina El-Dakhs URF Chair
9.10 - 9.20	Opening Words Dr. Rimah Al-Yahya, Vice-Rector for Women Campus Dr. Eman Kamal, Vice-Dean, Graduate Studies & Research
9.20 - 9.50	Keynote Speech Representative of King AbdulAziz city for Science & Technology, the URF Scientific Sponsor
9.50 - 10.00	Questions/Answers

Women's Program

Day 1 - February 20, 2017 Session (W1) 10:20-12:20

Session W1.1 General and Applied Sciences

(Building 2-Room 215)

10.20-10.40 Isolation of Acinetobacter Species from Intensive Care Unit of General Hospital Special Reference to Antibiotic Resistance: A Pilot Study Analysis
Tahani Salim Mahddy- Prince Sattam Bin Abdulaziz University

10.40-11.00 The Role of Mobile Phones in the Elevated Rate of Surgical Site Infection in the Patients of the Surgical Intensive Care Unit and the Surgical Wards at KFUH
Sarah Ahmed Al Dawood - University of Dammam

11.00-11.20 Saudi Arabia 2030 – Ways to Achieve – A Futuristic Approach
Fatima Radi Abushaar - Prince Sattam Bin Abdulaziz University

11.20-11.40 Response Interruption and Redirection (RIRD) as Treatment for Stereotypy: A Systematic Review
Rufaida AlKhanji - Dar Al-Hekma University

11.40-12.00 Knowledge and Attitude about Epilepsy among the Primary School Teachers
Sarah Abdullah Mubarak - Prince Sattam Bin Abdulaziz University

12.00 12.20 Multidrug Resistant Extended Spectrum β-lactamase (ESBL) Detection in Gram-Negative Bacilli of Nosocomial Origin in Wadi Al Dawaser Region of Saudi Arabia
Reem Abulaziz Al Qannam - Prince Sattam Bin Abdulaziz University

Session W1.2 Engineering

(Large Auditorium)

10.20-10.40 Humaniod Robot for House Services Controlled by IoT
Razan Abdulwahab Halawani - Taif University

10.40-11.00 Passive Cooling System in Hospitals: “King Abdullah Children Hospital of the National Guard”
Hessa Al-Mazrou - Prince Sultan University

11.00-11.20 Continuous Monitoring of Patients’ States Using a Non-invasive Comprehensive Framework for Beat-to-Beat Fluctuations of the Heart
Reem Mounzer Almasri – Imam Abdulrahman Alfaisal University

11.20-11.40 Early Breast Cancer Detection Using Ultra-Wideband (UWB) Antenna Arrays
Alya Mohammed Aljutay - University of Dammam

11.40-12.00 Automated Diagnostic System for Leukemia Detection in Human Blood Sample
Noor alabkari - University of Dammam

Session W1.3 English Language Studies

(Small Auditorium)

10.20-10.40 The Attitudes and Motivation of Saudi University Students for Learning English as a Foreign Language: Prince Sultan University Freshmen as a Case Study.
Haifa Saad AlAmmar - Prince Sultan University

10.40-11.00 Mother Tongue Attachment & Translation Competence: The Case of Arabic as a TL
Renad Ibrahim Aljadid - Prince Sultan University

11.00-11.20 The Use of Translation Technology among Translation Female Students at COLT: a Case study
Hatoon Nasser Almotham - King Saud University

11.20-11.40 For the Souls and Butterflies; A Critical Reading of Romanticism as an Example of Eco Poetry
Haifa Saad AlAmmar - Prince Sultan University

11.40-12.00 The Problematic Nature of First Language Acquisition
Afnan Abdulrahman Alzeer - King Saud University

Session W1.4 Computer and Information Sciences

(Building 2-Room 315)

10.20-10.40 Smart Identification and Recognition of Unidentified People Using Biometric Measures
Sahar Abdullah Al-harthi - Taif University

10.40-11.00 Human-Glove Sensors for Sign Language Translation Using Arduino
Anwar Abdullah Alazwari - Taif University

11.00-11.20 Smart Blood Bank Refrigerators and Donation System Using the Internet of Things Technology
Nouf Khamis Althobaiti - Taif University

11.20-11.40 Intelligent Tutor Application to Learn Python
Reem DaifAllah Aloufi - Taif University

11.40-12.00 Smart Irrigation System using the Internet of Things Technology
Tghreed Salem Al-harthi - Taif University

Session (W2) 1:00-2:20

Session W2.1 General & Applied Sciences

(Building 2-Room 215)

1.00-1.20 الموارد الجغرافية لنشأة السياحية في محافظة الزلفي
وضحى عبيد المظيري - جامعة الأميرة نورة

1.20-1.40 فصل مركب الليناليول من درنات الزنجبيل الخضراء و تحضير مشتقات حراريه و ضوئيه له
جامعة أم القرى -مريم محمد لافي الصاملي

1.40-2.00 كيمياء البناء الحديث
رحمة احمد ابراهيم البوشقراء – جامعة الملك فيصل

2.00-2.20 Ameliorative Effect of Exogenous Nitric Oxide on Oxidative Metabolism in NaCl Treated Maize Seedling
جامعة أم القرى - مها شداد رزق الله العمري

Session W2.2 Business Administration

(Small Auditorium)

1.00-1.20 The Role of Business Plans for Successful Entrepreneurs in Saudi Arabia
Dena Mohanad Alhaloul - Dar Al-Hekma University

1.20-1.40 Impact of Brent Crude Oil Prices on the Saudi Stock Exchange
Shroug AlOtaibi - Dublin City University - Princess Nora University

1.40-2.00 Saudi Government 1st Bond Issue and the Long Term Effect on the Economy
Rajwa Mohammed Althobaiti - Dublin City University - Princess Nora University

2.00-2.20 Attaining Sustainable Growth through Diversification: Evidence from Food Industry
Abeer Nabil Sabielaish - Prince Sultan University

Session W2.3 ID and Architecture

(Large Auditorium)

1.00-1.20 Proper Lighting for Healthy, Productive Environment.
Mashael Al-Nouri - Prince Sultan University

1.20-1.40 Riyadh: Architectural Guide
Dima Muhsen - Prince Sultan University

1.40-2.00 The Typology of the Dwelling, from the Village to the Metropolitan Area
Demah Kaf Alghazal - Prince Sultan University

2.00-2.20 Hospitals' Lighting
Salam Murad - Prince Sultan University

Session W2.4 Computer and Information Sciences

(Building 2-Room 315)

1.00-1.20 Friday's Khutba Application
Fajer AlMudaires - King Faisal University

1.20-1.40 Academic Course Equivalence System Using Information Retrieval Methods
Munirah Saleh AlKharji - Prince Sattam Bin Abdulaziz University

1.40-2.00 Human Safety System
Fatimah Ahmed Abbas AlMatar - King Faisal University

2.00-2.20 Technovestor: A Web-based Entrepreneur Matchmaking Tool
Amal Abdulrahman Almukhlal- King Faisal University

Day 1 February 20, 2017

Poster Session (W) 2:30-3:30

Main Lobby, Building 2, PSU Women's Campus

Measuring Blood Glucose Level Non-Invasively Using Bio-Impedance Technique
Tahani M. Alfareed - University of Dammam

Design of a System to Measure Blood Glucose Level
Fatima alkaabi - University of Dammam

Healthcare Units for Slums in Egypt
Fatema Salama - Prince Sultan University

Culinary Arts Academy
Shroog Moahmmed - Taibah University

TEIM: Awareness against Smart Devices' Addiction among Children
Somayya Milibari - King Abdulaziz University

دراسة آثر الأنشطة المنهجية الجامعية على تنمية المهارات العملية والشخصية
Asma Idris Fatani - Effat University

Development of 3D Bioprinters for Tissues and Organ Printing
Zainab Khan - Effat University

Remote Flash Memory using Li-Fi Technology
Norah Ali AlJallal - King Faisal University

أداة شحن ذاتية لجهاز الهاتف الجوال
جامعة الأمير سطام – ريما عبدالله طارد الدوسري

Green Smart Library Station
Nojood Almayouf - Effat University

Automatics Battery Charger Using Solar Energy
Nouf Alzanbagi - Effat University

Ultra-low Cost Electronics Using Inkjet Printing and Cellulose Materials
Nouf Alzanbagi - Effat University

Smart Attendance for University Students Using Fingerprint Identifier, Dynamic QR Code and Location Determination
Alhanadi Gazi Alotaibi - Taif University

E- Diabetes Expert system
Soha Abdullah Aldosarry - Prince Sattam Bin Abdulaziz University

Socio-Technical Systems for Saudi Heritage: Crowd-Sourcing Applications
Wejdan saad al-duaij - Princess Nora bint Abdul Rahman University

Day 2 – February 21, 2017

Registration

8.30 - 9.00 Welcome Desk/Registration
Outside Large Auditorium

Panel Discussion: 9.00 - 10.00
(Large Auditorium)

9.00 - 9.10 Welcome & Remarks
Dr. Dina El-Dakhs, URF Chair

9.10 - 10.00 Panel Discussion

Moderator:

Dr. Romana Aziz
Chair, URF Scientific Committee

Panelists :

Dr. Maha Alsenan
College of Arts & Design
Princess Noura University

Dr. Hind AlOtaibi
College of Languages & Translation
King Saud University

Dr. Rehab AbuRas
College of Engineering
Prince Sultan University

Ms. Jalila Zouhair
College of Computer & Information Sciences
Prince Sultan University

Day 2 February 21, 2017
Session (W3) 10:20-12:20

Session W3.1 Law

(Small Auditorium)

10.20-10.40 تقويم قانون جاستا في ضوء مبدأ سيادة الدول
جامعة الملك فيصل – أثير وليد الدوغان

10.40-11.00 دراسة مقارنة لحوافز القيادة الآمنة في ظل نظام النقاط المرورية
جامعة طيبة - فاطمة عبدالرحمن العنيزي

11.00-11.20 جريمة الاستغلال الجنسي الإلكتروني ضد الأطفال
جامعة الأمير سلطان - الهنوف عبد العزيز النافع

11.20-11.40 وعد بلفور و صك الانتداب البريطاني من وجهة نظر القانون الدولي
جامعة الملك فيصل - هلا صالح عبد العزيز التيسان

11.40-12.00 Impact of Corporate Governance on Economic Growth in the Kingdom of Saudi Arabia
Rawabi Abdullah Ahmad Bin Humeed - Prince Sultan University

12.00-12.20 إجارة الرحم
جامعة الامير سلطان - نوره جهاد الفاخري

Session W3.2 Interior Design and Architecture

(Large Auditorium)

10.20-10.40 مشروع تصميم ازياء مستقبلية تواكب الرؤية السعودية ٢٠٣٠
جامعة الأميرة نورة - لبنى عبدالرحمن عبدالله الصيخان

10.40-11.00 التعبير عن الذات من خلال فن رسم الوجوه
جامعة الأميرة نورة - نوف محمد الحربي

11.00-11.20 المسكوكات كمصدر رؤية في الفنون المعاصرة
جامعة الأميرة نورة - العنود بنت عبدالهادي العجمي

11.20-11.40 توظيف الخامات الطبيعية باللوحة التشكيلية بشكل مبتكر
جامعة الأميرة نورة - سمية محمد سعد المشوح

11.40-12.00 فن القط كمثير بصري لإنتاج اعمال فنية ثنائية وثلاثية الأبعاد
جامعة الأميرة نورة - سارة محمد سعد المشوح

12.00-12.20 ذاتية الرمز للتعبير في الفنون البصرية
جامعة الأميرة نورة - فاطمة راشد آل عيسى

Session W3.3 General and Applied Sciences

(Building 2-Room 215)

10.20-10.40 اللقطاء والأيتام ،تأثير المجتمع عليهم وتأثيرهم على المجتمع
جامعة الأمير سلطان - بيان محمد خالد حلوم

10.40-11.00 جاستا بين الحصانة السيادية والتقادم
جامعة الأمير سلطان – ريهام نصر الله

11.00-11.20 دور بر الأبناء في صحة الوالدين
جامعة الملك فيصل – فاطمة الخلف

11.20-11.40 Design of a Stable Biocompatible Surface of Grafted Thermo-Responsive Polymers
Randa Ayub Khan - University of Dammam

11.40-12.00 Design of a Low Cost and Robust Computer-Based ECG System for Automatic and Remote Diagnosis and Monitoring
Shaykhah Abdulaziz Almaghrabi - University of Dammam

12.00-12.20 Inhibition of Escherichia Coli Growth Using Extremely Low Frequency
Ghaida Abu Shawarib - Princess Nora University

Session W3.4 Computer and Information Sciences

(Building 2-Room 315)

10.20-10.40 Smart Mobility Crowd-Sourcing Applications
Alanoud Alhmoud - Princess Nora University

10.40-11.00 Brain-Computer Interfaces in Serious Gaming Applications for Children with ADHD
Tahani Alfawzan - Princess Nora University

11.00-11.20 Hear Me: an EEG-based Non-Verbal Communication System
Maryam Abdulaziz Boudy - King Faisal University

11.20-11.40 Education Strategies Application (ESA)
Noura Hilal Alanzi - King Faisal University

11.40-12.00 Saudi Heritage Mobile Application
Bedour Razgan Almutairi - Princess Nora University

12.00-12.20 Real Time Blind Source Separation Based on Independent Component Analysis
Arwa Ahmed Al-ghamdi - Umm Al-Qura University

Session (W4) 1:00 - 2:20

Session W4.1 Computer and Information Sciences

(Building 2-Room 215)

1.00-1.20 An Investigation about User Preference in Smartphone Free Applications
Abeer Albadri - Prince Sultan University

1.20-1.40 Requirements for Big Data Analytics
Rawan alrajhi - Prince Sultan University

1.40-2.00 Using Cloud Computing in Higher Education
Sara Alsulaiman - Prince Sultan University

2.00-2.20 Thin and Thick Clients in Desktop Virtualization
Buthaina AlWahbi - Prince Sultan University

Session W4.2 Interior Design and Architecture

(Large Auditorium)

1.00-1.20 Heritage Hotel
Shahad Abdullah Alshalhoob - Prince Sultan University

1.20-1.40 Healthy Interiors – Now and Then is Saudi Arabia
Yasmeen Aldaour - Prince Sultan University

1.40-2.00 Human Body in Visual Arts
Sarah Marwan Ahmed Rokun - Effat University

2.00-2.20 Natural Ventilation to Improve IAQ in Hospitals in Hot and Dry Climate
Banan Aldamouni - Prince Sultan University

Session W4.3 English Language Studies

(Small Auditorium)

1.00-1.20 Apology Strategies of Advanced English Foreign Language Learners: Does the Foreign Language Influence the First Language Performance?
Noura Mohamed AlJafar - Prince Sultan University

1.20-1.40 Women's Poetry Thematic and Technical Comparison between Nizar Qabbani's Between Love and Love and Elinor Wylie's Valentine
Alia Al-Zabibi - Prince Sultan University

1.40-2.00 Translation of Stream of Consciousness
Rawan Bassam Ibrahim Alzubaidi - Prince Sultan University

2.00 - 2.20 The Development of Two Languages Simultaneously
Rawan Bassam Ibrahim Alzubaidi - Prince Sultan University

Session W4.4 Computer and Information Sciences

(Building 2-Room 315)

1.00-1.20 Provenance Detection of News Articles
Ruba Ali Alsuhaymi - Prince Sultan University

1.20-1.40 Implementing a Virtual Mouse Based on Hand Gesture Recognition
Alaa Khayer - Prince Sultan University

1.40-2.00 An investigation About Thin Client in Education
Abeer Albadri - Prince Sultan University

Day 2 February 21, 2017

Poster Session (W) 2:30-3:30

Main Lobby, Building 2, PSU Women's Campus

The Relationship between Stock Returns and Crude Oil Prices
Afnan Almarzoqi - Prince Sultan University

KFU Events and Activities
Amjad Saeed Almutairi - King Faisal University

The Necessity of Using Thin Client Computing in Education
Basmah Alduwayan - Prince Sultan University

Mobile Application for Assisting People with Short-Term Memory Loss
Maiys Al Doghan - King Faisal University

Intention to Use Health Mobile Service
Reem AlFowzan - Prince Sultan University

Children's Acquisition of English Language Vocabulary by Using TV
Noura Hilal Alanzi - King Faisal University

Bottle Wall
Eman Akram - Prince Sultan University

Burnout, Humor Coping Mechanism and Grade Point Average (GPA): Academic Performance Outcome among Female Students in Saudi Arabia
Al Jawharah Abdulrahman Al-Muqrin - Princess Nora University

Evaluate the Patients Adherence to the Recommended Drug Doses
Dua'a saleh almulhim - King Faisal University

مشروع ثقافي:نادي القراء النسائي
جامعة الأميرة نورة – زينب جابر حسن آل داوود

How to Save the Heritage Buildings
Abrar Omar AL-Mazloum - Prince Sultan University

Fashion Design Association
Nouf Alarifi - Prince Sultan University

Entertainment Center for senior citizens
Shatha Altoyan - Prince Sultan University

Wireless Multi-Parameter Biopotential Measurement System
Maram Yahia Faris - University of Dammam

Men's Program
Day 1 – February 20, 2017

Registration and Opening

8.30 - 9.00	Welcome Desk/Registration: Outside Prince Sultan Hall
9.00 - 10.00	Opening Session: (Prince Sultan Hall)
9.00 - 9.05	Quran Recitation
9.05 - 9.10	Welcome by Dr. Mourad Rizk Associate Director, Research & Translation Center
9.10 - 9.15	Opening Words Dr. Musaed Bin Muqbil, Dean, Graduate Studies & Research
9.15 - 9.45	Keynote Speech Representative of King AbdulAziz city for Science & Technology, the URF Scientific Sponsor
9.45 - 10.00	Questions/Answers

Day 1 February 20, 2017

Session (M1) 10:20-12:00

Venue for Technical Sessions:

Prince Sultan Hall, Old Building, PSU Men's Campus Session M1 Engineering

10.20-10.40 A Fast, Non-destructive Technique for Measurements of Concrete Density in Existing Structures for Lab and Field Work
Aban AlWaznah - King Abdulaziz University

10.40-11.00 B.W. Enhancement for Helical Antenna
Suliman Khalil Hashash - Prince Sultan University

11.00-11.20 Design of High Performance Composites
Abdulrahman Alfawzan - King Saud University

11.20-11.40 انتاج اسمنت المبلمرات الجيولوجية من موارد طبيعية محلية ذات خصائص مميزة في التطبيقات الهندسية و البيئية
جامعة الأمير سطام بن عبد العزيز - عبدالعزيز بن احمد ال قريشان القحطاني

11.40-12.00 Multi-layers 5G MIMO antenna with High Gain
Tariq Mohammed Omayrah - Prince Sultan University

12.00-12.20 Dual Band Helical Antenna 24 GHz, 60 GHz
Abdulrahman Moahmmed - Prince Sultan University

Session (M2) 1:00-2:00

Session M2 General Sciences

1.00-1.20 التصنيف الهدفي لاستخلاص الأراضي الفضاء من صور الأقمار الصناعية عالية الوضوح: دراسة تطبيقية على مدينة الرياض
جامعة الملك سعود - فيصل بن سليمان المجلي

1.20-1.40 قياس المعرفة للمرشدين الصحيين عن حوادث الأسنان في منطقة الباحة
جامعة الباحة - حامد عيد علي الخلف

1.40-2.00 تحسين خصائص اسمنت العظم الفيزيائية باستخدام النانوهيدروكسي اباتايت
جامعة الأمير سطام بن عبد العزيز - عبدالله بن فهد بن عبدالعزيز الحقباني

Day 1
February 20, 2017
Poster Session (M) 2:00-3:00

Venue for Poster Session (M):

Student Hall, Old Building, Opposite Student Affairs Office, PSU Men's Campus

Real Estate Investment Trusts (REIT's): An Alternative Investment in the Saudi Market
Suliman Abdulrahman AlMukairin - Prince Sultan University

Social Networking Sites Privacy Issues
Badr Jarjarah - Prince Sultan University

Ethics in Software Design
Mohamed Abdul Ghani- Prince Sultan University

Effect of Heat Treatment on Mechanical Properties of A-TIG Welded Aluminum Alloy
Mohammed Ali Al Ghamdi - Prince Sattam Bin Abdulaziz University

Self-Balancing Robot
Meshari AlHartni- Prince Sattam Bin Abdulaziz University

Exploratory Research of 3D Scanners
Abdullah Almuqrin - Prince Sattam Bin Abdulaziz University

XY Plotter
Saleh Fahad AL-Eid - Prince Sattam Bin Abdulaziz University

Green Building for Our Environment
Yahya Jamal - Prince Sultan University

The Accident of Flight 8460 at King Khalid Airport; Case Study, Causes, and Recommendations
Mohammad Saad Alzahrani - Prince Sultan University

Visualization of the Sliding Friction Heat during the Skid Resistance and it's Effect on Road Accidents
Abdulmalk and Fahad Abdulwhab - Prince Sultan University

Prevalence and Pattern Pediatric of Forearm Fractures in a Tertiary Health Care Center Over 8 Years
Mishary Aldakhail - Alfaisal University

Interactive & Immersive Lectures using Virtual Reality
Mansour Ameer Alathan - King Faisal University

Day 2 – February 21, 2017

Registration

8.30 - 9.00 Welcome Desk/Registration:
Outside Prince Sultan Hall

9.00 - 10.00 Panel Discussion:
(Prince Sultan Hall)

9.00 - 9.10 Welcome & Remarks
Dr. Mourad Rizk
Associate Director, Research & Translation Center

9.10 - 10.00 Panel Discussion

Moderator:

Dr. Morad Rizk
Associate Director, Research & Translation Center

Panelists :

Prof. Mohamed AlAffendi
College of Computer & Information Sciences
Prince Sultan University

Dr. Ihab Katar
College of Engineering

Prince Sultan University

Dr. Mohammad Al-Rabayah
College of Engineering
Prince Sultan University

Dr. Zainurin Dahari
College of Business Administration
Prince Sultan University

February 21, 2017
Session (M3) 10:20-12:00

Venue for Technical Sessions:

Prince Sultan Hall, Old Building, PSU Men's Campus Session M3 CIS, Business Administration & Engineering

10.20-10.40 KSA's Automated Automotive Future
Talha Shahid Ali - Prince Sultan University

10.40-11.00 Transport Monitoring System for School Kids Safety
Abdulrahman Mohammed Alomar - King Faisal University

11.00-11.20 Effect of Socially Intelligent Robots on Society
Omar Khalid Haj Ibrahim - Prince Sultan University

11.20-11.40 Brainwaves Authentication System
Anas Yousef Alsaqer - King Faisal University

11.40-12.00 REITs in Saudi Arabia
Abdulaziz AlSahil - Prince Sultan University

Abstracts

Session W1.1 General and Applied Sciences

Isolation of Acinetobacter species from Intensive Care Unit of General Hospital Special Reference to Antibiotic Resistance: A Pilot Study Analysis

Tahani Salim Mahddy
sughaphd@gmail.com
Supervisor: Dr. Sugapriya Dhanasekaran
Prince Sattam Bin Abdulaziz University

Abstract:

Intensive care unit (ICU) is the epicenter of infection associated with an important rise in morbidity, mortality, healthcare costs and adverse impact on multidrug-resistant pathogens boosts the infections in ICUs. This study was designed to identify and evaluate the antimicrobial susceptibility of *Acinetobacter baumannii (A. baumannii)* clinical isolates from Intensive Care Unit (ICU) patients at General Hospital, Wadi Al Dawaser, Kingdom of Saudi Arabia. The study was conducted in the Intensive Care Unit, General Hospital, Wadi Al Dawaser, Saudi Arabia over 4 months period (2016). A total of 110 specimens of wound secretion, blood, venous catheter attachment, sputum, stool and urine were collected from ICU from September 2016 to December 2016, and bacterial culture was performed. Pathogens were identified by automatic microorganism identifying and drug sensitivity analyzer (Vitek 2 automated system). Drug resistance of all the obtained *Acinetobacter species* to 16 antibiotics commonly used in clinic, including cefoperazone/sulbactam, polymyxin,

etc., was tested with K–B paper disk diffusion method. Patients with AB infection were ascertained. Patients isolates and drug data were analyzed using the 'Statistical Package for Social Sciences' (SPSS) program version 16.0 (SPSS) to determine some epidemiological and microbiological patterns. Among 110 stains, 42 (38.1%) developed Acinetobacter infection. Their mean age was 64.8 ± 8.4 years (n=110) and male, female and children were 57 (51.8%) 41 (37.2%), 12 (10.9%) of total isolates and in *Acinetobacter Species* 20 (10.9%), 15 (13.6%), 7 (6.3%), respectively. Isolates of multidrug resistant *Acinetobacter species* were wound 13 (30.9%) bloodstream 6 (14.2%), respiratory tract 6 (14.2%), central venous catheter 3 (7.1%), surgical site 1 (2.3%) and urinary tract 0(0%). Multidrug resistant *Acinetobacter species* from patient's without any medical issues were 4 (9.5%), Cardiovascular 2 (4.7%), Respiratory 8 (19%), Diabetes mellitus 11 (26.1%) and Corticosteroids user 4 (9.5%). High multi-resistance *Acinetobacter species* were 29 (69%) and non-multidrug resistant *Acinetobacter species* were 13 (31%), morbidity 29 (69%), transfer to other hospital 10 (23.8%) and mortality 3 (4.7%) were identified in total *Acinetobacter species* whereas morbidity 21 (50%), transfer to other hospital 10 10 (23.8%) and mortality 3 (4.7%) were observed in multi-resistance.

Session W1.1 General and Applied Sciences

The Role of Mobile Phones in the Elevated Rate of Surgical Site Infection in the Patients of the Surgical Intensive Care Unit and the Surgical Wards at KFUH

Sarah Ahmed Al Dawood
aldawood.saraha@gmail.com
Supervisor: Dr. Yasser Al-Jehani
University of Dammam

Abstract:

The research is planned to investigate the role of mobile phones in the elevated rate of surgical site infection in the patients of the surgical intensive care unit and the surgical wards at KFUH during..... . We noticed that the rate of the surgical site infection is elevated recently analysis of the method including mobile phones as possible source for pathogens and might play an important role in the transmission of pathogens between the surgeons and their patients. There for, by confirming this assumption we are hoping to decrease the rate of the surgical site infection subsequently reducing the morbidity and mortality on the patient, not only that but it will also decrease the cost of the patient care. Our method entails taking a swab from the mobile phones carried by the surgeons working in the surgical intensive care unit and the surgical wards then culture them for bacterial growth. Then we will ask them to complete a questionnaire regarding their practice of infection control and whether they apply it to their mobile phones or not.

Session W1.1 General and Applied Sciences

Saudi Arabia 2030 – Ways to Achieve – A Futuristic Approach

Fatima Radi Abushaar
kakulhusain@gmail.com
Supervisor: Dr. Kakul Husain - Dr. Mohamudha Parveen
Prince Sattam Bin Abdulaziz University

Abstract:

'Vision 2030' unveiled by Deputy Crown Prince Muhammad Bin Salman, second deputy premier and minister of defense, on April 25, 2016 will not only transform the Kingdom but has the potential to ensure its prosperity for decades to come, analysts are emphasizing all around. The vision is to strengthen the Kingdom of Saudi Arabia's position as a great nation and accentuate the Kingdom as the heart of the Arab and Islamic worlds, the investment powerhouse, and the hub connecting three continents by the year 2030. A descriptive research design methodology was adopted for this study. Self-explanatory questionnaires were prepared in both Arabic and English language and distributed to the survey population. A total of randomly chosen 153 participants were included in this study. Prior permission and proper consent were obtained from the persons involved. Of the total 153 participants involved in this study, 63.39% were school students, 36.6% were university students and 6.53% were government employees. The study findings showed that, 60.78% of the respondents opinion is main concern should be given for a "vibrant society" with strong roots, strong foundation and with fulfilling lives. Similarly, 30.06% of the respondents stated that, growth of kingdom as a "thriving economy" will be achieved by rewarding opportunities, 29.41% opinion is in investing for a long term. Of the total participants, 92.8% hope the

kingdom in 2030 as a developed kingdom and 7.18% want to be as it is now. For a vibrant Saudi society with strong roots, 37.25% of the respondents felt that promoting culture and entertainment is the major approach. Similarly, 23.52% felt, developing on cities is the way. Furthermore, 45.75% participants informed that a thriving economy with rewarding opportunities will be achieved by providing equal opportunities. Responses showed that, focus for diversifying away the kingdom from the cyclical oil revenues should be given on raising the share of non-oil exports by 33.33%. This study shows the valuable views of the Saudi young generation to achieve "Saudi Vision 2030. More than half of the respondents felt that priority should be given to for a "vibrant society" with strong roots, strong foundation and with fulfilling lives. More than a quarter of respondents felt that growth of kingdom as a "thriving economy" will be achieved by rewarding opportunities. Followed closely behind were the respondents who felt that long term investments will accomplish the vision 2030.

Response Interruption and Redirection (RIRD) as Treatment for Stereotypy: A Systematic Review

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Abstract:

Intensive care unit (ICU) is the epicenter of infection associated with an important rise in morbidity, mortality, healthcare costs and adverse impact on multidrug-resistant pathogens boosts the infections in ICUs. This study was designed to identify and evaluate the antimicrobial susceptibility of *Acinetobacter baumannii (A. baumannii)* clinical isolates from Intensive Care Unit (ICU) patients at General Hospital, Wadi Al Dawaser, Kingdom of Saudi Arabia. The study was conducted in the Intensive Care Unit, General Hospital, Wadi Al Dawaser, Saudi Arabia over 4 months period (2016). A total of 110 specimens of wound secretion, blood, venous catheter attachment, sputum, stool and urine were collected from ICU from September 2016 to December 2016, and bacterial culture was performed. Pathogens were identified by automatic microorganism identifying and drug sensitivity analyzer (Vitek 2 automated system). Drug resistance of all the obtained *Acinetobacter species* to 16 antibiotics commonly used in clinic, including cefoperazone/sulbactam, polymyxin, etc., was tested with K–B paper disk diffusion method. Patients with AB infection were ascertained. Patients isolates and drug data were analyzed using the 'Statistical Package

for Social Sciences' (SPSS) program version 16.0 (SPSS) to determine some epidemiological and microbiological patterns. Among 110 stains, 42 (38.1%) developed Acinetobacter infection. Their mean age was 64.8 ± 8.4 years (n=110) and male, female and children were 57 (51.8%) 41 (37.2%), 12 (10.9%) of total isolates and in *Acinetobacter Species* 20 (10.9%), 15 (13.6%), 7 (6.3%), respectively. Isolates of multidrug resistant *Acinetobacter species* were wound 13 (30.9%) bloodstream 6 (14.2%), respiratory tract 6 (14.2%), central venous catheter 3 (7.1%), surgical site 1 (2.3%) and urinary tract 0(0%). Multidrug resistant *Acinetobacter species* from patient's without any medical issues were 4 (9.5%), Cardiovascular 2 (4.7%), Respiratory 8 (19%), Diabetes mellitus 11 (26.1%) and Corticosteroids user 4 (9.5%). High multi-resistance *Acinetobacter species* were 29 (69%) and non-multidrug resistant *Acinetobacter species* were 13 (31%), morbidity 29 (69%), transfer to other hospital 10 (23.8%) and mortality 3 (4.7%) were identified in total *Acinetobacter species* whereas morbidity 21 (50%), transfer to other hospital 10 10 (23.8%) and mortality 3 (4.7%) were observed in multi-resistance *Acinetobacter species. Acinetobacter baumannii* infections are frequent and associated with high morbidity, mortality, and multi-resistance.

Session W1.1 General and Applied Sciences

Knowledge and Attitude about Epilepsy Among the Primary School Teachers

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Abstract:

Epilepsy is one of the most common and stigmatizing neurological disorder. The teachers have significant deficits in terms of general knowledge about epilepsy, its impact in educational settings, and the appropriate management of seizures in the classroom. Attitude of school teachers towards epilepsy is likely to have an important impact in the schooling of children with epilepsy. To delineate the magnitude and scope of present study about epilepsy was conducted to explore primary school teachers' knowledge and attitude regarding epilepsy with a brief survey. A non-experimental - descriptive research design was carried out in 99 government primary school teachers after the approval of institution and informed consent obtained from participants. Structured self-administered questionnaire schedule to assess the knowledge and developed 4 point likert scale was used to assess their attitude on epilepsy. Out of 99 teachers, 100% of the subjects were unmarried but 46 (46.46%) of them were 31-40 years of age. With respect to the educational status, 66 (66.6%) had bachelor and 50 (50.5%) of teachers taught above 10 years. School teachers were 97 (97.9%) heard about epilepsy and 99 (100%) reported that they have ever had students with epilepsy in the classroom. Teachers 40 (40.40%) had average to good knowledge. Among teachers 70 (70.70%) agreed that epilepsy is a mental illness; 50 (50.5%) of the

responders strongly agreed people with seizures should not swim without an accompanying person, while 99 (100%) of the responders disagreed that epilepsy persons are danger to the society and 60 (60.6%) disagreed that epilepsy is a kind of incurable disease. Research findings indicated a good knowledge and generally positive attitude about epilepsy among primary school's teachers in Wadi Al Dawaser. Nevertheless, there is still a need to improve certain aspects of knowledge and attitude. Furthermore first aid management of an epileptic attack among teachers for a more comprehensive understanding may be reflected later in further improvement in attitudes.

Multidrug Resistant Extended Spectrum β-lactamase (ESBL) Detection in Gram-Negative Bacilli of Nosocomial Origin in Wadi Al Dawaser Region of Saudi Arabia

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Abstract:

The emerging bacterial resistance to a wide variety of commonly used antibiotics is one of the most challenging tasks and a serious global health concern faced by the medical society today. Extended-spectrum β-lactamases (ESBLs) are enzymes produced by the members of the family Enterobacteriaceae which confer resistance to penicillins, aztreonam and third generation cephalosporins. In the recent years, there has been an increased incidence and prevalence of ESBLs all over the world and also in various parts of Saudi Arabia. As there are no data available on the prevalence of ESBL from Wadi Al Dawaser region, the current study was undertaken to know the prevalence of ESBL producing Enterobacteriaceae at Wadi Al Dawaser Government General Hospital. To investigate the prevalence ESBL-producing Gram negative bacilli from nosocomial origin. A total of 66 consecutive, Gram negative isolates from various clinical samples such as sputum (n=14), pus (n=3), urine (n=21), vaginal swab (n=12), wound swab (n=7), nasal swab (n=1), stool (n=5) and throat swab (n=3) which were received in the clinical bacteriology laboratory, Government General Hospital, Wadi Al Dawaser, Riyadh province, from May 2016 to October 2016, were included in the

study. The isolates were identified by Vitek 2 compact automated system (BioMerieux, France). The minimum inhibitory concentrations (MICs), resistance patterns, and preliminary phenotypic detection of ESBL production were determined using the Vitek 2 compact automated system using AST- N291 cards. Confirmation of ESBL production was done using the following Etest ESBL-strips (AB Biodisk, Solna, Sweden): Cefotaxime / cefotaxime plus clavulanic acid (CT/CTL) and ceftazidime / ceftazidime plus clavulanic acid (TZ/TZL).Data analysis was done using SPSS version 11.0. Among the 66 Gram negative bacilli isolated, 26 were Klebsiella pneumoniae and 40 were Escherichia coli. Of them 42 (52.49%) were ESBL producers. The major source of ESBL producers were sputum in both the species and no significant difference was found in the prevalence of both pathogens recovered from different clinical specimens. Resistance to multiple classes of antibiotics was observed among ESBL producers. The ESBL producing isolates were significantly resistant ($p<0.01$) to ampicillin, trimethoprim/sulfamethoxazole, tetracycline, ciprofloxacin, piperacillin, piperacillin/tazobactam, and gentamicin as compared to non-ESBL producers. Multidrug resistance was significantly ($p< 0.01$) higher (68.5%) in ESBL positive isolates than non-ESBL isolates (31.5%).The results showed that carbapenems (imipenem and meropenem) were active against 92.4% of the isolates. However, a total of 7.6% isolates were resistant to carbapenems. High prevalence of ESBL in this hospital cannot be ignored. The prevalence of ESBL producers and the emergence of resistance to carbapenems are alarming as carbapenems are still the drug of choice for the treatment of life-threatening Gram negative bacilli infections caused by ESBL-producers. Because hospital settings are hotspots for the transmission of antibiotic resistance genes, a strict hospital infection control policy; regular surveillance of microbial resistance is crucially.

Session W1.2 Engineering

Humaniod Robot for House Services Controlled by IoT

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Abstract:

This Project covers the conception, design and realization of a humanoid walking robot. A humanoid robot is a robot with its overall appearance based on that of the human body. The main goal of this project is to develop a humanoid robot to perform human tasks like personal assistance, where it should be able to assist in home services especially for the handicapped people and elderly people. In this project, we proposed to use Rapiro which is an affordable and easy to assemble humanoid robot kit, as well as supported by a big community. It is programmable, customizable and very important for us, because it is designed to mount the Raspberry Pi, which will be included in our design together with a camera module in the head. Thus, our robot can be controlled and send/receive data via the Internet through a special designed mobile application. Different type of sensors shall be used such as Ultrasound Sensor for distance measuring, walking capabilities, smoke detector sensor, and intruder detector. These sensors will orient the robot in a correct way and send information to the user. Finally, the humanoid robot will be able to do a set of cleaning services such as fetching certain things and helping people in carrying some stuff.

Session W1.2 Engineering

Passive Cooling System in Hospitals: "King Abdullah Children Hospital of the National Guard"

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Abstract:

Unique design of specialized hospital buildings may cause high energy consumption which is remarkable higher than other buildings. Special requirement and attention must meet due 24-hours operation that need specific ventilation and temperature criteria to be achieved. Unfortunately over than 40% of the hospital's energy requirement are meet with the (HVAC). Adding to that, air conditioning systems of healthcare buildings are responsible for a huge amount of green-house gazes and o-zone depletion effect, as refrigerant system's harmful gases are released into the air from conventional mechanical cooling systems. What are the technologies used to implement advanced new passive cooling strategies in hospital air conditioning systems to minimize all the above mentioned problems? Solar cooling systems (SCS) have the advantage of utilizing completely innocuous working liquids, for example, water, or salt solutions. They are vitality productive and naturally protected. They can be utilized, either as stand-alone systems or with conventional AC, to enhance the indoor air quality of a wide range of building. The fundamental objective is to use "zero emission" innovations to diminish energy utilization and decrease CO2 discharges. Among cooling innovations, absorption cooling appears to have a promising business sector

potential. This research paper is to stimulate a complete system comprised of a solar collector, a storage tank, a backup heat source, a water cooling tower and a LiBr-H2O absorption chiller. It evaluates the performance of a solar cooling system in various areas of hospitals, particularly radiology department. The case of King Abdullah Children Hospital of the National Guard was chosen for interviews and surveys.

Session W1.2 Engineering

Continuous Monitoring of Patients' States Using a Non-invasive Comprehensive Framework for Beat-to-Beat Fluctuations of the Heart

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Abstract:

Heart rate variability (HRV) is an essential vital sign used to characterize the health state specifically the clinical and physiological situations of the heart, it has been used to assess many clinical and physiological situations of the health. The modulation of the SA node has been studied as it represents the pacemaker of the heart and it is directly controlled by the sympathetic and parasympathetic (vagal) fibres. This modulation is usually termed as HRV where this term is highly studied and assessed by researchers in order to understand and estimate the regulation of heart activity by the autonomic nervous system (ANS). To obtain HRV we need to determine the heart rate (HR) and the simplest methods to obtain it is through ECG. For example, in the acute phase of myocardial infarction, the decrease in HRV is meaningfully related to left ventricle dysfunction. A considerable amount of research has executed in the analysis of HRV in diabetic patients. Diabetes caused autonomic neuropathy (cell death), and this can be assessed using many different methods including decreased HRV. Furthermore, huge

amount of research has been done taking into considerations the analysis of many parameters occur in each cycle of the heart, e.g.; the variation in heart rate, blood pressure, cardiac output, and stroke volume, in order to understand the variability nature of these parameters and the underlying processes and control systems modulating these variations. This project aims to develop a decision support framework including a robust combination of signal processing algorithms to extract features from signals' fluctuations which are non-invasively obtained from ECG and PPG signals. The project's objectives are: 1- Design an algorithm that continuously monitors and analyses clinical states of patients by extracting HRV from ECG and other variation parameters from PPG. 2- Implementing a robust non-invasive real-time monitor device or prototype that can be used in either home or residential care settings. This will be achieved using LabView and Matlab software associated with My-RIO and surface electrodes.

Session W1.2 Engineering

Early Breast Cancer Detection Using Ultra-Wideband (UWB) Antenna Arrays

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Abstract:

Breast cancer is the second leading cause of death among women having cancer worldwide. Many women suffer from this vital disease each year. Therefore, early detection is crucial to mitigate the effects of the disease or help in full recovery in various cases. The current modalities used for breast cancer early detection have limitations and side effects, like the ionized radiation and poor ability to detect micro-calcification. More importantly, these modalities are either painful, or inaccurate in terms of dense tissues. Thus, there is a necessity for a new technique that overcomes these limitations. Luckily, microwave-imaging modality is a very promising technique for the early detection of breast cancer as it is safer, cheaper and more accurate. Among different microwave bands, ultra-wideband (UWB) features a very wide band that can be utilized efficiently to achieve different resolution levels. The most important part of an UWB system is the antenna as its design can be optimized to achieve the desired resolution. In this project, antennas with a frequency range of 3.1-10.6 GHz used for early breast cancer detection is designed. The purpose of this system is to detect the small breast tumors as well as to distinguish between malignant and benign tissues. The

first stage of the project is to design and simulate an UWB antenna using the CST software. This will help us choosing the right parameters to optimize the antennas. The second stage is to construct the system setup. The setup is comprised of a cancerous breast phantom, the antenna array, a transceiver, a data acquisition system, an analog-to-digital converter and a personal computer for processing and displaying the results. Finally, the data is processed using Matlab. We foresee that the proposed system will be able to address the problem associated with the difficulty of detecting the micro-malignant tumors, even in women who have dense breast tissue using UWB antenna array. In conclusion, breast cancer is a global health problem among women, and its incidence is steadily increasing worldwide, including the KSA. Such a system would be highly effective for the early detection of breast tumors.

Session W1.2 Engineering

Automated Diagnostic System for Leukemia Detection in Human Blood Sample

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Abstract:

Medical imaging nowadays became one of the most important visualization and interpretation methods. This led to a huge increase in the growth of the application of digital image processing techniques for solving medical problems [1]. The main objective of processing those images is to gather the needed information for disease detection, disease diagnosis, monitoring and evaluation, early control and therapy [2]. One example on that is the identification of blood disorders. Leukemia is a type of blood cancer that if it is detected late, it will result in death. The Saudi cancer registry reported that leukemia ranked as the third in cancer incidence among men, and fifth among women in 2010 [3]. The detection of this disorder is usually done by inspecting and visualizing microscopic images of the blood sample by hematologist. This process usually time consuming and tiring, and prone to errors due to emotion disturbance and human physical capability that, of course, have its own limitations; moreover, it is difficult to get consistent results from visual inspection [4]. Therefore, automatic image processing system is urgently needed to overcome related constraints in visual inspection. Our project aims to develop fully automated system for diagnosing

Leukemia in human blood sample. A leukaemia sample will be obtained after obtaining the ethical approval for conducting research on living creatures. This sample will be visualized using custom designed smartphone-microscope with the proper specifications to provide sufficiently good digital microscopic image of the blood cells. Then, this image will be processed by using MATLAB software program to detect Leukemia in the blood sample based on changes on texture, geometry, colors and statistical analysis. With this system, the analyzing time can be reduced, exclude the influence of subjective factors, and increase the accuracy of the result.

The Attitudes and Motivation of Saudi University Students for Learning English as a Foreign Language: Prince Sultan University Freshmen as a Case Study.

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Abstract:

Learners' attitudes and motivation can highly affect foreign language learning. The current study aims to examine the attiudes and motivation of Saudi university students for learning English as a foreign language. The study mainly focuses on freshmen studens at Prince Sultan Univeristy (PSU), a private Saudi university in Riyadh where English is the medium of instruction. To this end, a questionnaire was disseminated among 65 female freshmen at PSU to explore their input. The questionnaire consisted of 10 main questions, some of which sub-divided into minor questions. The participants' responses were analyzed using percentage counts, Pearson Correlation and ANNOVA. Only the questions with a reliability measure over .05 of Cronbach's Alpha were considered in the results. The findings of the study indicate that learners lack a positive attitude towards learning English as a foreign language although they are planning to enroll in more classes. A reversal relationship was found between learners' attitudes and three teachers' charactersitics. Findins also suggest high levels of instrumental and integrative motivations for the participants, and a positve correlation

between the two types of motivation. Regarding students' preferences, the participans did not seem to prefer the teachers with Arabic origin, those who follow the curriculum stricly or those who use Arabic in class to support learning. The participants rather prefered having a communicative learning environment and textbooks. The results are discussed in comparion with earlier studies on second/foreign language learners' attitudes and motivation as well as relevant theoretical models. Pedagogical implications are also proposed and directions for future research are suggested.

Session W1.3 English Language Studies

Mother Tongue Attachment & Translation Competence: The Case of Arabic as a TL

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Abstract:

There is a general belief that being a native speaker of a language entails and guarantees being a master in that language. This assumption pushes some translators to only focus on strengthening the second language while giving little or no attention to the first. For some languages, this might be applicable. However, is this really applicable in the case of Arabic? Before answering this question, two points should be taken into consideration. First, Arabic native speakers use colloquial Arabic in everyday conversations instead of the standard Arabic (SA) though SA is the one used in official written texts. Second, school education and university courses are only one way of developing competence of Standard Arabic; there are other contributing factors including the socio-linguistic context (family linguistic interests and media exposure) in addition to religious practices that require proper knowledge of Arabic such as reading Quran. Therefore, the interest of this research is to find out the correlation between mother tongue attachment in the previously mentioned contexts and the quality of translated texts where Standard Arabic is the target language (TL). The study is adopting a correlational exploratory design with comparative descriptive analysis. The data is collected through a questionnaire distributed to 40 Translation & Applied Linguistics students from Prince Sultan University (PSU). The first part of the

questionnaire collects quantitative date using multiple-choice questions which investigate the students' attachment to Arabic and their background knowledge of it; whereas the second part collects qualitative data through asking participants to translate a text from English to Arabic for the purpose of testing the quality of their translation. After collecting responses, the quantitative data will be analyzed statistically while the qualitative data will be evaluated using a grading rubric with a scale of 1 – 10. Based on the translation scores, students will be categorized into four groups from the highest to the lowest respectively in order to study the linguistic profile and common characteristics of each group. It is hypothesized that there will be a strong positive correlation between the level of attachment to Arabic and the quality of produced translations.

Session W1.3 English Language Studies

The Use of Translation Technology Among Translation Female Students at COLT: a Case study

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Abstract:

Technology contributes to many areas of modern life, among them, the field of translation and the development of translation technologies. The majority of the prior research sheds light on the various types of translation technology: its importance, uses, and its impact on translators' training and competency. However, there is a lack of studies tackling these factors among Arab translators. This case study investigates Arab translation students' awareness of and attitudes toward translation technology, exploring the reasons behind why students lack the required knowledge and skills to work with translation technology. An online questionnaire was used to collect data from 57 female students at King Saud University majoring in English and French in the college of languages and translation at King Saud University. The survey included questions about the students' attitudes, uses, and perceptions of translation technologies. The study revealed that most of the students have some background knowledge of translation technologies and use the most basic ones such as online dictionaries and smartphone applications; however, other translation technologies that could further augment their translation work, such as CAT tools, are mostly marginalized. The research findings suggest that the students show a relatively accepting attitude toward

technology in general; therefore, it is expected that they will welcome studying more about translation technology. They should be introduced to translation technology early on in their programs. Further, they should practice translating with the aid of such technologies in order to be able to objectively assess their usefulness.

Session W1.3 English Language Studies

For the Souls and Butterflies; A Critical Reading of Romanticism as an Example of Eco Poetry

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Abstract:

This proposal is about Eco poetry which is the thoughts and descriptions of nature in poetry. One of the main features of eco poetry is to call people to purify their souls and to come back to nature. Eco poetry is subjective because it addresses the thoughts and feelings of the poet. Rich in imagination and rich in figures of speech, Eco poetry is mostly related to Romanticism movement of art and literature which flourished at the end of eighteenth and the beginning of nineteenth centuries. It came as a reaction against neoclassicism. While Neoclassicism focuses on reason, order, harmony, restraint and balance. Romanticism focuses on emotion, imagination, intuition, freedom and beauty of nature. Eco poetry shows how beautiful nature is, and humans are the center of nature. In life, that is full of materialism, Romantic poets like William Wordsworth became a noticeable icon in the field of Eco critical studies. His poems are characterized with sympathy towards nature, contemplation, and addressing the relations in between humans and nature. Wordsworth has written two different versions of the same poem which have same title and the same message yet different though the poems themselves are different. The objective of this research is to compare between these two particular poems in terms of the poets' views towards nature and his usage of

the butterfly as a symbol of natural life. The paper also aims to explore the ideas of the Romantic poets towards nature and their enthusiasm towards the harmony between all creatures, and the role humans should play to protect other species.

Session W1.3 English Language Studies

The Problematic Nature of First Language Acquisition

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Abstract:

This paper explores two areas of research in language acquisition: the problematic nature of language acquisition and theories to explain its complexity. The problem explains the relationship between adults' negative feedback on children's errors and children's ability to self-correct without the intrusion of adults. The first part of this paper examines whether or not children are capable of realizing and perceiving explicit negative feedback. The results suggest that despite the existence of children's errors and adults's resulting feedback, children cannot make use of the explicit negative feedback they receive from adults. The second part of the paper investigates how Chomsky transpires the theory of Universal Grammar (UG) and how knowledge of the fundamentals of language is innate in children's brains before they are even exposed to their native language and its syntactic rules. This paper proves that children all over the world are capable of realizing and determining the ungrammatical statements in their native language. The results suggest that a child who is being exposed to the language in everyday conversation, whether he/she is a part of this conversation or not, has an ability to recognize the correct grammatical form of the sentences or statements without being taught the rules explicitly. Both parts of the paper analyzed data that are taken from different authentic videos in which children were exposed to negative feedback explicitly and ungrammatical statements from the interlocutor. Four different case

studies affirming the effect of negative feedback and the importance of UG are discussed in depth. This is done to reassess the importance of explicit negative feedback and children's unconscious determination of an ungrammatical sentence. This data was analyzed in comparison to four previous case studies which focused on the same parameters.

Session W1.4 Computer and Information Sciences

Smart Identification and Recognition of Unidentified People Using Biometric Measures

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Abstract:

Frequent loss of people, young children, old people who suffer from Alzheimer, and even in Hajj and Umrah seasons are the main reasons to propose a system that deals with these cases. In this research, we proposed a mobile application that helps tracking the information of people who are not able to identify themselves. With the emergence of smart phone applications, this dream can come true. The intended application creates a database that stores data about people who maybe lost or undefined. The database will contain their fingerprints, names, and contact information. The biometric measures implemented through the fingerprint of a targeted case will be the primary identifier to call this data through the application. When the person is lost or unidentified, it will be easy for anyone to loaded application matching his/her fingerprint and retrieve his/her data. The system is promising and would assist authorities identify missing pilgrims in Hajj season or dead people.

Human-Glove Sensors for Sign Language Translation Using Arduino

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Abstract:

Speech is the basic communication way between people. Deaf and dump people are those who have disability of hearing and talking which may face a variety of different challenges and barriers that isolate them from their surroundings. ,assistive technologies have been developed to reduce many of these barriers and simplify the communication with them. With the appearance of sign language, people should learn how to speak with them using this language. Sign language has rules that needs to be learnt to understand what is being said by the deaf. Therefore, in this project, we design gloves with five flex sensors transfer the movement of the sign language into a real speech. each is attached to one finger which are connected to Arduino board. The Arduino will transfer these signs as signals to the computer wherein we can translate each sign and convert it into its equivalent voice words in Arabic. Our project will contribute to the society by helping deaf and dump people to be independent. The expected benefit is to have a positive impact of using Human-Glove sensors to facilitate commination between them and normal people effortlessly.

Session W1.4 Computer and Information Sciences

Smart Blood Bank Refrigerators and Donation System Using the Internet of Things Technology

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Abstract:

Our hospitals lack some resources; for example, rare blood classes that cannot be found frequently such as O-. Therefore, patients tend to accompany a donor when they need blood as their blood class may not offered in enough quantities by the blood banks in the hospitals. However, blood banks do not have efficient and fast communication with people. In this project, we propose a local service for the society to inform the public about the need for blood by using the Internet of Things technologies. The project will improve the blood bank refrigerators' management by building a communication between the blood banks and the hospitals. Our system will allow people to know what blood types are available by using a smart application connected to the blood refrigerator using IoT. Each refrigerator will have an LCD screen that displays the current number of blood types left using built- in sensors. Thus, the project provides sufficient information to the medical staff and domestic residents using a specific application in order to increase the number of blood donations based on the required efficiency of local blood transfusion services. This project will support our brothers and

sisters as well as soldiers in south side in a faster manner by broadcasting the need to domestic residence. Specifically blood banks in Taif will benefit from this project as a case study of using blood refrigerators connected to IoT.

Session W1.4 Computer and Information Sciences

Intelligent Tutor Application to Learn Python

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Abstract:

Python is an important language because of its simplicity combined with its efficiency and productivity. It is one of the high-level languages which means it is highly readable using English words frequently. Mobile learning opens new horizons for interested students because it is a way to learn new things effectively with joy and entertainment. Mobile learning has shown a strong and robust portability by replacing the books and notes with educational apps in small devices. In this project, existing intelligent tutoring applications were explored and compared. In the early stages of the project, the students' need for this application was investigated by using questionnaires and interviews. Therefore, we proposed in this project an intelligent tutor mobile application to learn python to suffice the needs of learners who are eager to educate themselves in an effective and easy way. The project aimed to develop lessons for learning python language from the beginning to the professional level intelligently and to enhance the learning process in professional learning environment. In the development stage, our intelligent tutoring application, which we called Pythonyat, was programmed and implemented on iOS environment and tested on real iPhone devices. Finally, our educational application was evaluated using questionnaires and interviews

with experts and users who want to learn python programming language. The results showed that Pythonyat was helpful and sufficient to the beginners to improve their experiment in programming. Pythonyat is proven to be a comprehensive educational application which provides new and creative ideas to learn the concepts of Python programming in Arabic and English.

Session W1.4 Computer and Information Sciences

Smart Irrigation System using the Internet of Things Technology

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Abstract:

Plants are the key source of food for humans and animals. Plants are considered the basic organism on the earth. Many people like to grow plants in their homes, gardens, and farms, that is because plants provide many benefits for humans. One of these benefit is that plants contribute significantly to our economy. In short, plants are the backbone of every part of life on earth and an essential resource for human being, thus it is important to take care of plants. The most important way to take care of plants is the water irrigation. Sometimes the farmer forgets watering the plants, or sometimes, wastes the water especially when the amount of water varies based on the kind of plants. Special plants called Taif roses which exist in the City of Taif, need a careful irrigation system. In this project, we tackle this issue by designing a sensor device working automatically to sense the humidity and wet of soil, and provide water accordingly. The proposed project allows farmers to control the irrigation automatically or online (on or off) by using the Internet of things technique. Thus, the irrigation sensor devices are connected to a smart phone (mobile) application. That is, our project will make easier and faster control even if the farmers are away from their farm. The

expected result from this project is to reduce the time and efforts to control water distribution, guarantee saturation the soil and reduce wasting water.

Session W2.1 General & Applied Sciences

الموارد الجغرافية لنشأة السياحية في محافظة الزلفي

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الملخص:

تعد السياحة أهم الأنشطة الاقتصادية للدول المتقدمة والنامية اليوم. فإنتاجها الأسرع نموا واطردا.وارتفاعا في المنتج المحلي، والدخل القومي. وزيادة للفرص الوظيفية.ولقد اهتمت السعودية بتطوير السياحية و تنميتها. والمتمثل بدور مجالس تنمية السياحة بالمحافظات.ومنها محافظة الزلفي ذات الأهمية التاريخية القديمة، وموقعها الجغرافي الاستراتيجي، والأهمية الاقتصادية في الزراعة والتجارة. كما يوجد بها معالم طبيعية وبشرية للجذب السياحي.وتهدف الدراسة تحديد موارد الجذب السياحي بمحافظة الزلفي، وإمكانات تنميتها.لذا فمشكلة الدراسة التعرف على الموارد الجغرافية لمحافظة الزلفي، وتصنيفها كوجهات سياحية في المملكة. وهنا تبرز أهمية هذه الدراسة، والتي وجاءت موضوعاتها بعد المقدمة في النقاط التالية:ـ ـ الموارد الجغرافية للسياحية في محافظة الزلفي:ـ وهي ذاتها المراكز العمرانية للسياحة الطبيعية والبشرية. ١ـ الموارد والمراكز الطبيعية وتشمل :ـ ـ الموقع ، الزلفي إحدى محافظات الرياض، و تقع في شمالها الغربي ما بين شمال المملكة و دول الخليج و الديار المقدسة، على ضفاف شعيب سمنان بين جبال طويق ورمال صحراء النفود، و انعكاس الموقع بتعدد الثقافات و تنوع أنماط الحياة والعادات و التقاليد. ـ طبوغرافية الزلفي : السطح جبال و سهول ورملية، فالمطل الشرقي جبلي والغربي رملي ، وثلاث أودية رئيسية كوادي مرخ ، وبحيرة الكسر و أحافير كثيرة كالأمونايت، وقنافذ البحر. ـ المناخ: شتاءً الزلفي بارد إلى معتدل و الرطوبة منخفضة طوال العام. النبات الطبيعي: تتسم بتنوعها الإحيائي للنباتات في المحميات كمحمية روضة السبلة، ومحمية راعي الحلال. ٢ ـ الموارد والمراكزالبشرية: ـ وفرة المياه والغذاء والخدمات الصحي و التعليم: بتكاليف منخفضة، أو مجانية. ـ المأوى والخدمات: تتوفر الفنادق ووحدات الشقق المفروشة. ـ قوانين الدولة للمحافظة على البيئة. كإنقاذ الأنواع المهددة بالانقراض. ـ أنظمة تقنية المعلومات ،وسائل الاتصال . ـ الأهمية الاقتصادية : (التجارة والصناعية والسياحة والزراعة). ـ العادات والحياة اليومية والترفيه والنشاط الرياضي: يجتمع أهل الزلفي للترفيه في الساحات. ـ الطرق: ترتبط بعدة طرق مزدوجة. ـ المتاحف و الأماكن الأثرية: كمتحف خليف العيد ، وقصر الإمام سعود ، والطرغشة ، والقرى الأثرية كقرية علقة،والحدائق كحديقة الزيتون.

فصل مركب اللينالول من درنات الزنجبيل الخضراء و تحضير مشتقات حراريه و ضوئيه له.

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الملخص

نبات الزنجبيل من النباتات شديدة الأهميه بسبب صفاته الطبيه المعروفه منذ القدم بالإضافة الى استخدامه كمنكهللطعام . هدف هذا البحث هو التعرف على المكونات الأساسيه في الزنجبيل و تحضير بعض المنتجات منها . في أول العمل , تم الحصول على مستخلص عدة مستخلصات مختلفة القطبيه لدرنات الزنجبيل و هي المستخلص ا لهكساني و المستخلص الكلوروفورمي و المستخلص الإيثانولي و ذلك بالنقع ثلاثه أيام ثم الترشيح و التبخير . ثم بإستخدام TLCتم أختيار المستخلص الهكساني و تحليله بواسطه GC-MSوذلك لإحتوائة على عدد كبير من المركبات. وجدنا أن المركب التربيني الأكسجيني اللينالول له نسبه كبيره في المستخلص الهكساني مقارنة بالمركبات الأخرى و نسبته (١١,٤ %). تم فصله بصوره نقيه بإستخدام عامود الفصل الكروموتوجرافي حيث تأكدنا من هويته بمقارنته بالمادهالقياسيه في TLC و بعمل جميع التحاليل الطيفيه و هي IR, NMR and Mass spectra .
ثم تم تحضير مشتقات مختلفه للينالول , فقد استخدمنا تفاعل الإيبوكسده الحراريه في وجود حمض ميتا كلوروفوق البنزويك *m*cpba عند درجة حرارة الصفر المئويه لإنتاج مركبين حلقيه أكسيجينيه تتميز بندرة و غرابة في ميكانيكيه تكونها ثم تم فصلهما عن بعض بالطرق الكروموتوجرافيه , و تم تحضير أيضا منتج ضوئي عن طريق الإيبوكسده الضوئيه بإستخدام H_2O_2 و لمبة الصوديوم كمصدر للأشعه و أكسجين . هذه الثلاث مركبات ممكن أستخدامها لتحضير الكثير من المركبات ذات القيمه البيولوجيه و الصناعيه الكبيره.

Session W2.1 General & Applied Sciences

كيمياء البناء الحديث

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الملخص

يقدم هذا البحث دراسة في مجال التقنية المستخدمة في بناء المباني الحديثة بحيث تضاف اليها بعض من المواد الكيميائية، بغرض تحسين من صفات مواد الخام الداخلة في صناعة الإسمنت . وتقاس حضارة الامم و تطورها بمدى استخدامها لهذه المواد الحديثة حيث أن هذه المواد تزيد من العمر الافتراضي للمنشأت الخرسانية مما يؤثر تأثيراً إيجابي على تقليل من مصروفات الترميم و الصيانة. و قد تطرقت في هذا البحث عن التقنية القديمة في بناء الأهرامات التي مثلت جدلا واسعا، فصمود تلك الأبنية الفرعونية أمام الزمن في ظروف عصيبة من القوى الطبيعية والبشرية؛ ما هو الا لإنجاز عظيم في مجال البناء والعمارة بل في عالم الكيمياء بحيث أنه تم خلط خرسانة الاهرامات بمواد كيميائية ساعد على ديمومتها ، و قد استخدمت هذه المواد الكيميائية في طرق حديثة للبناء تحت البحار مع المحافظة على عدم تعكر المياه المحيطة بها و تتعرض الخرسانة الى عدة أختبارات قبل استخدامها . يهدف هذا البحث إلى حل مشكلة ضعف الخرسانة وعدم تماسكها وأهمية خلطها مع المواد الكيميائية و قد تبين من خلال الدراسات التي اعتمدها العلماء أن مادة كلوريد الكالسيوم هي من أشهر المواد المستخدمة لتحسين خواص الخرسانة في البناء الحديث و سوف تقودنا هذه الاكتشافات الى التقدم في المستقبل القريب . في نهاية بحثي توصلت إلى أهمية استخدام المواد الكيميائية في عملية البناء لزيادة اقتصادية البلد و تقليل من تكاليف الصيانة و مقاومة المباني الحديثة للطقوس المختلفة و لمنع حدوث شروخ و تشققات و مقاومتها للتأكل . و في الختام أسال الله أن يوفقنا لما يحب ويرضى.....وفق الله الجميع لما فيه مصلحة العلم والتعلم وجعلنا واياكم من اهل العلم و التقوى.

Ameliorative Effect of Exogenous Nitric Oxide on Oxidative Metabolism in NaCl Treated Maize Seedling

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Abstract:

Salt stress is considered to be a major limiting factor for plant growth and crop productivity. The present study was conducted to assess whether using nitric oxide (NO) molecule could alleviate the adverse effects of salt stress in maize (Zea mays L.) seddling. Sodium nitroprusside was used at level (0.06 µM) which added as a donor of NO in the nutrient solution of maize seedlings grown hydroponically under salt stress conditions (0.0, 150 NaCl and 200 mM). Specimens were collected on the 5th and 10th day from the start of treatment. Data for growth morphology, chlorophyll contents, and activities of some antioxidants enzymes were recorded. Nitric oxide provoked a significantly increase in the main antioxidative enzymes including peroxidase (POD) and catalase (CAT) activities, and also a raise of some other metabolites activities. Moreover, NO-treated plants showed a higher content in both proline and ascorbate but lower content of H2O2. These data indicated that the exogenous NO application is useful to mitigate the salinity-induced oxidative stress in maize seedling during short term of growth.

Session W2.2 Business Administration

The Role of Business Plans for Successful Entrepreneurs in Saudi Arabia

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Abstract:

The context of this study is to investigate the perception of the role of business plans among entrepreneurs in Saudi Arabia, as well as identifying the business plans' level of importance in nowadays world. The decision for undertaking this research was because the importance of written business plans for entrepreneurs is a controversial topic and it has never been researched in Saudi Arabia. Finding the role of business plans for today's successful entrepreneurs in Saudi Arabia was the main purpose of this research. We were successful in achieving our planned objectives which were exploring the importance of business plans, identifying their benefits and drawbacks, and finding out who business plans are shared with. The methodological choice of the research is a mono method qualitative research, because it focuses on the perception of how successful entrepreneurs perceive and think about business plans and to what extent business plans are helpful for them. Thus, a qualitative research is appropriate for finding or exploring the reasons of whether business plans are significant or not for entrepreneurs' success. Five semi-structured interviews were conducted to collect data

using purposive homogeneous sampling. The main findings were that successful entrepreneurs in Saudi Arabia believe that the written business plan is an important tool in the entrepreneurial success however it is not essential. Also, the study found that there is a strong link between the perceptions of the role business plans in Saudi Arabia and the entrepreneurs' decision whether to write business plans or not. Moreover, it was found out that the perception of the role of business plans is affected by many factors, including: the modification of business plans, the purpose of adopting business plans, the alternatives that were used, personal traits of the entrepreneurs, the time-frame, and the type of business.

Session W2.2 Business Administration

Impact of Brent Crude Oil Prices on the Saudi Stock Exchange

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Abstract:

Stock indices are affected by many factors that might determine its movements. Some of the factors are commodities' prices. Recently one of the most price fluctuating commodities is Crude Oil. There are many research papers that examined the impact of oil prices on several stock markets. This paper examines the impact of Brent Crude Oil prices on the Saudi Stock Exchange (Tadawul) stock prices due to the reliance of the Saudi economy on oil. Due to the focus of the previous studies on the long-term relationship, this paper focuses on the short-term relationship. Three hypotheses were tested in order to capture the full picture of the relationship, if existed, and its potential reasons. Therefore, the impact of oil was examined on Tadawul stock price, Petrochemical Industries sector stock price and SABIC stock price. The period of the analysis is (short-run) from 2013 to 2016 using daily bases data. By using Single Linear Regressions and hypotheses, three null hypotheses were rejected. The impact of Brent Crude Oil prices on the stocks prices of Tadawul, Petrochemical Industries sector and SABIC is significant. Using the correlation coefficient analysis and the scatter plots, the relationships between oil prices and the three variables were strong positive

relationships. Therefore, a short-term link was explored between oil and the Saudi Stock exchange. The study has suggested that one of the reasons behind the impact of oil prices on Tadawul is the high weight of Petrochemical Industries within Tadawul which represented 21.71% of its total market capitalization in 2015 (Annual Statistical Report, 2015).

Session W2.2 Business Administration

Saudi Government 1st Bond Issue and the Long Term Effect on the Economy

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Abstract:

This Report represent the Bond issue and a forecast on economy's situation supported by the Bond's relationship with SAIBOR, Liquidity and Inflation. Starting by reviewing the current economy situation in Saudi Arabia, Analysis and then associated problems and their solution. The objectives for this report is to examine the effect of bonds on the economy, to prove that bonds have a direct effect on Banks, SAIBOR, the stock exchange overall economy on long run. However, the reason behind picking this title is : While a lot of attention was focused by Saudi Arabia on Oil in the past years which was controlling Saudi Arabia's economy. Therefore, a significant and continually drop in Oil Price has affected the economy. By 2016 Saudi Arabia has introduced the 2030 vision which concentrate on diversification the investments. This paper will presents the Saudi Arabia's present situation regarding the economy, The new investment tool they started to invest in and how they are dealing with current problems. Providing a forecast on future financial situation, that by following it, might reduce the associated risks of the current situation.

Session W2.2 Business Administration

Attaining Sustainable Growth Through Diversification: Evidence from Food Industry

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Abstract:

Diversification as a business strategy plays an important role in attaining long term growth for any organization. It means expanding a company's business by developing a new product or entering into a new market. This paper intends to investigate the diversification strategies implemented by a leading company as its competitive posture evolves in a fast-paced food industry in order to gain competitive advantage. The study examines; the factors associated with diversification strategy, the choice of diversification modes adopted by the company and the challenges associated with diversification strategy. The thrust of the paper lies in assessing the overall impact of these strategies on the company. The study used an integration of quantitative and qualitative methodology. To achieve the objectives of the paper, primary data was collected through self-administered questionnaire which were complemented with face to face interviews. Data analysis was conducted through SPSS (Statistical Package for

the Social Sciences), applying descriptive statistics and correlation analysis. It was found that this vertically integrated company expanded globally and locally through acquisitions, joint ventures, and internal capacity expansions. The result of empirical evidence shows that the company scored high on multiple factors such as, having a strong asset base, adequate plant equipment and solid financial base. In addition high quality of products/services, goodwill and brand name of the enterprise are its main strengths. The most preferable mode of diversification was found to be expansion through acquisitions. The finding suggests that the corporate image also enhanced after diversification. The results reveal that diversification strategy has proven to help the company attain long-term sustainable growth. It concludes that in order to increase competitiveness in the global markets, acquisition of dairy factories worldwide will definitely enhance its value, as it has a strong experience of acquisitions in the domestic market. The study would add value to the present body of knowledge and research as the literature review suggests that not much have been studied on diversification strategy within Saudi Arabia. The implications for sustainability and growth aligned with vision 2030 can be drawn from this study.

Session W2.3 ID and Architecture

Proper Lighting for Healthy, Productive Environment

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Abstract:

Light is very critical in architecture design because it is essential for human life; that it not only allows us to see, but also because it affects the human psychology and physiology. It was documented by several researches that light play an important role in reducing depression, minimizing fatigue, increasing alertness, modulating circadian rhythms (sleep cycle), and helping with the treatment of medical conditions. The presence of windows in workplace, access of natural daylight have been linked with increased satisfaction with the work. On the other hand Artificial light is also important because it illuminates nocturnal environments. Excessively exposed artificial light will lead to light pollution and transfer the environment to unhealthy space. What is the accurate amount of light to achieve proper illumination for a Healthy and Productive environment? In this research paper specific areas in hospitals are the focus of the study, such as operating room, in-patient rooms, and support spaces. Appropriate exposure to light is critical for the health and well being of patients as well as staff in

healthcare settings, and a combination of daylight and electric light can meet these needs. It has been proven that in healthcare spaces, choosing the right lighting is an important element given that it is not just an illumination, but also contributes to a patients' better and healthier recovery. Therefor incorporating proper light into healthcare buildings can be beneficial for patients as well as the staff who work there. This research, investigate the situation of proper lighting in a governmental hospital in Riyadh. Observation during a visit to the hospital concluded with clear results. Interviews were conducted as well as surveys. As conclusion a combination of natural daylight and artificial light can meet the human needs. They should be well studied because this blend healthy environment and is a factor that contributes in patient's recovery.

Session W2.3 ID and Architecture

Riyadh: Architectural Guide

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Abstract:

This research paper reports the production of an architectural guide of the capitol city of Saudi Arabia. The purpose of this guide is to make available for all the users a practical tool to discover the city, not only of what concern the historical heritage but even for high quality examples of contemporary architecture that has been built in the last decades. For this research we have selected buildings built in past 50 years and we have investigated them analytically studying plans, sections, elevations, and the real object. After that we have compared them on a local-international scale with similar examples to understand if there are special features in the Saudi case study. The guide offers different programs, the user can choose among them: one program is based on typologies, one on the location of the buildings, one is based on a chronological sequence. The implication of this research is to have a fast tool to access to the architecture of the city and its development.

Session W2.3 ID and Architecture

The Typology of the Dwelling, from the Village to the Metropolitan Area

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Abstract:

The purpose of this research is to identify in which way the private space is changing in the region in the last decades. We want to understand if the urban, cultural and social situation has affected the way our most private space - our house - has been designed and experienced. The investigation is supported by a collection of case studies that have been studied through an analytical method: we have drawn dwellings that are placed in a village and dwellings located in Riyadh. We have identified the main spaces, the destinations, the vertical and horizontal circulation, the spatial arrangement, the light use, the technology impact, the relationship with the surroundings, the users experience and then we have compared them. The outcome is that we can say we have two different residential building typologies and describe the main features of them. The implications of this research are that we can outline strengths and weaknesses of each typology.

Session W2.3 ID and Architecture

Hospitals' Lighting

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Abstract:

The quality of the light around us has a profound impact on our emotional well-being that should not be underestimated. In practical terms, light defines space, enhances color, and reveals the intricacies of texture and form; in short, it makes our surroundings visible. Hospitals are spaces for curing and healing, for that reason, having a healthy environment is essential. Nowadays, the future of hospital design is a subject of interest and thereby also a subject of discussion. This research will focus on the lighting inside hospitals' rooms and health care amenities, starting with a brief research about lighting designs in hospitals in general and its design principles. Through research, general studies and case studies, this research then will identify the mechanisms of the lighting design by focusing on how light impacts human health and performance in the interior spaces, and review the literature linking light (daylight and artificial light) with health outcomes in healthcare settings. In addition, the research will cover the appropriate types and best distributions of light fixtures inside all the

spaces of a hospital including entrances, corridors, waiting rooms, examination rooms, imaging rooms and patient rooms. The importance of this research is visible in the benefits and outcomes of the lighting when it's well applied in hospitals. Choosing the right light in the right place would help to enhance the healing of a patient and make his staying -at a hospital- better, improve doctors, nurses and staff functionality, and create a healthier and better environment.

Session W2.4 Computer and Information Sciences

Friday's Khutba Application

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Abstract:

Muslims have a gathering on Friday that is called Friday prayer, which involves a main message where individuals (Musalleen) attend and listen to Khutba. Khutba has to play an important role on educating Muslims and raise their awareness of Islam principles. More importantly, it should also contribute at solving community problems. However, if there is a collaboration system among Khateeb, Musalleen and Ministry of Islamic Affairs on kinds of topics that should be addressed, it will provide many opportunities such as sharing topic of interest and focusing on local issues in the district. This project to best of our knowledge is a first attempt to handle this problem in Saudi Arabia. The project provides an application where Musalleen give their feedback as well as suggesting topics of their interests. Moreover, enabling Musalleen to select the mosque where they can feel interested on their published topics. Friday's Khutba application is an important application for the Ministry of Islamic Affairs, where they can have a repository of Khutba topics, can change the style of Khutba presentation, and encouraging people to always attend and listen to the Khutba. One of the values of this application will be in the way that it is expected to change what might people think of

Khutba and make it possible for them to enjoy and profit from it, this by allowing Musalleen to contribute to the sort of topics presented by khateeb, that will double the benefit of Khutba. This project will provide a quality to the service in terms of three dimensions: Musalleen where they can share their topics, Khateeb who have right topics at right time, and the content of Khutba topic will be satisfactory for all.

Session W2.4 Computer and Information Sciences

Academic Course Equivalence System Using Information Retrieval Methods

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Abstract:

The project presents an automatic system for internal and external courses equivalency. The system facilitates the process of courses equivalency through statistically investigating the similarity between the certain course and all the courses appeared in department's academic program. The system gives the Head of the department precise ratio about the resemblance between two courses. We build Information Retrieval system that accepts two kinds of input, the dataset which represent the courses description taken from department's academic program and the abstract of the course to be equalized. After performing the necessary preprocessing stages which include Stop word removing, Stemming, and Indexing. The system use Vector Space Model (VSM) based on cosine similarity to make the matching process. In general, VSM is an algebraic model for representing and matching documents. Each document is depicted as a vector in multidimensional space. The components of each vector are a set of

terms' weights that reflect the importance of these terms in the document. After computing the weights and preparing the documents' vector, VSM calculates the similarity between each document in the collection and certain user query which is in our case the course to be equalized. VSM yields the similarity between documents by computing the cosine of the angle between the vector that represent them. Besides the equivalency decision, the system returns the ratio of similarity between the course to be equalized and all the courses found in our dataset. This project will solve the problems that the students meet when they need to make an equivalent for the subjects he studied at his college or university and the subjects in the university or college he would join. Our Project is very important because this site will serve students and university management system It will facilitate the process of the Subjects equivalent, the process of Comparing subjects will be very easy through the site, and the site will enable users to make in any e subjects Equivalent at any time and any place through the internet Finally university subjects equivalent website will achieve many goals to students and the university management.

Session W2.4 Computer and Information Sciences

Human Safety System

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Abstract:

Lots of families have lost their loved ones in various ways. As a matter of fact, children are more vulnerable to dangerous circumstances causing death to them. For instance, many children have died in cars, after the parents left them there and many tragedies have happened due to certain locked or closed spaces, like cars, rooms, kitchens etc. The death caused is not because the children were forgotten by their parents, rather by the fact of increase in the temperature or decrease in the amount of Oxygen within the closed spaces. However, leaving a child in a car, or an elderly person in a locked home, or presence of people in closed spaces or kitchens is a common human behavior or necessity. As soon as a person becomes deprived of Oxygen, suffered heatstroke or exposed to Liquefied Petroleum Gas (LPG) or Carbon Monoxide (CO), his/her major organs get affected resulting in serious damages to his/her physical condition, such as disability or even death. Many caregivers are not familiar with the understanding of how the temperature of such places rises more quickly, even with the outside temperature staying constant. An adult will have the motor skills to take him/herself out

of this situation, but a child under the age of 3 years or handicapped person have not developed these skills yet. This emphasizes the need for a response system to prevent all causes of death that happen in such places. The proposed system will first check if there is any person inside the place. It will also measure the temperature degree along with the Oxygen level. In addition, the system will detect some gases after leakage like LPG and CO. The system will send alert SMS messages on mobile phones along with the location of the place to the concerned persons to save precious lives.

Session W2.4 Computer and Information Sciences

Technovestor: A Web-based Entrepreneur Matchmaking Tool

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Abstract:

There are several creative technical ideas by individuals or startups but many of these ideas go unrealized due to a lack of proper funding. Getting funding from venture capital firms is extremely difficult. On the other hand, there are investors seeking to fund small start-up businesses mainly due to the believe that small firms produce innovative products for economic growth as well as these small firms have a quick response to changes since technology is considered a dynamic environment. An entrepreneur matchmaking tool may solve some of the problems that exist for both owners of innovative technical ideas and investors to help bringing creative ideas to life. The main purpose of developing this tool is to provide a common platform that will be acting as a middleware between creative people and investing parties. The system is expected to not only provide a matchmaking platform but features to start negotiation between parties, protection of funding and ideas, as well as controlled and tracked communication between the involved parties. The basic approach that will be used is studying and analyzing other similar systems, observing their strengths and

weaknesses. Literature review will help in understanding and realizing which features may be most appropriate and what technologies can be effectively used in order to build such an automated and intelligent system. An algorithm will be selected and potentially modified based on identifying necessary parameters needed for an effective matchmaking process. Technovestor will support crowdfunding approach through equity finance method based upon benefits of crowdfunding and equity found in other similar systems. Technovestor tool is expected to perform an effective matchmaking between creative ideas with investors in the Middle East. It will give the chance for brilliant idea creators in the Middle East region to achieve their dreams with the support from investors who seek for creative products in order to lead and be at the top of their competitors. The Web-based tool has also high potential in providing entrepreneur opportunities for women who can work from home in a Saudi work environment with limited opportunities for women.

Poster Session (W)

Measuring Blood Glucose Level Non-Invasively Using Bio-Impedance Technique

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Abstract:

The number of diabetic patients in the world increases every year. According to American Diabetes Association (ADA), statistics shows that in 2012, 9.3 % of American population diagnosed with diabetes. Therefore, this project aims to achieve the technique that can measure blood glucose level without the need to puncturing the skin. This study presents the basic principle of bio-impedance of the body along with its application in measuring blood glucose level and the effect of frequency changing on impedance values. Bio-impedance signal is picked from the human body using electrodes then amplified by an instrumentational amplifier with different types of filters to get an accurate signal. Also, bio-impedance measurement circuit should include isolation to ensure the safety. The signal which received from the electrodes correlate with glucose level with help of Arduino mega 2560 according to the relationship found using the solution .To achieve this relationship between glucose

level and bio-impedance signal, the study first performed on a glucose solution with different concentrations under certain physiological conditions where NaCl is 350mg/dL. This relationship state that when glucose increase NaCl concentration decrease and electrical conductivity decrease. As a result of this study, when glucose level increase the body bio-impedance also increase. This technique is very helpful in estimating the blood glucose level with eliminating the risk of infection and the pain of puncturing the skin.

Poster Session (W)

Design of a System to Measure Blood Glucose Level

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Abstract:

Blood glucose level is an important indicator, diabetics need to keep track of their blood glucose level and measure it regularly to determine their insulin dose intake and to ensure that glucose level is always within the normal range. In this project, we will design a system that enables the measurement of blood glucose level non-invasively, without drawing blood, puncturing the skin, or causing pain. The main objective of this project is to design a non-invasive blood glucose monitoring device that detects glucose level in blood using near infrared (NIR). This approach is chosen due its sensitivity, low cost, and selectivity where high wavelengths can be selected to achieve high signal to noise ratio (SNR) for glucose signals. The idea of this project is to use a Near Infrared transmittance spectroscopy which will involve light source and light detector circuits positioned on a certain region of the body. The attenuated received infrared signal by the detector is a measure to the amount of blood glucose of that region. The received signal will be processed and converted to a voltage value. An Arduino microcontroller will use these voltage values to calculate the glucose level and the

result will appear on the LCD screen. The design and experimental setup for blood glucose measurement System consist of.

• Hardware Design part → we are going to design a blood glucose meter using different electronic circuits. A Near Infrared (NIR) transmittance spectroscopy circuit will be implemented; and other circuits like an Arduino microcontroller, LCD display will also be used.
• Software Design part → the system can be designed using different modalities such as: C/C++ and/or the open source Arduino code integrated development environment (IDE).
Other parts and components might be added later as we progress through the project.

Following design and implementation of the proposed project is the testing of the system. By the end of this project we will be able to measure blood glucose and compare its accuracy with the invasive method.

Poster Session (W)

Healthcare Units for Slums in Egypt

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Abstract:

The purpose of this research is to create and design proper healthcare units for slums in Egypt to accommodate the special characteristics of this area like the urban arrangement, population density, and the highly environmental pollution. So, the first phase is identifying the most prevalent diseases in the slums of Egypt. The second phase is specifying the main sources of these diseases. The third phase is providing urban and architecture solutions to limit the spread of infections. For the last phase and the aim of this research, the researchers will suggest design solutions that take into consideration the slums community lifestyle, lake of education and the wrong and misunderstood information about self-care. Providing easy use and circulation in the hospital and using the smart technology to enhance the self-care and emergency knowledge as a solution for the community issues. The healthcare units will depend on green and sustainable strategies to reduce the energy consuming, to recycle the water and solid wastes and to avoid the electricity and water issues in these areas. The main points to focus on are ventilation, lighting and the circulation flow inside the facility due to the high density. The local materials will be used to go green, lower the cost and

quickly constructed. As a final result of this research, the sustainable and green design will play a very important role in solving the health and infection problems of hospitals and healthcare units in the slums of Egypt and to save the energy as possible.

Poster Session (W)

Culinary Arts Academy

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Abstract:

Culinary arts have not reached the minds of the Saudi society as a professional career and education. many countries have become concerned with the art of cooking and the first to know the art of cooking are French It has been associated with numerous culinary sciences such also as involves physics, mathematics, chemistry, biology, geology, agriculture, as well as anthropology, history, philosophy, psychology, and sociology. Culinary education is not specialised just in how to teach ways in cooking, but it also concentrates on nutrition, and the chemistry of different food. Moreover hotel and kitchen management also goes under culinary education. The scientific and technical progress in had a significant effect in bringing the concept of designing and building academies and kitchens in particular In this paper, we would like to report on how to design an academic with environment stimulating for self-education and mass education The purpose of the research is to collect the largest amount of information and studies about the design of culinary academy : The research is divided into three sections Theoretical study : In three chapters Chapter one : In the first stage it is identified about The Introduction of Academies and The image of culinary arts in Saudi Arabia and History of Academies in Saudi Arabia in Chapter two contains know the

basics of designing kitchens and academies in general The third chapter is identified as Smart architecture and Intelligent Building and Smart buildings from around the world. Analytical study: Chapter Four deals with global models selected for the project similar analysis in terms of the nature and activity of the project with the analytical results of similar projects. Applied study : It includes two chapters dealt with the general location and characteristics of the site selection in the city of Jeddah With the analytical study of the site and the movement of the sun and climate studies Chapter six is also included explanation of the components of the project and functional relationships and the development of the proposed plan and shape of the external interface. The sum of the research shows the general results, the the conclusion of different study stage and the research recommendations.

Poster Session (W)

TEIM: Awareness against Smart Devices' Addiction among Children

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Abstract:

There is an emerging agreement among all stakeholders that smart devices addiction has enormous disadvantages on young children. However, young children themselves are probably not informed of this threat. Hence, we realized that it is crucial for children to be aware of the disadvantages of smart devices addiction. Therefore, the project TEIM aims to raise awareness among children of the disadvantage of smart devices' addiction. Moreover, the project aims to measure if the awareness campaign helps in reducing the number of hours they spend on digital technology as well as encouraging the children to make their own toys using simple materials. The awareness was given to fifty-four children, ages 3-6 years old. The participants were divided into four separate groups. The awareness program was delivered in the form of sessions in which two characters were used in a series of four stories to show the children the disadvantage of smart devices' addiction, and to get them to be part in suggesting a better lifestyle for the characters. In addition, a variety of alternatives to smart devices were introduced to the children to help them spend more of their time in activities that are beneficial in building their personalities and skills as well as to inspire them to use their wide imagination and to come up with their own games using simple and safe

materials. The response was positive as many children showed a change in their ideology about smart devices and entertainment methods. Also, parents' and teachers' observations during the time period of the awareness suggested that many of the children have spent less time on digital technology at home and were more interested in doing alternative activities. These results suggested that the short-term goal of the TEIM project was successfully achieved.

Poster Session (W)

دراسة أثر الأنشطة المنهجية الجامعية على تنمية المهارات العملية والشخصية

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الملخص:

إن من أهم الأهداف التي يرمي إليها التعليم الجامعي، إكساب الطالب المهارات العملية والعلمية التي تأهله إلى سوق العمل كلاً بحسب تخصصه. ومن هذا المنطلق كان لازماً على التخصصات العملية كالهندسة وعلوم الحاسب وغيرها أن تجعل من ضمن متطلباتها إتمام مشروع عملي يُطبق فيه الطالب المبادئ والنظريات التي درسها خلال الفصل الدراسي بشكل عملي. إلا أن بعض الثغرات حالت بين استخلاص الفائدة المرجوة من المشاريع الجامعية المنهجية. يهدف هذا البحث إلى - :الكشف عن مدى معرفة الطلبة بأهمية المشاريع الجامعية المنهجية - .التعرف على مقدار استفادة الطلبة والأثر المنعكس عليهم من تنفيذ المشاريع المنهجية - .معرفة أسباب عدم فعالية تطبيق المشاريع المنهجية. وقد طبقت هذه الدراسة على عينة من الطلبة علوم الهندسة الكهربائية وعلوم الحاسب وهندسة الحاسب الدارسين بعدد من جامعات المملكة العربية السعودية. تم التوصل للنتائج عن طريق استبانة أعدتها الباحثة وقد أفضت الدراسة إلى النتائج التالية: - ٣٥,٩% من عينة البحث قد يروا أن المشاريع تساهم في تطوير مهاراتهم المعرفية و الشخصية كتنظيم الوقت و البرمجة و غيرها. - ٣٧,٦٣% من عينة البحث ساهمت المشاريع في تنمية مهارات التفكير و تنظيم الوقت و حل المشكلات و العمل الجماعي و الإلقاء و التقديم و مهارات التواصل بشكل كبير جداً. و ٣٨,٥% تطورت مهاراتهم المعرفية بشكل كبير جداً. - ٢,٨% من عينة البحث لم تساهم المشاريع بتاتاً في تنمية مهاراتهم الشخصية و ٤,٧% لم تتطور مهاراتهم المعرفية بتاتاً. وعلى ضوء النتائج التي خلُصت إليها الدراسة أوصت الباحثة بعدد من التوصيات منها - :ربط المشاريع الجامعية بالواقع من خلال تحديد مشاكل عالمية أو محلية حقيقية وتقديم مشاريع تحل هذه المشاكل لإشراك الطلبة في المسؤولية الاجتماعية و تعزيز روح المبادرة - .بحث سبل عرض وتطبيق المشاريع على نطاق واسع كتنظيم المؤتمرات العلمية الطلابية ومعارض تربط الطلبة بالجهات المستهدفة من المشاريع والمستثمرين ومراكز الأبحاث. - إعطاء مساحة أكبر لتنفيذ

مشاريعهم وتحديد معايير واضحة يتم التقييم عليها مع إعطاء وزن يناسب الوقت والجهد المبذولين على المشروع في الدرجة النهائية للمقرر الدراسي - .مواكبة التقنيات العالمية وإيجاد الروابط بينها وبين النظريات الأساسية مع ضرورة توضيح أثر و سبل تسخير هذه التقنيات على الصعيد المحلي و الإنساني.

Poster Session (W)

Development of 3D Bioprinter for Tissues and Organ Printing

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Abstract:

3D bioprinting of tissues and organs has emerged as a promising technology for applications in different fields, such as biomedical engineering and regenerative medicine, biotechnology and the pharmaceutical industry. However, current 3D bioprinting technologies face problems with the available printing inks being either unnatural, not body-like material (polymers) or being natural, but not from human background and rather undefined material (alginate from plants, etc.) with significant batch-to-batch variations. This has an impact on the sustainability of the bioprinted 3D structures. Besides, 3D bioprinters use a pre-polymer viscous solution to print in 3D followed by an additional crosslinking step accomplished by UV-treatment or chemical polymerization initiation to produce the polymerized scaffold. Existing 3D bioprinters restrict researchers to print 3D structures using their developed bioinks. This limitation inspired us to customize a 3D printer into a 3D bioprinter compatible with peptide bioinks which were synthesized in our lab. We have developed a 3D bioprinting process to overcome all of the points mentioned above of concern, by providing a synthetic, but natural and cost-effective peptide bioink with superior physicochemical

properties enabling instantaneous gelation. The polymer extruder in a standard 3D printer was substituted with a designed coaxial nozzle that contains two to three inlets and one outlet for printing. The printing coaxial nozzle is connected to microfluidic pumps which push the peptide bioink, phosphate buffer saline (PBS) and human skin fibroblast cells (in cell culture media solution) in the individual channels, and after mixing, the peptide-based hydrogel thread is extruded from the nozzle for the actual 3D printing. The project represents a synchronized 3D printer and pump system which successfully prints 3D bioprinted structures containing different types of cells such as human skin fibroblast. Future modifications of the current system will involve a custom-designed and built syringe pump system which is autonomously synchronized with robotic arms for 3D bioprinting purposes. A triple extruder head will allow for extrusion of multiple solutions for the printing of multiple cell types in a single 3D structure. This system will contribute to the growing advancements in 3D bioprinting and will allow the production of humanlike tissues and organs, such as skin replacement and tissue transplants.

Poster Session (W)

Remote Flash Memory using Li-Fi Technology

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Abstract:

Every day we hear about new inventions, which are created to enhance the performance of the past inventions. People are looking for the easiest, fastest and the most secure ways to transfer their data. One of the most used devices to transmit and save the data is "Flash memory", that is based on universal logic gates, NOR and NAND. However, several problems have been encountered when connecting flash memory to PCs, such as damaging the data by either losing valuable information or getting viruses in the memory stick. Therefore, "Li-Fi" is the new technology that overcome these problems in flash memories. Li-Fi is simply the optical version of Wi-Fi with some additional advantages. The advantages are but not limited to using light-emitting diodes as a medium to exchange data. In addition, the transition of data at high speeds as fast as 1 gigabit per second (Gbps), which is almost 100 times faster than current Wi-Fi technology. Li-Fi is already used in electromagnetic sensitive fields, hospitals and nuclear power plants without causing electromagnetic intrusion. Nowadays, the cost of Li-Fi installation is expensive; it is expected to be ten times cheaper than Wi-Fi, especially when it becomes popular in next few years. To avoid the limitation of existing flash memory, it will be a great idea if the PC can access the memory through special port that send/receive the data using light as a medium to transport the data.

This transformation uses radiations by the visible light without physical connection with the device. Our proposed solution model is after installing the required software in PC, turning the flash memory light and without any physical connection the computer's port should collects the light and start transforming the data within few seconds. Therefore, we suggest moving from electronic flash memory to light flash memory, which will support Li-Fi features. The size of light flash memory will be almost same as electronic flash memory. Whereas, the capacity of the light flash memory will be increased to almost 10,000 times the capacity that we have now. The next generation of flash memory will be much better in terms of encryption method time saving and environment friendly.

Poster Session (W)

أداة شحن ذاتية لجهاز الهاتف الجوال

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الملخص:

يتعلق الاختراع الحالي بمجال شحن الاجهزة الكهربائية عموما و بأجهزة الهاتف الجوال خصوصا , حيث يعتمد على مادة ذات انفعال كهربائي اجهادي لها القدرة على توليد الطاقة الكهربائية عند تعرضها لأي جهد ميكانيكي كالإجهاد أو الثني أو اللف , وذلك عن طريق تحويل الطاقة الضغطية الناتجة عن الجهد الميكانيكي إلى طاقة كهربائية يتم من خلالها شحن الهاتف الجوال دون الحاجة إلى مصدر تيار مستمر . وصف المشروع : يتم شحن الهاتف الجوال عن طريق تحويل الطاقة الضغطية الناتجة عن الجهد الميكانيكي إلى طاقة كهربائية يتم من خلالها شحن الهاتف الجوال دون الحاجة إلى مصدر تيار مستمر , ويتم ذلك من خلال وضع طبقة من بلورات الكوارتز المغلفة بملح طرطرات الصوديوم و البوتاسيوم المعروف بملح روشيل بين صفيحتين من النحاس و وصول كل صفيحة بسلك لتمثل القطب الموجب والقطب السالب وبذلك ينتج لدينا تيار كهربائي عند تعريض الطبقة المحتوية على الكوارتز المغلف بملح روشيل إلى اجهاد ميكانيكي ناتج عن ضغط المستخدم لأزرار لوحة المفاتيح الخاصة بالهاتف • . المشاكل : مع تقدم الزمن وتطوره فإن أغلب حاجياتنا تتم من خلال الأجهزة الإلكترونية ولكثرة استخدامنا لهذه الأجهزة فإن طاقتها تنفذ بسرعة وليس دائما ما يكون المستخدم في الوضع والمكان المناسب لإعادة شحنها وهذه المشكلة تواجهه جميع الفئات العمرية وهي موجودة في جميع الأجهزة(سرعة انتهاء شحن الأجهزة) ويترتب على هذه المشكلة مشاكل كثيرة وعلى المدى البعيد , منها • : استهلاك الطاقة الكهربائية • الحرائق التي تسببها أسلاك الشواحن • انفجار الأجهزة لعدم مناسبتها الطاقة الكهربائية أو نسيانها متصلة بالكهرباء • الحلول التي سيقدمها الإبتكار ¬ : تحويل الطاقة الضغطية الى طاقة كهربائية تتم من خلاله شحن الأجهزة ¬ توفر الكهرباء والحد من استخدامها الزائد ¬ اكمال الناقص في الاجهزة المتطورة وزيادة تطورها ¬ استغلال الطاقة وعدم جعلها تذهب هباءً ¬ ايجاد وتطوير اشكال بديله من الطاقة المتجددة ومن الاسباب التي دفعتني للاختراع ان الاستخدام المكثف والمبالغ للطاقة التقليدية والتي تعتمد على " الوقود الأحفوري " البترول ومشتقاته والفحم والغاز الطبيعي " تسبب بأضرار بالغة الخطورة إلى الإنسان و البيئة و جميع الكائنات الحية , وأدى إلى تلوث بيئي لم يشهد له مثيل وإلى الاحتباس الحراري وارتفاع درجة حرارة الأرض والأمطار الحامضية وإلى العديد من الكوارث البيئية مما دفعني إلى البحث عن مصادر للطاقة البديلة والنظيفة والتي تحقق التنمية المستدامة ولا

تؤثر سلبا على صحة الإنسان و البيئة . وثيقة الحماية : حاصلة على براءة اختراع رقم ٤٦٧٢ من مدينة الملك عبدالعزيز للعلوم والتقنية.

Poster Session (W)

Green Smart Library Station

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Abstract:

Use of mobile devices and electronic gadgets that depend on battery power is on the rise. Battery recharging is an ongoing requirement and presents a problem outside of our homes. The fast pace lifestyle requires a solution for battery recharging while away from home. Power Generation in Saudi Arabia is mainly nonrenewable although solar energy is abundant. The objective of this project is to design and build a station that provides the public with multiple smart devices charging outlets, electronic digital library kindles, advertisement panels and shaded/ lighted resting area. The design includes battery charging controller and control of lighting. The station is designed to provide services utilizing solar energy during the day and storing excess energy in batteries for night time use. Daytime and night time durations vary from day to day throughout the year. Thus accurate calculations were performed to find out the maximum and minimum daytime and night time durations for any location on earth. The variation directly affects the maximum energy demand, storage capacity requirement, and the amount of energy that can be harvested from the solar panels during the daylight hours. For our project location, maximum energy demand for night

time was found to be 1806Wh. This takes place on the day with the longest night and shortest daylight duration. This amount of energy can be stored in a 150Ah, 12V battery bank. On the same day the daytime load demand was found to be 1220Wh, giving rise to a total energy demand of 3026Wh. This was found to be the maximum energy demand per a 24 hour period throughout the year. In the calculation of the maximum energy, all charging outlets are assumed to be charging smart devices with the highest current demand continuously for 24 hours. On this day, the maximum amount of energy demand for the 24 hour period can be collected by a 475W stationary solar panel set. Solar panel energy calculations took into consideration actual declination angle of the sun on each day of the year in addition to daytime sun rays angle variation for stationary panels. Video and proposed structure are available on:

https://drive.google.com/drive/folders/0B1RWtvxvpsB2SjhzSGVBOUtTVDg?usp=sharing

Poster Session (W)

Automatics Battery Charger Using Solar Energy

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Abstract:

In recent years, the utilization of renewable energy sources has become an attractive alternative to fossil fuels because of the latter's negative impact on the environment. Among various renewable energy sources, solar energy is expected to be one of the most promising means as future energy solutions. It is transferred to the earth in the form of electromagnetic radiation and usefully converted to electric energy forms through various solar power technologies such as photovoltaic (PV). The electricity produced by solar power systems can be delivered to the consumer via electrical transmission grid, and stored in batteries but the problem of that generation system is that the energy source (sun) is intermittent throughout the day so the generated power is intermittent too. Therefore, it is necessary to find a solution for storage energy produced by PV to charge batteries; one of the suggested solutions is designing an automatic charger controller to regulate the voltage across the battery in spite of the variation of the voltage source and the load connected to the storage devices. The state space model of the converter is first linearized to facilitate the controller design. The proposed control technique is sliding mode control (SMC) witch is suitable technique for controlling nonlinear systems by forcing system states to specified sliding manifolds

on which the system has desired properties such as stability, and tracking the required output voltage to supply the load system.

Poster Session (W)

Ultra-Low Cost Electronics Using Inkjet Printing and Cellulose Materials

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Abstract:

We have a vision to "smartize" our garments: making them comforting, design/color changing, odor/bug repelling, self-cleaning, energy efficient, multi-functional and cost effective etc. Today's electronics are built on flat and rigid/smooth surface, whereas the textiles have irregular non-uniform surfaces, making them incompatible for co-integration. In this review paper, I will explore various ideas to formalize a (set of) technique(s) to integrated electronics with textiles. By forming an interface layer on top of the textile and then printed electronics in it using ink-jet. Due to the soft moduli of both of the materials (ink and cellulose materials), they can follow the non-uniform terrain of soft substrates like textiles, leather, foam and such. In the nearby future everything is expected to have integrated sensing capabilities in most of the daily materials, it is critical to integrate electronics to textile and soft polymeric materials. I predominantly focus on demonstrated flexible heaters using inkjet printing on a broad class of textiles including velvet, silk, cotton and polyester.

Poster Session (W)

Smart Attendance for University Students Using Fingerprint Identifier , Dynamic QR Code and Location Determination

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Abstract:

Traditional and manual way of recording students' attendance in the university has limitations and prone to many errors. It takes time especially with big groups of students and it lacks accuracy and credibility. The proposed project aims to help the instructors to save the time of the lecture and to increase the accuracy when taking the attendance of students in a way that differs from the traditional one. The proposed project is based on merging three techniques namely QR code and fingerprint, in addition to identifying the student's location. This project is achieved by creating an application on smart phones using Android Studio software that store the fingerprint of all students taking the course at the beginning of the semester. Then the instructor uses the application to generate dynamic QR code for every lecture. To record the attendance, the students have to enter their IDs and scan their fingerprints using their mobile phones. Then scan the QR code generated dynamically by the instructor in the class. Finally, the application ensures each of the student's location using GPS technology in the smart phones. If all of the three parameters have been achieved, a unique attendance is registered automatically for each student in each class. The

proposed project will potentially solve the problem of automatic attendance without easting money to buy fingerprint devices and help instructors to verify the identity, ensure that all students have attended the class easily and in timeless.

Poster Session (W)

E- Diabetes Expert System

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Abstract:

Guide Diabetes is one of the most serious and prevalent diseases in the world today, and many people are infected with it without known which increases the seriousness of the disease. So Electronic Diabetes Guide is Expert medical system for diabetes which is very useful to serve all the people who are suffering from this disease. The system will be like a guiding doctor to all patients. That contain a broad base of knowledge about diabetes, ways to deal with it and how to prevent it, through the system people can discover if they have diabetes through its symptoms. This system includes the symptoms of every stage in diabetes and how to raise awareness to avoid it, and other health care for patients, also how to deal with the disease in early stages and the medicines available as well as a diet for each patient and to raise awareness against the disease and prevention. Our expert system will help diabetics by checking the high or low blood sugar of them by measuring the blood thinner. Thus, the system determines the extent of the impact of diabetes and what are the nutrients that should not be eaten and what are the foods that should be eaten in cases of diabetes, high or low disease. Also through the system will send notification to the patients in order to remind them to

have their medicine and providing the patient with special diabetes devices sites and the nearest shop to get them. Also all diabetics can create their profiles and put in it Medicine times and names then our system will send alert to them in every time of medicine to remind them to take it. Project problem: 1. People having difficulties to get all information about diabetes. 2. Diabetics cannot know all the food that should or should not be eaten. 3. Diabetics cannot know if the degree of sugar is high or low. 4. Diabetics may forget taking the medicine on time. 5. Some people cannot know if they infected with the disease. Our system goal concentrate on a lot of points but the most important of it is the following: 1. The possibility of make Electronic medical consultations for patients and suggest appropriate treatment. 2. Facilitate knowing all information and details about diabetes. 3. Facilitate to diabetes to know all the food that should not be eaten 4. The site enable users take advantage of reading some diabetics experiences that can help to control the disease. 5. Through the site diabetics can know if the degree of sugar is high or low rather than asking doctors or pharmacist. 6. It will help diabetics not forget the medicine through alerting them on medicines times 7. It allows people to know what the symptoms of diabetes We followed all the curriculums and methods to achieve a very useful and strong Expert system according to the type of the system and its requirements. We used ASP.NET to provides better performance by taking advantage of early binding, just-in-time compilation, native optimization, and caching services right out of the box. Also we used java query, C# and CSS. Electronic Diabetes system aims to increase the effectiveness of medical system and improve workflow procedures and achieve development in the diabetes care that Patients receive and reduce long waiting times to got consultation from doctor, facilitate knowing all information and details about diabetes, infected with diabetes, which will reflect positively on the experience of patient. Discuss and put forward ideas which are feasible, low-cost, easy to investigate in improvement health status within the kingdom largely through the provision of an electronic diabetes system.

Poster Session (W)

Socio-Technical Systems for Saudi Heritage: Crowd-Sourcing Applications

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Abstract:

Interaction designers are instrumental in societal development by designing digital artifacts that become part of the socio-technical systems. In this project, we use design research to explore ways in which location-based interaction with mobile applications can be used to create novel experiences of cultural heritage. We aim to identify interaction design principles for our local socio-cultural context, and use them to frame the challenge of Interaction Design for Saudi Heritage sites. We then apply the framework for developing an interactive socio-technical system for museums and cultural heritage sites. In collaboration with curators at the Saudi Commission for Tourism and National Heritage (SCTH), we will co-create interactive crowd-sourced applications for Saudi heritage sites. Testing involves experimenting with different forms of multimedia-scapes and assessing the usability and user experience (UX) of technology designed for cultural heritage experiences. Contributions of this project are twofold: Firstly, interactive multimedia for socio-cultural experiences, and secondly, interaction design recommendations for cultural heritage experiences.

Session W3.1 Law (Small Auditorium)

تقويم قانون جاستا في ضوء مبدأ سيادة الدول

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الملخص:

جرت محاولات عديدة لمقاضاة المملكة العربية السعودية على خلفية أحداث ١١ سبتمبر ٢٠٠١, و كانت الدعاوى تُرد بحجة أن المملكة لم تُصنف من قبل وزارة الخارجية الأمريكية ضمن قائمة الدول الراعية للإرهاب وأنها تمتع بحصانة سيادة الدول الأجنبية وفق قانون حصانات السيادة للدول الأجنبية ١٩٧٦م. و في عام ٢٠١٦ أقرّ الكونغرس الأمريكي قانون (العدالة ضد رعاة الإرهاب) المعروف بـ"جاستا" الذي يوفر غطاءً قانونيًا لكل مواطن أمريكي يريد مقاضاة أي دولة تكون راعية للأعمال الإرهابية ومقاضاتها أمام المحاكم الأمريكية ، وهذا يمثل خروجًا عن المستقر عليه في العلاقات الدولية الذي يمنح الدول والحكومات ومسؤوليها حصانةً سياديةً قضائية تمنع من مقاضاتهم في الدول الأجنبية. و تتمثل مشكلة البحث فماهي الآثار المترتبة على إلغاء مبدأ سيادة الدولة في القوانين الداخلية (جاستا كمثال)؟. ويهدف البحث إلى التعرف على قانون العدالة ضد الدول الراعية للإرهاب المسمى بقانون جاستا، و تسليط الضوء على انتهاكات الدول على المبادئ والأعراف الدولية و التعرف على أثر تشريع قوانين داخلية وطنية تتعارض مع المبادئ الدولية و أثر خرق الاتفاقيات والمعاهدات والمواثيق الدولية المتفق عليها. و تكمن أهميته في ذكر الآثار الناتجة في اعتداء الدول عبر سنّ قوانين داخلية تتعارض مع مبادئ دولية مستقر عليها في القانون الدولي. يستعرض البحث في المبحث الأول مبدأ سيادة الدولة و في المبحث الثاني تقويم قانون جاستا ، و يتخذ المنهج التحليلي الاستقرائي الذي يقوم على استخلاص النتائج وذلك باستقراء النظام وتحليل نصوصه للوصول إلى إجابة لمشكلة البحث. و في ضوء النتائج تبين أن الآثار المترتبة من إقرار قانون جاستا الذي سنّه الكونجرس أنه يهدد أحد المبادئ والأعراف الدولية المستقر عليها في القانون الدولي وهو مبدأ السيادة الذي ينتج عنه حصانة الدولة قضائيًا بعدم جواز مقاضاتها أمام محاكم دول أخرى. كذلك يحق للدول المعاملة بالمثل وذلك بإصدار قوانين مماثلة لقانون جاستا يسمح بمحاكمة الدول الأجنبية المساهمة في العمليات الإرهابية وفقًا لمبدأ التعامل بالمثل أو الرد بالمثل.

دراسة مقارنة لحوافز القيادة الآمنة في ظل نظام النقاط المرورية

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الملخص

من المعروف أم من يرتكب مخالفة مرورية سيترتب عليه غرامة, بالإضافة لهذه الغرامة حسب نظام النقاط المرورية تضاف نقاط لمرتكب المخالفة تؤدي في حال تراكمها لحد معين إلى سحب رخصة القيادة. لهذا وضعت بعض الأنظمة المقارنة إضافة تتمثل في طرق لإزالة هذه النقاط حتى لا تتراكم ومن ثم تؤدي لسحب الرخصة, وقد قصرت هذه الطرق والتي هي ميزة لفئة معينة من قائدي المركبات وهم الملتزمون بالقيادة الآمنة (أي الخالية من المخالفات المرورية) وذلك لفترة محددة حسب النظام. لهذا تمت الدراسة لهذه الطرق والتي سميناها حوافز القيادة الآمنة في كلٍ من النظام الياباني, ونظام ولاية فرجينيا في الولايات المتحدة الأمريكية, ونظام إمارة دبي في الإمارات العربية المتحدة, مع النظام السعودي. بهدف بيان هذه الحوافز, وبيان آثارها, ومدى فاعليتها في النظام السعودي, وتجارب الأنظمة المقارنة في تطبيقهم لهذه الحوافز. لما لهذه الحوافز من أهمية في نشر الثقافة المرورية, ودور في تحقيق السلامة المرورية, ومقارنتها بالأنظمة المقارنة سعياً للتطوير في الأنظمة السعودية. وذلك باستعمال المنهج المقارن أسلوب المقارنة العامة بذكر الحوافز في كل نظام, والمنهج الوصفي التحليلي لمحاولة الوصول لفهم أدق لهذه الحوافز. وكانت أبرز النتائج هي وضوح ما للحوافز من آثار اقتصادية واجتماعية, ولكل دولة أنواع من الحوافز وآليات تتناسب مع مجتمعها, وأن تقديم هذه الحوافز لا يعني التساهل بل إن إعطاء الفرصة يؤدي لنشر الوعي المروري وتحقيق السلامة المرورية, ولابد من إدخال تعديلات على الحافز الموجود في النظام السعودي, ووضع آلية مناسبة وواضحة له.

جريمة الاستغلال الجنسي الإلكتروني ضد الأطفال

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الملخص

يعد الطفل هو اللبنة الأساسية لبناء الوطن و قد عرف النظام السعودي الطفل بالذي لم يتجاوز عمره الثامنة عشر, ولأهمية هذه الفئة العمرية للمجتمع حيث حرصت الحكومات من جميع أرجاء العالم على حماية هذه الفئة العمرية. وبتطور التقنية الحديثة و انتشار استخدام الإنترنت من قبل فئة الأطفال ظهرت الجرائم المعلوماتية وخاصة تلك التي تمس بخصوصية و أمن الأطفال والتي منها ظاهرة الإستغلال الجنسي المعلوماتي للأطفال. ومن صور الاستغلال الجنسي للأطفال استغلال جسد الطفل بشكل جنسي عن طريق لمس مناطق حساسة للطفل أو التحرش اللفظي عن طريق التلفظ على الطفل بأوصاف جنسية أو استخدامهم لأغراض جنسية. ومع تطور التكنولوجيا ظهر نوع آخر من الاستغلال الجنسي للأطفال وهو التحرش الجنسي الإلكتروني للأطفال ومن صوره إرسال مقاطع وصور مخلة وخادشة لحياء الطفل أو الطلب من الطفل صور له لاستخدامها في ابتزازه جنسياً. بالإضافة إلى أن التحرش الجنسي بالأطفال يؤدي إلى أضرار جسدية و نفسية ومن أهمها: ضعف شخصية الطفل وانطوائه على نفسه و شعوره بالرهبة التي تلازم الطفل مدى الحياة إذا لم يتلقى العلاج المناسب. وفي المملكة العربية السعودية بذلت الأجهزة الحكومية المعنية جهودها للحد من هذه الظاهرة عن طريق سن عدد من الأنظمة مثل نظام حماية الطفل (١٤٣٦هـ) التابعة لهيئة حقوق الإنسان ومشروع مجلس الشورى وأيضا جهودها في توفير الوعي عن طريق وضع بعض البرامج التي من شأنها مساعدة المواطنين في توفير المعلومات التي تساعد على الحد من هذه الظاهره أو التوعية مثل برنامج الأمان الأسري الوطني وغيرها من البرامج الأخرى و التي ستذكر في هذا البحث إن شاء الله.

وعد بلفور و صك الانتداب البريطاني من وجهة نظر القانون الدولي

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الملخص:

يتناول هذا البحث في مقدمته لمحة تاريخية عن وضع فلسطين قبل سنة ١٩٤٨ م و بعد الحرب العالمية الأولى و سقوط الدولة العثمانية ، ثم يطرح لمحة أخرى عن وضع اليهود و تواجدهم في فلسطين في نفس الفترة . يأتي بعد ذلك الموضوع الأساسي للبحث و هو محاولة برهنة عدم قانونية وعد بلفور و صك الانتداب البريطاني على دولة فلسطين من وجهة نظر القانون الدولي ، و الطريقة في ذلك هي النظر في النصوص القانونية الصادرة عن عصبة الأمم المتحدة و التي كانت أعلى جهات القانون الدولي في وقتها و مدى تطبيق هذا النصوص ، و النظر في المبادئ العامة للقانون الدولي ، و النظر في الحالات المشابهة للحالة الفلسطينية ، و النظر في التواريخ و في شخصيات القانون الدولي في ذلك الوقت . و الهدف من هذا البحث بالدرجة الأولى الانتقال من مرحلة الانفعال العاطفي الشعبي إلى مرحلة التفكير المنطقي و استخدام القوة القانونية الدولية لمحاسبة كل من الاحتلال الصهيوني و بريطانيا و جميع الأطراف المشتركة في هذه المؤامرة الدولية ، و لمعالجة جميع القضايا التي أتت على موجب الوعد و الصك منها قضية اللاجئين و قضية المستوطنات اليهودية و انتزاع الأراضي بغير وجه حق . و تأتي أهمية هذا البحث من منطلق الجهل العام و قلة المعرفة بالواقع القانوني للقضية الفلسطينية و تداعياتها ، و بالتحديد وعد بلفور و صك الانتداب البريطاني اللذان يعدان نقطة البداية و التمهيد الأول للاحتلال الصهيوني ، و اللذان يحتج اليهود بهما و يستندون إليهما كحجة قانونية . و بالنهاية فإن نتيجة البحث ستكون هي مخالفة الوعد و صك الانتداب لقواعد القانون الدولي ، و بالتالي نصل إلى التوصيات و الإجراءات التي يمكن القيام بها لمحاسبة المسؤولين و لرفع القضية أمام محكمة العدل الدولية.

Session W3.1 Law (Small Auditorium)

Impact of Corporate Governance on Economic Growth in the Kingdom of Saudi Arabia

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Abstract:

Over the last few decades, the concept of corporate governance has emerged and developed rapidly. It is based on creating a dynamic structure for the company to organize the relationship between the company's management and its shareholders, and to set out the company's objectives and the ways of attaining them. It is created by a combination of law and the basic documents of the company. As financial markets develops, the involvement of investors increases. For that, investors are required to have high standards of corporate governance to ensure the efficient use of capital, to gain good returns, and to protect the company from fraud, misappropriation, and malfeasance. Usually, investors require the management to make decisions in their best interest; and to use the given authority, resources, and credibility effectively when necessary. In order to gain the investors' trust and confidence, good corporate governance rules and practices must be implemented and with this, economic will develop massively. Progress of the company and economic would not be achieved with the implementation of corporate governance rules and practices alone. Many other factors must work concurrently with it such as; well-functioning legal and judicial

system, property rights…..etc. Good corporate governance framework gives the company great chance for financing, lower cost capital, better performance, and more returns for all. Accordingly, the country's corporate governance will be affected favorably. The balance between economic and social growth is maintained through corporate governance. This research paper shows the effect of corporate governance on the economic growth and development in the Kingdom of Saudi Arabia.

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الملخص:

بِسۡمِ ٱللَّهِ ٱلرَّحۡمَٰنِ ٱلرَّحِيمِ إن غريزة الأمومة هي أكثر ما يشغل ذهن المرأة، فهي تشعر بحالة عدم اتزان عند وجود أي خلل يمس هذا الجانب الأساسي لها، كذلك استمرار النسل عند الرجل. ولا تقف هذه التعقيدات عند عدم الإنجاب فقط ! بل تمتد إلى حال المشاركة في الطفل مع أم أخرى !. ومع تقدم العلوم، الطبية منها خاصة، التي لا تنظر إلى الأحكام الشرعية أو الأعراف وأخلاقيات المجتمعات، أردت أن أتناول قضية " إجارة الرحم " ,نظرا لأهميتها وكثرة تعقيداتها وخطورة أثرها في المجتمع. تناولت هذه الدراسة موضوع لا يخلو من الأهمية حيث يتم الاتفاق على إجارة رحم إمرأة للانتفاع به مدة معينة لتحقيق هدف معين لقاء أجر. فالكل يتساءل عند سماعه لهذا المصطلح إن كان هذا أمرًا ممكناً وعن كيفيته، إضافة إلى تعجبهم عمن سيقبل هذا النوع من الحلول، وبالطبع لا يخلو من الأخذ في الاعتبار كل أثر يترتب على جميع الأطراف، وعن آليتها بعد الاتفاق، وخط النهاية لمثل هكذا مسائل. تم تقسيم هذا البحث إلى خمسة مباحث، تضمن الأول ماهيه عقد إجارة الرحم، وماهي المفاسد الأخلاقية المترتبة عليه ومقارنتة بين القانون والفقه الإسلامي وموقف النظام السعودي من حيث مشروعية هذا العقد. وفي المبحث الثاني تناولت تطبيق شروط المنفعة في الإجارة على ما يستوفي في إجارة الرحم ، والمبحث الثالث تضمن أثر إجارة الرحم من اختلاط الأنساب و النفقة وأحكام الإجهاض بالنسبة لصاحبة الرحم الظئر (الأم البديلة) بالإضافة للعقوبات التي تقع على أطراف العقد. أما المبحث الرابع فقد خصصته لرأي الشريعة الإسلامية المتمثل في مؤتمر مجمع الفقه الإسلامي في دورته الثالثة عام ١٤٠٨ هـ - ١٩٨٧ مـ والاختلافات في المذاهب وردهم على المعارضين. أما المبحث الخامس أظهرت فيه أبرز القضايا المعاصرة لإجارة الرحم و رأي الكنيسة المسيحية بالإضافة إلى حكم إجارة الرحم في القوانين الوضعية العربية والأجنبية. وخلصت في نهاية بحثي إلى الاجابة على عدة تساؤلات توضح مستقبل إجارة الرحم، ومدى تأثيرة على حياة الإنسان من خلال أثره السلبي من سلب الإنسانية لخدمة مصالح بعض الأفراد والإستغلال التجاري في التجارب العلمية، ودور بنوك الأجنة.

مشروع تصميم ازياء مستقبلية تواكب الرؤية السعودية ٢٠٣٠

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الملخص:

تهتم هذه الدراسة في تنمية صناعة الأزياء وفقاً للرؤية الوطنية السعودية ٢٠٣٠ من خلال الأهداف التالية: - تصميم أزياء مبتكرة ذات طابع مستقبلي وطني. - إعداد وتنفيذ مشروع تجاري سعودي في مجال صناعة الأزياء. واتبع في هذه الدراسة المنهج الوصفي التطبيقي، وتعددت الأساليب والأدوات المستخدمة في جمع المادة العلمية للتأكد من الحصول على معلومات وبيانات كاملة ودقيقة مثل الملاحظة والدراسات السابقة والبحث الميداني والتصوير الضوئي والرسوم التوضيحية، وأسفرت الدراسة إلى تصميم مجموعة من الأزياء النسائية ذات طابع مستقبلي، بحيث تبرز فيها القصات والأجزاء المبتكرة. وقد أكدت الدراسة على أهمية صناعة الأزياء في تحقيق الرؤية التنموية التي تعتمد بشكل أساسي على الصناعة المحلية كمحرك رئيسي للنهضة والتحول الكبير نحو عالم منتج بعيداً عن الاعتماد الكلي على عائدات تصدير البترول للخارج، وكذلك تميزت الأزياء المنفذة بجودة تصميمها وندرتها. ومن أهم التوصيات التي يوصي بها البحث: تكثيف الدراسات في مجال صناعة الأزياء المحلية والعالمية، والمساهمة في تحقيق رؤية ٢٠٣٠ من خلال تشجيع الاستثمار في مجال تصنيع الأزياء.

Session W3.2 Interior Design and Architecture (Large Auditorium)

التعبير عن الذات من خلال فن رسم الوجوه

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الملخص

تعلم الإنسان منذ فجر التاريخ التعبير عن ذاته جسديا ولغويا وفنيا عبر أساليب مختلفة، وتعتبر الفنون بشكل عام والفنون البصرية على وجه الخصوص أحد طرق التعبير المهمة التي استخدمها بشكل فاعل في التعبير عن المشاعر والأفكار والمعتقدات، بطريقة تعكس آثار التطورات الفكرية والاجتماعية والاقتصادية للمجتمعات التي تظهر من خلال الآثار التي تتركها لنا. يتناول البحث هذا التوجه في التعبير الذاتي، من خلال فن رسم الوجوه، باعتباره مرآة عاكسة لدواخل الفنان، باستخدام الألوان والخطوط وغيره من عناصر العمل الفني لتأكيد تعابير شخصية تتمركز في شخصنة الوجه لتحقيق ذلك الهدف . يقدم البحث تجربة ذاتية للباحثة بإنتاج أعمال فنية بدراستها وتحليلها ،تعتمد على التعبير عن الذات من خلال فن رسم الوجوه.. عليه يتلخص السؤال البحثي الرئيسي فيما يلي:كيف يمكن إنتاج أعمال فنية معاصرة تعبر عن الذات من خلال رسم الوجوه؟

المسكوكات كمصدر رؤية في الفنون المعاصرة

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الملخص:

تعتبر العملات من أهم الابتكارات الحضارية التي ساهمت في توثيق الاحداث السياسية والاقتصادية بصورة فنية بسيطة وسهلة التداول بين المجتمعات وتساهم في توضيح مستوى الدولة الاقتصادي وانجازاتها بشكل عام. وهي شكل من أشكال الهوية التي تميز الدول . وهذا ما يوضح أحد أدوار الفنون في التوثيق, إذا ما اعتبرنا سك العملة نوع من أنواع الفنون, حيث تعمل الفنانة صفية بن زقر على نفس هذا الاتجاه في مزاولتها لنوع آخر من الفنون, وهو التصوير التشكيلي, ومن خلاله ترى أن الفنون " سجّل حضارات الشعوب وتاريخها المتمثل في الأثار التي تنبض بالحياة مهما مرت عليها العصور" ومصطلح المسكوكات جمع سكة وهي التي كانت تستخدم في عملية الختم على (الدينار والدرهم والفلس), ولكلمة السكة معاني كثيرة فهي تطلق على كل انواع القطع النقدية باختلاف اوزانها ومعادنها التي يتعامل بها الناس كافة بقصد التجارة, وقد تطور استخدام هذا المصطلح حتى اصبح يطلق على وظيفة من يقوم بهذا العمل وهي عملية سك العملة, وتعتبر النُّمِيَّات أو علم المسكوكات (بالإنجليزية numismatics): هو دراسة أو جمع العملات. ومن هذا الباب ورغم تنوع العملات في بلدان العالم إلا أن قلة من الفنانين في العصر الحالي من اعتبرها وسيلة او مصدر ملهم في عملية الانتاج الفني المعاصر, مع وفرة المصادر التي ترتبط بالحضارة العربية, فبالرغم من بساطتها إلا أنها تحمل الكثير من المعاني والدلالات التي لا يمكن التشكيك في أصالتها ومصداقيتها تاريخياً, ومن هذا الباب كانت أهمية توثيق هذا النوع من الاثار المنسية فنياً في كونها مصدراً من مصادر الرؤية الفنية, وتأكيد أهمية مصدر الالهام الفني والارث الحضاري على وجهه الخصوص في انتاج فنون بصرية معاصرة, حيث يساعد هذا البحث على تأكيد أصاله عنصر الاستلهام الفني, وسوف يتبع البحث المنهج الوصفي بالإضافة الى تجربة ذاتية للباحثة لمحاولة صياغة نماذج فنية معاصرة مستوحاة المسكوكات.

توظيف الخامات الطبيعية باللوحة التشكيلية بشكل مبتكر

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الملخص:

توظيف الخامة الطبيعية في اللوحة التشكيلية بشكل مبتكر تعتبر الخامة الوسيط البنائي للشكل والتعبير ، تؤثر وترتبط بقيمة العمل الفني، فالخامة في الفن المعاصر لم تقتصر على كونـها مجرد اداة لتعين الفنان على صنع العمل الفني بل اصبحت الوسيط الأول الذي يحقق تعبيرة ، لذلك نرى ان استحداث الخامات البيئية كوسيط مادي في بناء اللوحة التشكيلية اعتمدت على الفكرة والخامة كجسم للعمل ، لذا نرى اهتمام عدد من الفنانين بإجراء التجارب المتنوعة في مجال الخامات فلكل فنان هدف و رؤيا عند توظيف الخامة مما يظهر الرؤى الجديدة غير المألوفة، والـغـاية منها اظـهـار قيم فنية تشكيليـة لـها دور في تشكيل محتوى العمـل يستخدم مـن خلالها استغـلال الخصـائص المختلفة للخامات وتوظيفها وفق إحتياج العمل لفنـي . فالتجربه هي الوسيلة التي تسمح للفنان التمرد على الأنماط الفنية التقليدية السائدة بإتاحة الفرصة للتعرف على خامات المتنوعة ، وتوضيفها للوصول إلى عمل فني معاصر يلغي حدود اللوحة التشكيلية المصمتة . ونلاحظ ان كثير من الفنانين ، يقوم بمحاولة الإستفادة من الإنجازات الفنية لتوظيف الخامة سعياً لإكتشافات جديدة و من فنانين العصر الحديث الذين استلهموا من الخامة افكار لأعمالهم التصويرية بأساليب معاصرة الفنان التشكيلي زمان جاسم حيث كانت له عدة تجارب متنوعة مُستقيها من الموروث البيئي بطريقة مجردة . كما تكمن أهمية البحث إلى الوصول لمعالجات تشكيلية لتوظيف الخامة الطبيعية في اللوحة التشكيلية بشكل مبتكر والكشف عن ماهو جديد من تقنيات الخامة البيئية للوصول إلى تقنيات جديدة ومعالجات تشكيلية متنوعة ، وسوف يتبع المنهج التجريبي التحليلي لتحليل أعمال الفنانيين الذين استلهموا من الخامة افكار لأعمالهم التصويرية بأعمالهم المعاصرة، كما يتناول البحث تجربة ذاتية للباحثة (الفنانة) لمحاولة تجربة خامات طبيعية جديدة وتوظيفها باللوحة التشكيلية .

فن القط كمثير بصري لإنتاج اعمال فنية ثنائية وثلاثية الأبعاد

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الملخص

فن القط كمثير بصري لانتاج اعمال فنية ثنائية وثلاثية الأبعاد تعتبر البيئة أحد أهم المؤثرات على الفنون ، لما تعكسّه على انتاج الفنان وفق تراثه وتاريخه ومجتمعه، حيث عاد بعض الفنانين اليوم لأصولهم التراثية كمنبع للرؤية والبحث عن مصادر إثراء أصيلة ومتجددة فاستلهموا مواضيع التراث الشعبي والفن الشعبي في ابتكار اعمالهم وفنونهم المعاصرة حيث تأثر بعض الفنانين بأصولهم التراثية وبيئتهم كمنبع للرؤيا في الفنون ، ايضًا الاستلهام والبحث عن مصادر تراثية أصيله ، فاستلهموا مواضيع التراث الشعبي في اعمالهم وفنونهم المعاصرة ومنذ بدايات الفن السعودي مع بداية القرن العشرين تشكلت لدى الفنان السعودي عدد من الاتجاهات الفكرية الحديثة، فظهر هذا من خلال أعماله الفنية ذات المصادر المستمدة من بيئته وتعد تأثير البيئة في الفن السعودي واضح على فنانيها كما يعد رضوي من اوائل الفنانين السعودين في وقتنا الحديث حيث امتاز أسلوب عبد الحليم رضوي باستلهام الرمز من المفردات التراثية الشعبية المحلية ، كذلك أسلوب محمد السليم في الآفاقية والتي استلهمها من خطوط الأفق في البيئة الصحراوية ، كل منطقة تراث خاص بها بحيث يعبتر البيت العسيري "فن القط" قطعة من هذا التراث السعودي العريق مما يجعل الاتجاه للاهتمام بموروثاتنا الفنية ضرورة تؤكد أصالتنا وتحافظ على هويتنا، وذلك من خلال البحث عن معالجات تشكيلية لتطوير هذا الفن وتوظيفه في مجالات الفنون المعاصرة. لذا يهدف البحث الى توضيف فن القط كمثير بصري لانتاج اعمال فنية ثنائية وثلاثية الأبعاد كما تكمن اهمية البحث في محاولة ل التعرّف على فن القط العسيري حيث آن الدراسات والمعرفة قليله على ان هناك عناصر فنيّة وجمالية متعددة في محاولة لإعادة إحياءه وتطويره والاستفادة منه وتوثيقة في التعبير الفنّي في إنتاج اعمال فنية معاصرة ذات بعدين من الناحية الجمالية والفنية ويهدف هذا البحث الى الإفادة من الفنون الشعبية الفنية والجمالية مثل فن القط العسيري كمصدر لانتاج اعمال فنية معاصرة و البحث عن صيغ فنية معاصرة ذات بعدين وثلاث أبعاد مستوحاة أو متأثره بفن القط العسيري أو محاوله لتطوير هذا النوع من الفنون وسوف يتبع المنهج الوصفي ليصف علاقة البيئة وتأثيرها في الاعمال الفنية والمنهج التحليلي لتحليل أعمال الفنانيين الذين وضفوا" فن القط " في اعمالهم المعاصرة ، كما يتناول البحث تجربة ذاتية للباحثة (الفنانة) لمحاولة صياغة نماذج معاصره من الفنون المستلهمة من "فن القط" خاصة.

ذاتية الرمز للتعبير في الفنون البصرية

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الملخص:

يُعتقد أن أصول الرمز في الفن تعود لفترة العصر الحجري القديم، حين اعتمد الإنسان البدائي الرموز قبل تطوّر اللغة لغرض التعبير عن احتياجاته بواسطة الرسم داخل الكهوف. وتُعّد معظم الأساطير التي أفرزها العالم القديم أثر من الخبرة التي تشكّلت في مرحلة أقدم من التطوّر البشري. كما يمكن تتبّع استخدام الرموز إلى فنون الشرق القديم وخاصةً الفنين المصري والياباني، ويميز الأسلوب الرمزي الذي يظهر في الكثير من الأعمال الفنية عبر العصور وجود أكثر من اتجاه في التفسير، فالإنسان المبدع هو الشخص القادر على إدراك الروابط الخفية بين الأشياء. ويمكن بلورة مشكلة البحث حول اختلاف الفنان فكرياً عن مجتمعه قد يعرضه لضغوط نفسية في ظل حدود العادات والتقاليد وحدود المجتمع الفكرية، فيلجأ الفنان إلى التعبير رمزياً في أعماله وذلك بغرض توسيع دائرة الحرية في التعبير سواءً من ناحية سياسية أو اجتماعية وأيضاً من ناحية شخصية تعبيريه، عليه يهدف البحث التعرف على صيغ الترميز في الفنون بشكل عام كمدخل للتعبير عن الذات، ووضع خط زمن لتطوّر استخدام الرموز في عالم الفن من خلال أعمال فنية في محاولة لإيجاد صيغ جديدة ومعاصرة للتعبير الفني، وأيضا رصد أهم التجارب الفنية للتعبير رمزياً باسقاط الأفكار والمفاهيم دون تفسير منه عن ماهية الرموز. كما تكمن أهمية البحث في إلقاء الضوء على استخدام الرموز في الأعمال الفنية كصيغ تعبيرية لها سماتها الفنية، ودور الأسلوب الرمزي في توسيع دائرة حرية الفنان ليستمر في الإبداع عن طريق الرموز بدلاً من حصره ضمن قيود المجتمع فكريا، وذلك من خلال دراسة نماذج فنية بارزة وعن طريق تجربة شخصية تعبر بها الباحثة رمزيا في أعمال فنية معاصرة.

Session W3.3 General and Applied Sciences

اللقطاء والأيتام ،تأثير المجتمع عليهم وتأثيرهم على المجتمع

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الملخص:

اللقطاء والأيتام (تأثير المجتمع عليهم وتأثيرهم على المجتمع) -يولد اللقيط نتيجة خطأ شخصين وكذلك اليتيم يصبح يتيما بسبب وفاة والديه أو أنهم لا يرغبان فيه وهذا أيضا خطأ شخصين فقط . ولكن الخطأ الأشد تأثيرا والذي يأخذ مدى أوسع عندما يتحول هذا الخطأ لخطأ مجتمع يحكم عليهم بالبعد والتحاشي.وهنا تبدأ التأثيرات السلبية على هؤلاء الأطفال والتي تؤدي إلى مأساة فعلية وكبيرة على المجتمع نفسه فيما بعد . المشكلة الأولى هي تأثير المجتمع عليه وطريقة الإيواء المعتمدة والأشخاص العاملين داخل الملاجئ ودرجة وعيهم لكيفية التعامل مع هذه الشريحة من الأطفال الذين يعانون بمعظم الأحوال من العنف الجسدي والسلوك الخاطئ المتبع معهم والتحرش الجنسي وتجارة الجسد وفقد العذرية بالإضافة إلى التحصيل العلمي المتدني. أما المشكلة الثانيةفهي تأثيرهم على المجتمع والتي تبدأ من لحظة خروج هؤلاء اللقطاء والأيتام من دائرة السيطرة عليهم بعد بلوغهم سن الرشد ليتوجهوا نحو المجتمع وتبدأ عواقب تلك الثغرات والسلبيات التي زرعت بنفوسهم كاتساع دائرة التعاطي وتجارة المخدرات وزيادة التجارة بالجسد والعنف الجسدي على البنات اللقيطات .ممايزيد عدد اللقطاء الذين سيعيشون نفس الدورة من جديد.وبذلك تكون التوصيات والهدف من البجث هي العمل الجاد على احتواء اللقطاء والأيتام ، ليس فقط معنى ذلك احتواءهم داخل جدران وانما احتواءهم على كافة الأصعدة ، وبطرق مخطط لها بشكل دقيق ، بالاضافة الى كادر نفسي و تعليمي وذلك لأجل سلامتهم وسلامةمجتمع بأكمله بحيث تكون النتيجة المتوقعة هي استثمار لا خسارة فيه ينتج أطباء ومهندسين بمعنويات ومؤهلات نفسية عالية.إضافة إلى تطور ملحوظ ،هدوء واستقرار يحتويهم ويجعلهم قدوة لغيرهم وليس العكس وأيضا سننعم بمجتمع صالح يضخ أمواله على مشاريع تنموية جديدة بحيث يستغني عن ضخ الملايين لبرامج التوعية (المخدرات والشذوذ.

Session W3.3 General and Applied Sciences

جاستا بين الحصانة السيادية والتقادم

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الملخص:

قانون العدالة ضد رعاية الهجوم الإرهابي، وهو ما يُعرف بجاستا، قانون حديث أصدره مجلس التشريع الأمريكي بعد أن حصد على تصويت بأغلبية ساحقة من كلا المجلسين، مجلس النواب ومجلس الشيوخ. على إثره استخدم الرئيس باراك أوباما الڤيتو لأول مرة، خلال فترة رئاسته التي امتدت لثماني سنوات، واصفًا القانون بكونه غلطة، إلا أن الكونغرس رفضه. ولأن القانون يتمحور حول إضعاف الحصانة السيادية للدول جاعلاً إياها دون حصانة قضائية ضد الدول الأجنبية، فقد ترك هذا القانون الشارع السعودي غاضبًا لأنه يطال السعودية فيما يخص أحداث الحادي عشر من سبتمبر، مما يعني أنه يصنف السعودية ضمنيًا كدولة راعية للإرهاب. القانون أثار خلفه مجتمع دولي مرتبك، إذ أنه رمى بأعراف العلاقات الدولية عرض الحائط. لهذه الأسباب يتمحور البحث عن جانبي الحصانة السيادية والتقادم بالنسبة لقانون جاستا، مع أن ليس للدول حصانة سيادية مطلقة كما كان لها قبل عقود كثيرة مضت إلا أن حتى الحصانة السيادية المقيدة تمنح الدول الحصانة القضائية إلا فيما يستثنى. وهذا ما سيتم تناوله في محاور هذا البحث حيث يتضمن المحور الأول: أهم البنود التي تطرق لها قانون جاستا. المحور الثاني: الاتفاقيات التي تنظم حصانة الدول وممتلكاتها. المحور الثالث: أثر الدفع بتقادم الدعوى الجنائية المحور الرابع: أثر القانون على الأصول السعودية المستثمرة لدى الولايات المتحدة الأمريكية. سيتضح لنا من خلال البحث إذا ما يمكن للسعودية الاحتجاج بالحصانة القضائية أم لا. وبما أن أحداث الحادي عشر من سبتمبر حدثت في عام ٢٠٠١ أي مضى عليها خمسة عشر عامًا، سنتحرى إذا ما يمكن الاحتجاج بالتقادم لإسقاط الدعاوى الجنائية التي قد توجه لها.

Session W3.3 General and Applied Sciences

دور بر الأبناء في صحة الوالدين

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الملخص:

في السنوات الأخيرة شاهدنا تطور سريع في حالات العقوق في المجتمع و انتشرت و بكثرة الأمراض النفسية و الجسدية بين الإباء و الأمهات ف كبار السن يحتاجون الى الرعاية و الحب من ابنائهم في مرحلة من العمر ينتظرون جزاء ما قدموه طيلة حياتهم لأبنائهم وهنا يأتي دور الأبناء في رعاية صحتهم النفسية و الجسدية و في زمن انتشرت فيه الأنانيه و المادية تناسوا الابناء صحت والديهم و نظرا لأهمية بر الوالدين و ارتباطه ب القيم الإسلامية و ارتباطه بالموروث الثقافي الموجود في المجتمع برزة فكرة هذا البحث لدراسة هذه الحالة وفق معايير عملية حيث سوف يتم استخدام البحث الوصفي في هذا البحث كما سوف يتم استخدام ألاستبيانه كأداة بحث و تستهدف هذه الدراسة الإباء و الأمهات من ٤٠ سنه وما فوق حيث سوف يتم بناء البحث على فرضيتين وهما : ١-أنه توجد علاقة لصحة النفسية و الجسدية للوالدين و بر الأبناء . ٢-أنه لا توجد علاقة بين الصحة النفسية و الجسدية و بر الأبناء . كما سوف يتم تحليل البيانات المجمعة من عينة البحث وفقه التحليل الاحصائي.

Session W3.3 General and Applied Sciences

Design of a Stable Biocompatible Surface of Grafted Thermo-Responsive Polymers

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Abstract:

Biocompatibility is an essential factor in the design of any materials for tissue engineering and drug delivery systems. When a material comes in contact with a biological fluid system containing proteins, blood, cells or tissues, a cascade of mutually dependent events take place and generate signals. On one hand, nonspecific protein binding on the surfaces always happens rapidly, and the adsorbed protein quickly forms a fibrous avascular capsule, which insulates the tissue material or drug delivery system from its target environment. Therefore, the prevention of nonspecific protein adsorption plays a principal role in improving the biocompatibility of the biomaterials. Studies on polymeric materials proved their capability of preventing the adsorption of nonspecific proteins to protect the drug delivery system from failure. Polymers are affected by some factors that must be considered in the design of any

polymer drug delivery system. These factors include polymer's length, density, strength of their covalent bonds and local temperature.

This project aims to design a biocompatible surface of grafted thermo-responsive polymers that can sustain its stability. Molecular theory and simulation have been used to understand the specific physiological conditions that affect the polymer. Fortran programming language is used to simulate self-avoiding random walk of polymer's chain in cubic lattice and the possible number of configuration is estimated by using Rosenbluth weighting method. This estimation helps in determining the most proper molecular configuration for the polymer. The design allows us to determine the polymers' specific physical properties that improve the material biocompatibility. The physical properties, that considered in this design are length, density and temperature. This design can be used as a design platform to enhance the performance of drug delivery system by minimizing the effect of protein adsorption.

Session W3.3 General and Applied Sciences

Design of a Low Cost and Robust Computer-Based ECG System for Automatic and Remote Diagnosis and Monitoring

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Abstract:

According to the World Health Organization (WHO), about 46 percent of deaths in Saudi Arabia are due to cardiovascular diseases. The analysis of electrocardiograph (ECG) signal provides important clinical information regarding the heart functionalities. Early detection of cardiac abnormalities along with the continuous monitoring can play an important role in reducing the number of occurrences. Saudi Arabia being a big country with vast land areas, a low cost computer based automatic ECG system would be suitable in the remote medical centers to serve patients. Also, would reduce the workload of the cardiologists and physicians in analyzing and interpreting the ECG data. This project design aims to design a computer-based ECG system that functions to provide robust automatic diagnosis and remote monitoring of the ECG signals. The main objective to be achieved in this semester is to design a low cost ECG acquisition circuit, which includes pre-amplifier, high-pass filter, low-pass filter, 50 Hz band stop filter, 2nd stage of amplification, DC offset, right leg driven and nulling circuits to acquire ECG signal from the body. Where the bandwidth of the ECG

signal considered being from 0.1Hz to 300Hz and overall gain was 1000. Moreover, the Multisim simulation program was used to verify the feasibility of the circuit through the experimental test.

In the next stage, an automatic decision support system will be designed in MATLAB platform with the help of the recorded ECG signals database. Once the project complete, the system will be able to detect and classify abnormalities in ECG signals with the additional information of type and severity of diseases.

Session W3.3 General and Applied Sciences

Inhibition of Escherichia Coli Growth Using Extremely Low Frequency Electromagnetic (ELF-EM) Waves at Resonance Frequency

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Abstract:

Escherichia coli is human-specific pathogen causing severe infection for human such as urinary tract infections, neonatal meningitis, gastrointestinal and a variety of systemic infections. Treatment of bacterial infection can be managed by using antibiotics, however, the effectiveness of this antibiotics is still questionable and needs extensive investigation as well as the side effects of the used antibiotics and hence drawbacks on human health. Therefore the aim of the present work is to demonstrate a new method for the control of Escherichia coli growth, through the interference with the bioelectric signals generated from the microbe during cell division by extremely low frequency electromagnetic waves (ELF-EMW) at resonance frequency. The microorganisms will be subjected to square amplitude modulated waves (QAMW) with different modulation frequencies to investigate the inhibiting frequency for the bacterial growth. The resistivity of both exposed and non-exposed bacteria to different types of antibiotics will be studied. Moreover, DNA analysis of exposed and non-exposed microorganisms

will be done. Transmission electron microscope will be used to investigate the morphological changes that may occur after exposure to electromagnetic waves. This new noninvasive technique for treatment of bacterial infections will be of considerable interest for the use in medical and biotechnological applications.

Session W3.4 Computer and Information Sciences

Smart Mobility Crowd-Sourcing Applications

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Abstract:

In this project, we design and develop a crowdsourcing application that aims to capture and analyze massive amounts of urban data to better understand and predict how people move in the city of Riyadh. Specifically, we apply application to track fleets of buses (300+) in morning and evening transportation routes for university campuses to provide insights into the Riyadh 's multiplex transportation systems. The contribution of using location data to analyze mobility patterns is twofold; firstly, to inform the policies related to urban mobility and the deployment Riyadh's metro in our transportation infrastructure, and secondly to inform the design of technologies and services offered by the development authority in Riyadh to adapt to citizens' needs. The data-driven predictive models for traffic flow and congestion analytics is a novel contribution that is aligned with the need for insights on urban mobility trends and challenges in Riyadh. Our project is motivated by the rapidly growing population demand for mobility in the city of Riyadh, Saudi Arabia which has witnessed a population growth that has doubled in the last 15 years. In this project, we develop algorithms to combine semantically

enriched geo-location data on transportation to extract human daily urban activity and to identify potential transit demand and frequency. In order to develop a coupled network approach for optimizing the interconnections of vehicle trips. The agile software methodology used in this project is Participatory Design with stakeholders as design partners, aligned with iterative cycles of prototyping and incremental development. Main Contributions 1. Application for tracking fleets of vehicles (Riyadh's Smart Mobility App) 2. Data analytics of urban mobility's rich data sets 3. Integration of the acquired routes' visualizations and predictive models to Riyadh's City Dynamics Platform (KACST Project). When the ongoing Riyadh Metro project is complete, Riyadh’s transportation system will be the largest urban public transportation project in the world, developed in a city where there was no previous public transport. In a city dominated by cars, with no pedestrian infrastructure, and where women cannot drive, the introduction of the public transit system will transform Riyadh's urban and social dynamics.

Brain-Computer Interfaces in Serious Gaming Applications for Children with ADHD

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Abstract:

Serious Gaming is an approach often used in cognitive therapy for children with developmental disorders such as Attention Deficit Disorders (ADD) or Attention Deficit and Hyperactivity Disorders (ADHD). Although advanced technologies such as Brain Computer Interfaces (BCI) are beginning to find their way into attention assessment and rehabilitation fields to overcome several challenges and limitations with the current clinical practices, our understanding of the usability of cognitive therapy serious gaming technologies is inadequate. This projects aims to design and develop a BCI game for children with ADHD in a Participatory Design model. In this project, we engage with stakeholders and Learning Disabilities' specialists from our local context in Saudi Arabia, as design partners, to develop a technology solution (e.g. a mobile application) that is aligned with the needs of individuals involved in cognitive therapy; the specialists, parents and most importantly the children who have ADD/ADHD. We use the software development kit (SDK) of Emotiv products to develop a mobile application aligned with brain-computer interfaces for headsets in the Emotiv Insight

line of products. Prototypes of the game have been created and high-fidelity prototyping is planned for preliminary testing. Findings show that Emotiv is sufficient in detecting levels of attention and further testing in observational studies are planned for assessing the application's impact with children who have ADHD.

Session W3.4 Computer and Information Sciences

Hear Me: An EEG-based Non-Verbal Communication System

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Abstract:

Communication plays a vital role in human interaction. It is the foundation of relationships wherein people express their ideas, opinions and feelings. Although for some, verbal communication is not a hurdle to form relationships or express emotions, there are certain people for whom verbal communication is a challenge. Many individuals suffer from mobility and speaking disabilities caused by diseases such as Amyotrophic Lateral Sclerosis (ALS) and Primary Lateral Sclerosis (PLS) among many others. Brain Computer Interface (BCI) research has shown tremendous potential in using brainwaves to control electronics and computers. In this project, we develop an assistive application that will enable patients with speech & motor disabilities to communicate easily with their caretakers. Existing research and applications in this domain target only active communication where patients use a menu-based system. In this project, we allow three forms of communication: Active, Reactive and Passive. Reactive communication allows patients to answer caretaker queries with ease and passive communication allows the caretakers to monitor the mental states of the patient. The system also includes a notification system that notifies the caretaker when an action is initiated. The menu-based system also allows for triaging the request based on

the urgency of it. The system is developed using an Emotiv EPOC+ headset to capture brainwave signals. EPOC+ is a 14 channel EEG headset that can recognize facial expressions, mental commands, and provide data from its 9-axis inertial motion sensor and data from its frequency bands. The software app developed for the system runs on Android handheld devices and has two main interfaces: one for the patient's terminal and one for the caretaker's device. The app setup on the patient's terminal receives the EEG signal from the EPOC+ headset and allows them to communicate actively, passively and reactively. The app setup on the caretaker's device allows them to receive notifications and accept/reject notifications. A rejected notification or non-response within a specific time (based on the triage level) is forwarded to the next caretaker. The system also includes a central web-based dashboard that mirrors the communication between the caretakers and the patients.

Session W3.4 Computer and Information Sciences

Education Strategies Application (ESA)

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Abstract:

Education field is a core of all developments in the world. Our interest is to develop and support the education field and make enhancement of the professional capacity of teachers and the educational needs of the students. Our project is named Education Strategies Application (ESA), will support the development of education through the development of the teaching methods and the assessment of students, make the teaching and learning process more helpful, make the class time more interactive for teachers and students, and maximize the understanding level of students. The application designed especially for CCSIT students and teachers, and it will help them to communicate effectively with each other. From the perspective of teachers, it will let them find the best strategy to deliver the subject based on the subject and its topic and provides an assessment of the strategy through students' response. To achieve our objective, we are going to use the machine learning algorithm especially supervised classification to proposed the best strategy. From the perspective of students, they will answer their teacher's question and the ESA will calculate the right and wrong answers then provide the percentage to the teacher. The main purpose of ESA is to improve the

teaching methods by providing several strategies that will help the teacher to deliver the subject. As an indirect result, it will improve the student skills.

Session W3.4 Computer and Information Sciences

Saudi Heritage Mobile Application

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Abstract:

Interaction designers are instrumental in societal development by designing digital artifacts that become part of the socio-technical systems. In this project, we use design research to explore ways in which location-based interaction with mobile applications can be used to create novel experiences of cultural heritage. We aim to identify interaction design principles for our local socio-cultural context, and use them to frame the challenge of Interaction Design for Saudi Heritage sites. We then apply the framework for developing an interactive socio-technical system for museums and cultural heritage sites. In collaboration with curators at the Saudi Commission for Tourism and National Heritage (SCTH), we will co-create interactive crowd-sourced applications for Saudi heritage sites. Testing involves experimenting with different forms of multimedia-scapes and assessing the usability and user experience (UX) of technology designed for cultural heritage experiences. Contributions of this project are twofold: Firstly, interactive multimedia for socio-cultural experiences, and secondly, interaction design recommendations for cultural heritage experiences. Acknowledgment The project is part of the Human-Computer Interaction Lab

ubiquitous computing track, and is funded by King Abdulaziz City for Science and Technology (KACST) in Riyadh, Saudi Arabia.

Real Time Blind Source Separation Based On Independent Component Analysis

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Abstract:

Real Time Blind Source Separation Based On Independent Component Analysis Separating (Music, noise /speech) refers to the problem of trying to extract sounds that are unwanted like car sounds, door shut sound, birds chirping, clapping, beach waves and music to obtain clean speech In this research, we try to contribute to solve this problem by comparing algorithms based on blind source separation(BSS) that means the separation of a set of source signals from a single mixed signal without knowing any information (or with few information) about the source signals or the mixing process, using one of this blind source separation techniques and suggesting to improve the performance of this technical at a real-time application Specifically, consider the blind source separation of mixed signals at single channel in real-time based on Independent Component Analysis (ICA) technique that is computational method for separating a more than one signal, the separation supposes that the signals are independent, and they are mixed in a linear way. This paper will study the comparison of more than one real time BSS algorithm based on ICA theoretical to obtain the fastest

separation possible that works online with minimal delay by implementing and testing various algorithms, to gain the knowledge of the advantages and disadvantages in order to derive an algorithm with minimum delay value which operates in real-time and outputs the cleanest speech, this research will measure the possibility of reducing the volume to obtain lowest value of background music and the possibility of reducing the delay of speech to coincide with the show. Many algorithms will be tested and compared to choose the best algorithms in terms of (lowest value of the delay of speech and cleanest sound speech from music background) , In general the most real time BSS , depends on microphone array that is based on the distance between microphone and the different time between retrieval of the source signals but this work tries to separate mixture signals in single channel without use microphone array.

Session W4.1 Computer and Information Sciences

An Investigation about User Preference in Smartphone Free Applications

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Abstract:

Smartphone applications have become highly popular among individuals and businesses, with millions of users communicating through applications downloaded on their devices to exchange data and information in different forms. Therefore, this research focuses on the users' point of view on the reasons for preferring smartphone applications over calls/SMS, favorite application and common problems faced while using smartphone applications, with initial hypotheses related to privacy and security, easiness of use and functionality issues. Using surveys, interviews and observation methods, some results supported the initial hypotheses while others did not. The findings indicate that privacy and security became not a main demand compared with the variety of features that applications provide as well as the easiness of use. In addition, users contributed with significant suggestions to improve communication using free applications.

Session W4.1 Computer and Information Sciences

Requirements for Big Data Analytics

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Abstract:

In recent years, big data has played a critical role for businesses in terms of organizational development, helping them to improve performance and create competitive advantages. However, more than half of big data projects either fail to fully deliver features and benefits that could help organizations in their decision-making, or they fail to complete at all. Therefore, most organizations start to address exact big data requirements to achieve better business value in the big data area. The purpose is to define the requirements, scope of the problem domain and design of the big data by presenting a comprehensive review of existing big data implementation requirements and elaborating on their methodical and conceptual characteristics, to determine their gaps in addressing the Human, organizational, Technical dominoes. Content analysis technique has been used to answer the questions of this paper. Six main steps for completing content analyses; start with designing of the research objectives or questions, selection of content, developing content themes, completing units of analysis, preparing a pilot testing, and analyzing the collected data. According to the analysis result, none of the existing big data implementation have address all requirements and benchmarking variables of big data within Human, organizational, Technical aspects. However, this link between the importance of big data requirements

aspects and three big data key areas that will be a base for new big data implementation model in future work.

Session W4.1 Computer and Information Sciences

Using Cloud Computing in Higher Education

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Abstract:

Technology has grown rapidly with scientific improvements over the world in recent years. Therefore, there is a strong need for redesigning the educational system to meet industrial needs. The introduction of computers made it possible to solve many problems so fast and at a lower cost. Main drivers of the adoption of cloud computing in higher education include increases in the cost of IT infrastructure, financial challenges facing many institutions, pressure for more profits, as well as the need to improve institutional and students' success. The five key characteristics of cloud computing is as follows: on-demand self-service, ubiquitous network access, resource pooling, rapid elasticity, and measured service. Moreover cloud computing has many benefits including its ability to facilitate and support collaborative learning, and saves content therefore, it is impossible for a person signed to the cloud to lose any valuable material. It also has some risk which are related to Interoperability and Portability Concerns, Unsolicited Advertising, Downtime & Accessibility, Bandwidth Cost, and Appropriate Design of the Cloud. The goal of this research paper is to find a solution for the IT. The universities beginning point is to start using cloud computing, by planning the right strategy. Different studies have suggested different strategies but the

most common and practical is called the migration strategy. Which consists of five steps including: cloud computing knowledge base development, the evaluation of the current position of the university, testing of the installed system, selection of the cloud computing solution, as management and implementation of the strategy. The outcomes are to support the use of cloud solution in the universities by adjustable universities structure and enhance the knowledge in the field.

Session W4.1 Computer and Information Sciences

Thin and Thick Clients in Desktop Virtualization

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Abstract:

This research aims to compare and contrast between the thick and thin clients for desktop virtualization in many aspects like hardware, performance, operating systems, security and financial costs. This research also highlights the pros and cons of each client. One of the main pros in thick clients which are also referred to as "fat clients" is that if the server ever breaks down, the client can continue working and the data will be saved locally, however It needs more bandwidth, and both physical and logical security are compromised. Thick or thin clients architecture applications are quite similar but thick client will provide more graphics, features which will make the application architecture more customizable. Before choosing to go with either thin clients or thick clients, solutions providers study all the technical aspects of both and then make their choice. The management involved in maintaining thick client systems will substantially cut into the savings made by moving to thin client architecture. Both thick and thin clients rely on the server to perform operations. In addition, this research has a survey for measuring the awareness of Thick and Thin in the society in Saudi Arabia. As a result, it shows that people or students in Saudi Arabia has less knowledge about the

two terms thin or thick client oppose to other countries who have a well background in information technology. Also, People in Saudi Arabia are very interested to learn more about the Thin and Thick Clients to decide which to use in organizations and which to rely on in the near future.

Session W4.2 Interior Design and Architecture

Heritage Hotel

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Abstract:

Tourism in kingdom of Saudi Arabia lies in three categories historically, religious and economic. According to the 2030 vision of Saudi Arabia, one of the goals of the 2030 Saudi vision is to raise the share of non-oil exports in non-oil GDP from 16% to 50% and the non-oil fields have many examples like develop truism, preservation of historical places and heritage sites, linking history with the present, promote the study of heritage, emphasis on the religious and social values that are rooted in Islamic and national history. The challenge and the goal of the project is to achieve the stander of 5 stars heritage hotel in Saudi Arabia that given by Dur Hospitality which is a leading Saudi hospitality company and with the site and the building satisfies government requirements competent, the municipality and the requirement of Municipality Dir'iya and Saudi commission for tourism and national heritage. It will achieved by the design of the building, interior design and the location of the project. The project will be heritage hotel (two-story) located in samhan district, diriyaah, Saudi Arabia. Saamhan district is part of Diriyaah historical city that was declared a UNESCO World Heritage Site in 2010. The project will contain furniture pieces and design elements that go with the around environment to embraces heritage, encourage rooting that give the visitors great stroll through the rich heritage, in addition to let them experience the atmosphere

of life in the past with contemporary touch. Finally the project is infused with the meaning from our culture.

Saudi vision http://vision2030.gov.sa/ Dur hospitalty study http://www.dur.sa/en

Session W4.2 Interior Design and Architecture

Healthy Interiors – Now and Then is Saudi Arabia

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Abstract:

Since time immemorial, human beings always have been looking for a safe place called the house to live and shelter them from the hazardous outside world. They had cared about the interior objects from both functional and aesthetic perspectives. This old habit hasn't changed, in our modern life we always strive towards having a good, nice and beautiful house that fulfills our needs. We are always looking for the suitable pieces of furniture to make our houses looking beautiful, comfortable and better place to live. After the industrial revolution, plenty of materials have been developed that were not known by our ancestors. We became so happy to use them because of their high efficiency and nice looking there for our houses became more elegant and attractive. But have we ever signaled an attention about the materials that our furniture, flooring and wall are made of? Have we ever considered the advantages and disadvantages when we choose our materials and how these materials would affect our health negatively or positively? Our research answers these questions in details. It is based on the study of healthy interiors and the relationship between our choices for the materials and their effects on our lives and our health especially. In this research, we have discussed the ancient materials and their properties and why they were used in everyday

life. Al Ula Old Mud Village has been chosen and visited as a case study from vernacular architecture in Saudi Arabia as an example of the usage of old and natural materials. Also, we are discussing green building materials from contemporary architecture as great alternatives rather than using toxic materials that cause health problems. As contemporary example King Abdullah Financial District in Riyadh was chosen, a case study for high technique green buildings projects in Saudi Arabia. In the research several sustainability certifications types are mentioned and examples of local companies that sell healthy furniture and materials.

Human Body in Visual Arts

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Abstract:

Humanism in art and architecture has the power to share and express the feelings easily, and also allows the artists and architects to share their experiences and emotions to the viewers. Allah created the human body with harmony, consistency, and homogeneity. However, Artists and architects have always been inspired by the structure of the human body and used it as a standard scale in their works. They took the human body as a naturalistic form and metaphorical meaning that appeared in their sculpture, painting and buildings. Sculpture, has played a major role in the evolution of Western culture. Greek sculptors were particularly concerned with proportion, poise, and the idealized perfection of the human body. Painters and Artist love the portrait of the human body, which leads their interests to represent the human's three-dimensional form into two dimensional surface. Proportions and balance of the human body enter the field of architecture and urban design from the point of view of imitation, idealized allusion and the actual human use. However, artists and architects may copy the shape of the human body or using the characteristics, functions, and features of the human body and try to reflect them in their artistic work. This research aims to highlight the relationship between the organs of the human body and the visual arts in terms of size,

form and motion. This relationship will be emphasized by the analyses of number of artistic and architectural works, which featured inspiration from the miracles of the human body. It will also discuss the ways in which artists and architects were inspired by the human body and how did they applied its principles in their work, as well as connecting them together in an ergonomic way.

Natural Ventilation to Improve IAQ in Hospitals in Hot and Dry Climate

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Abstract:

Ever since Antiquity, one of the determinant of architecture design is Indoor Air Quality (IAQ) which is a healthy and safety concern nowadays and is achieved through various strategies. One of them is natural ventilation which is considered fundamental for a healthy building. The situation in hospitals is more critical as the patients have less immunity. "It is a known fact that in a typical hospital the level of airborne infections contaminant increases relatively with the increased population density of infected individuals"1. In Riyadh, our reliability in designing a healthy indoor environment in hospitals is through well studied mechanical ventilation system to control infection, bacteria and viruses. Operation rooms, Intensive care units, in-patient rooms and public areas have different strategies according to the functionality of each area. Depending only on the use of mechanical system leads us to a contraposition with the sustainable building strategies due to the high energy consumption of using mechanical ventilation. This research paper will investigate the possibility of integrating natural ventilation in the public spaces like corridors, waiting areas and

suggests the proper method of ventilation which is a mixed use of ventilation system: natural-mechanical. This strategy is not applied in any of hospitals in Riyadh. To ensure the possibility of applying this strategy, interviews were conducted with King Fahad Medical City and King Khalid Hospital University as well as comparison with international hospitals built in similar climate. The conclusion reveals that air conditions used for hospital building in hot and dry regions have enormous energy consumption. Therefore Hybrid Ventilation as sustainable strategy can be applied in public spaces in Riyadh's hospitals. However using air conditions is a must due to the hot and dry climatic and it shouldn't be omitted especially for the operation rooms, Intensive care units and in-patient rooms due to high needs to kill the viruses and bacteria using HEPA filters. 1 Atkinson, J., Chartier, Y., Silvia, C. L. P., Jensen, P., Li, Y., & Seto, W. H. (Eds.). (2009). Natural ventilation for infection control in health-care settings. World Health Organization.

Session W4.3 English Language Studies

Apology Strategies of Advanced English Foreign Language Learners: Does the Foreign Language Influence the First Language Performance?

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Abstract:

Varied approaches assume a major influence of first language on second language learning (e.g., behaviorism and contrastive analysis). The current study, however, addresses a reverse question; whether the foreign language of advanced learners would influence their first language use. The study mainly focuses on the speech act of apology to examine the potential influence of the foreign language on the native language. To this end, data were collected from 150 participants using a Discourse Completion Task (DCT) that was adopted from El-Dakhs (in press). The DCT consisted of 12 imaginary situations, each of which included a scenario and a mini-dialogue which participants had to complete. The situations varied along the social dimensions of dominance and distance. The participants comprised three groups; (1) 50 native speakers of English, (2) 50 native speakers of Saudi Arabia who were monolinguals and (3) 50 native speakers of Saudi Arabic who were also advanced

learners of English as a foreign language. All participants completed the task in their mother tongue. The participants' responses were coded using Olshtain and Cohen's (1983) model of apology strategies and analyzed using a T-test. Results indicated some significant differences between Saudi bilinguals and monolinguals. While bilinguals showed stronger tendency to use offers of apology, expressions that the other deserve apology, calm the other down, check the harm done and use intensifiers, monolinguals exhibited higher frequency of expressions of regret, lack of intent, offers of repair and promises of forebearance. Further T-test comparisons were made between monolinguals and Americans, on the one hand, and bilinguals and Americans, on the other, to see if the noted differences between the two Saudi groups originate from the bilinguals' high proficiency in English, but no clear pattern was found. Some similarities were, however, noted in the use of apology strategies among Saudis, whether monolinguals or bilinguals as both Saudi groups showed clear tendency to seek forgiveness, express self-deficiency, not accept the blame and swear by God. The results are compared with earlier apology studies, particularly those involving Arab speakers and second language learners and limitations of the study are mentioned.

Session W4.3 English Language Studies

Women's Poetry Thematic and Technical Comparison between Nizar Qabbani's Between Love and Love and Elinor Wylie's Valentine

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Abstract:

Poetry is one of the weapons that poets use to win their lovers' hearts. Hence, the theme of love is one of the main topics that has been 'preferably chosen' in poems across ages. Arabs tend to express their feelings through poems. However, Western cultures express their feelings with less social restrictions. The scope of this research focuses on the Syrian poet Nizar Qabbani's (1923-1998) Between love and love and the American poetess Elinor Wylie's (1885-1928) Valentine. It compares the two poets' openness and their abilities to demonstrate their emotions in love poems in Arab and Western cultures. Nizar was known for expressing his emotions openly in his poems, which made him a controversial poet. As a result, most of his books were banned in some countries including Saudi Arabia (Yaghi, 2014). Elinor, on the other hand, was a famous poetess in the 20th century and her poems were popular for their richness in sensational and melodious poems. The present study provides a thematic and technical

comparison between Nizar Qabani's Between love and love and Elinor Wylie's Valentine.

Session W4.3 English Language Studies

Translation of Stream of Consciousness

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Abstract:

The Arabic short story is probably the most genre affected by the literary genres borrowed from the West. One of the adopted style of writing short stories is called the stream of consciousness which is a narrative mode that depicts the thoughts, feelings, and reactions in a continuous flow from the mind. Moreover, it is through this genre that we can sense differences between the Western and Eastern, both literary and social. Stream of consciousness is well-known and has been used in Arabic stories, and it was the style of writing for many writers at that time such as Naguib Mahfouz. However, translators today seem to ignore the characteristics of this style of writing when translating stream of conscience literary work. Translation in this field is done on the surface level and ignores the vision, mood, and techniques used in stream of consciousness. In addition, translator ignore the importance of reading the analysis of such type of work as to gain in-depth knowledge about the meaning of the work before starting the translation. Because ignoring the importance of reading the critique of work render the text incomprehensible and cause a loss of the message when translating, this paper was written. The aim of this paper is to show the importance of reading the critique of work and its analysis before starting the translation. This is done by

comparing two works of translation of A Hunted House by Virginia Woolf, one is done without reading the critique and analysis of Virginia's work and the other is done after reading it. Finally, the paper will provide some strategies to solve problems that might face translators of stream of consciousness literary work.

The Development of Two Languages Simultaneously

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Abstract:

Most of the studies of language acquisition and research conducted are based on children who acquire two languages or more. Research conducted on bilingual children's combinations of languages has found quantitative and qualitative differences between their languages' development and the language development of the same languages in monolingual children. However, there are still a misconception about the ability the effect the effect of acquiring a second language on the ability of child to master the languages he/she is learning. This research paper reviews current research based on a general theory of language acquisition which accommodate the facts about children who acquire two languages simultaneously during infancy. This paper reviews current research in three domains of bilingual acquisition: morphology, morphosyntax, and phonology. Moreover, it examines the implications of findings from these domains, and compare it to the findings of studies of monolingual children, to understand the limits of the children mental faculty to acquire two languages simultaneously. This research paper will try to answer the question to whether the bilingual children will suffer from any language difficulties, delays, or disorders. This paper will also examine the possibilities of children to be more dominant at one language and whether the dominant language could affect the non-dominant language. Detailed analyses of the

morphological and the phonological development in bilingual children in comparison to the monolingual children of the same age are also indicated. In brief, all the current evidences conform the children's mind capacity to acquire two languages simultaneously and refute earlier conceptualizations which viewed bilingual acquisition as burdensome and as a potential discrepancy to the child development.

Session W4.4 Computer and Information Sciences

An Investigation About Thin Client in Education

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Abstract:

Throughout the years, technology has been developed in which many of new concepts have been introduced to the computing field such as “Thin client”. A Thin client is a lightweight computer in which it is built for remote access to a server that heavily depends on another computer’s server to fulfill its computational roles. As for that, thin client has been highly popular especially in the field of education. Therefore, this research focuses on lightening the concept of Thin client, how does it work as well as the reasons, benefits, costs and issues of using it relatively in the educational field. Additionally, it investigates whether people are familiar with the term “Thin Client”, their perspective and common issues they face while using fat client. Using surveys, some results supported the initial hypotheses while others did not. The findings indicate that a significant number of people are not familiar with the term, they use drive disks most of the time and commonly they face issues while inserting.

Implementing a Virtual Mouse Based on Hand Gesture Recognition

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Abstract:

The significant growing of technology accentuates the Human Computer Interaction (HCI) as a corner stone of technological development. Pattern and gesture recognition are terms increasingly encountered in discussions of HCI. A lot of computer actions can be performed based on pattern and gesture recognition. This paper proposes an approach to control the computer mouse based on hand gesture recognition. The computer must be equipped with processing sensors, such as camera, to capture images and movements. The captured images must be processed, converted into understood commands by the operating system, and then these commands can be executed. The hand recognition process includes four main steps, skin detection, contour extraction, and hand tracking and gesture recognition. In skin detection, the skin colored pixels must be extracted from the image. The input image from the webcam is first converted to YCbCr color space. Then a hand segmentation based on thresholding is used to extract the skin image from the background. A motion detector is used to implement an adaptive skin detection. The resultant binary image (mask image) is considered as an input to the contour extraction algorithm. Contour extraction is a useful tool for hand

detection and recognition. This step starts by finding the contour of the hand, the convex hull and the CONVEXITY DEFECTS. The output of the previous step is used to analysis the shape of the hand and perform the equivalent mouse courser functions. Evaluation were done on a common skin detection method, explicit threshold skin detection using Test Database for Skin Detection (TDSD). The results showed that the algorithm performs best in good lighting conditions. The accuracy of the proposed cursor control algorithm was found as 68%, while the accuracy of a computer mouse was 99%. This indicates that there must be a lot of improvements to increase its accuracy.

Session W4.4 Computer and Information Sciences

Provenance Detection of News Articles

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Abstract:

With the current wide spread of information on the social media, the recipient or the researcher needs more details about the received information or spread, including the provenance. At present, with the current explosion of news websites, there is the question of credibility of news reports on the internet. It is important to know whether the news is correct or not. This paper focuses on identifying the provenance of news articles. Also, trace the provenance of news articles often to see where did the first publication of such news appear. Is the news publication true (the credibility of the news), or is the news copied or modified and redistributed or manipulated the news? In this paper, we will answer these questions through the design and implementation of a technique that will define the provenance of news articles, and it is a form of event-based information organization. The application enabled us to try out case studies of news articles. Based on this experience and testing; the application gives all the required information to represent news articles and knowledge of the data provenance and provide a complete record of historical paths.

Poster Session (W)

The Relationship Between Stock Returns and Crude Oil Prices

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Abstract:

This research investigates the relationship between crude oil prices and stock market performances of the three countries (the Kingdom of Saudi Arabia, the United States of America and China) by applying a correlation analysis. The empirical investigation employs daily data from January 2013 until September 2016. Notably, during the investigation period the oil price has been deteriorated to USD29.78/barrel on January 2016, which at the lowest since 2003. Through a case-by-case review from the financial press announcements, the main reasons behind the fall in prices are too much supply and too little demand. The Kingdom of Saudi Arabia is far more interested to preserve its market share rather than cutting its own production to boost the prices; while China's economic slowdown has curbed appetite for commodities demand in general. Simultaneously, the rise of the United State of America as a shale oil producer, suggesting import less oil. Our empirical evidence suggests the following: (1) the correlation of the Tadawul All Shares Index (TASI) to the crude oil prices is equal to 0.5082, which is not very strong given the dependence of the economy on oil, in general; (2) the correlation of the New York Stock Exchange (NYSE) Composite Index

to crude oil prices is 0.3117, which is near 0, indicating that there is no correlation between the two variables; and (3) the correlation of the Hang Seng Stock Index to crude oil price is 0.2103, which is close to 0, indicating there is no correlation between the two variables. Overall, we can conclude that there is no correlation between the crude oil prices and the stock market performances of the three countries, namely the Kingdom of Saudi Arabia, the United States of America and China. However, evidence for the Kingdom of Saudi Arabia is far more interesting, which was perceived being a predominantly oil-based economy. The possible reasons could be as following: (1) continued efforts by the Kingdom of Saudi Arabia's government to diversify the economy; and (2) a build-up for large foreign reserves and low debt levels over the last decade by the Kingdom of Saudi Arabia.

Poster Session (W)

KFU Events and Activities

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Abstract:

A Proper announcement is an important aspect of informing about events and activities related to the university. The students have some issues in knowing the needed information of events and activities before they occur because of the traditional publishing and announcements methods used by the university. Hence, students are missing great opportunities for learning and improving their knowledge and skills. There is a need to have something that could arrange and solve this issues. The solution will be a proposed website for King Faisal University's events and activities arrangements. With our proposed website, students and faculty members will have better opportunities of knowing in advance about events and activities that may occur in the university. The system will facilitate the registration process, subscribing with activities, volunteering in events, and providing the chance to suggest activities.

Poster Session (W)

The Necessity of Using Thin Client Computing in Education

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Abstract:

The field of information technology is always changing, new and emerging technologies and trends are introduced everyday to simplify and improve the way we do things. From going thinner, lighter, faster to the invention of something completely new, innovators in this field will always dedicate their technology to allow the user to have more but work less. Thin Client Computing is an example of such technologies. Ever since the birth of Thin Clients, it was of interest of many researchers. Some studies focused on the design of Thin Clients, where other studies focused on the concept and different types of Thin Client solutions. In this paper, we highlighted the importance of Thin Clients and how implementing a Thin Client solution will help improve education by making the students and faculty utilization of computers better, faster, and more efficient. We introduced the concept of Thin Clients by defining what they are, their advantages and disadvantages in order to examine their necessity and how they will help improve education. The obtained results were collected in two ways: an online survey questionnaire distributed among 74 university students at all levels in

Riyadh ranging from the age of 17 to 25 years old. We also conducted 5 scheduled interviews with IT staff members from Prince Sultan University to get in depth on the necessity of using Thin client computing in educational institutions. The outcomes of the survey and interviews suggested that a Thin client solution would help in reducing the time and effort of IT staff installing many applications and troubleshooting students' technical issues.

Poster Session (W)

Mobile Application for Assisting People with Short-Term Memory Loss

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Abstract:

Whether you are twenty or eighty years old it happens that you've written a note and forgotten where you placed it, forgot to take your medication, or misplaced your eyeglasses at least few times. Forgetting is when a memory cannot be retrieved, and it is a natural phenomenon that affects our memory remembering functions. Occasional forgetfulness or short-term memory loss is a normal part of our lives that becomes more common as we grow older. Many people suffer from short-term loss of memory, due to numerous causes varying from sleep deprivation, smoking, stress to some medications. Our goal is to have a paperless, minimal, and time effective documenting technique that will be reminding the user of itself and taking the role of an assistant, which will gradually help in the development of performance to user's everyday tasks. This goal will be achieved by developing a mobile application. The application will detect and determine the severity of the users' short-term memory loss, after applying some gaming algorithm that is based on a scientifically approved methodology. This action will be performed once only for each user. Following the severity test, the application

will specify how often the user should be alarmed to check a certain category. The application will be categorized into several categories and each category will be specialized into a specific type of data that will be inputted by the user himself /herself. The major objectives of this application are: λ To help users with short-term memory loss λ To act as an assistant to users who are normal λ To replace all old inefficient techniques, using pen and paper. λ To help users to be more organized and on track with their appointments and tasks. λ To help increase the capacity of user's memory by using the check technique. The application has limitation which include : λ It is not useful for users with long-term memory loss e.g. Alzheimer. λ It is not a remedy but an assistance tool only with certain capabilities. λ It is not optimal due to technical limitations such as when the mobile is off / lost/ damaged.

Poster Session (W)

Intention to Use Health Mobile Service

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Abstract:

In Saudi Arabia, the use of mobile phones for providing services in a variety of fields is rapidly growing. Mobile Health (M-health) refers to the ability to deliver healthcare services using mobile communication devices. This research aims to discuss the level of acceptance of using mobile applications as a mean for receiving general health services, as well as requirements and features of an M-health application by people who are residing in Saudi Arabia. The obtained results were collected by distributing an online questionnaire to the citizens and residents of Saudi Arabia, where the responses were 695 with ages ranging from 18 to 46 and above. The goal of the survey was to gauge people's willingness to start using mobile applications to request and receive health services, as well as if they are willing to share their health related information in the application to authorized individuals. 96% of the respondents were willing to use a healthcare mobile application if the healthcare institution that they frequently visit provided them one. The most desired features chosen by the respondents to be available in a healthcare mobile application were making an appointment, ability to exchange information with the doctor, ability to see test/lab results, and the quick emergency call

feature. The outcome of this study confirms that most of the respondents accept the idea of using a mobile healthcare application for various services, willing to share the needed information, and are ready to start using one if it is provided by the hospital.
Key words: Healthcare, mobile application, M-Health, Saudi Arabia, Technology Acceptance Model (TAM).

Poster Session (W)

Children's Acquisition of English Language Vocabulary by Using TV

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Abstract:

This paper discusses how television programs provide rich contexts for foreign language acquisition and the influence of television programs in children's language development. As television is one of the most visual technologies of modern western culture, surely it has an effect on children. The children have the ability to gain English language and this is the most positive effect of TV on them. Nowadays, there are many child-targeted programs on TV, which could be a very effective educational tool that provides many direct and indirect methods for delivering the information to the children in more easy, fun, and enjoying ways. According to many research papers, there were some people with the positive effect of TV on children. However, there were some people with the negative effect of TV on children. As a result of our questionnaire which is made with help of 100 of the parents, to define the effect of TV on children on term of acquisition's English vocabularies we found that the TV has positive effect on children but they need guides and help by their parents in finding the good child programs and interact with them by newly gained vocabularies.

Poster Session (W)

Bottle Wall

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Abstract:

About 50% of plastic and glass on landfills can be reused as a primary building material. This is called Bottle Wall. Bottle wall technique could be used by their own or as part of the structure to add an aesthetic look to the building. The main purpose is to build with eco-friendly material that would reduce pollution globally without affecting the quality of the construction. As recycled glass and plastic bottles would be used in construction to erect durable sustainable buildings beside reducing the negative impact on the environment we did this research aiming to raise awareness through the society and provide beneficial corporation to change the population mind toward wasted materials. This technique is applied limitedly in different parts of the world. The massive consumption of natural sources in construction needed to be reduced as those natural sources will run out one day. In this research, we are introducing alternative choices to reuse and recycle wasted material instead of using natural resources as a building material. By reusing glass and plastic waste in construction, the world will help to reduce carbon footprint caused by manufacturing and using raw building material. After research, we find that glass and plastic wasted bottles can be used in construction for a great advantages. This research lay down the history of using wasted

bottles in construction, provides examples, explain step by step how to erect a building using glass and plastic bottles and how to bend them together. Next we discussed the advantages and the down sides of this construction style. We came across magnificent results of reusing glass and plastic wasted bottles. For example, it gives almost the same construction strength, minimize the construction costs and it has a long lifespan.

Poster Session (W)

Burnout, Humor Coping Mechanism and Grade point average (GPA): Academic Performance Outcome Among Female Students in Saudi Arabia

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Abstract:

Burnout is a very important phenomenon. Recently, many researchers have been conducted about burnout. However, not a lot of research has been done about burnout in Saudi Arabia, especially about burnout and its relation to humor coping mechanism and grade point average (GPA) in Saudi Arabia. This research uses a correlation design that aims to investigate the prevalence of burnout among female medical Saudi students. In addition, to examine the relationship between burnout, humor coping mechanism and academic performance among female medical Saudi students. It was conducted between 12 November 2015 till 3 December 2015. The sample selected randomly from different health departments' students. The sample was 94 female medical Saudi students from the Princess Noura University between 18 -24 years old. The questionnaire that have been used is the coping humor scale (CHS) which identify the percentage of coping humor each students have. In addition, this article used a second questionnaire which calls the Maslach Burnout Inventory-Student Survey (MBI-SS) that will emphasize the amount of burnout each student have. All the questions will

be translated by the researcher. These translations are stand along with English at the side. Alpha coefficient was calculated to check the validity of these questions. The result is significant about 50% of the students suffering from burnout. However, the result was not significant between burnout, humor coping mechanism and grade point average. In conclusion, this research emphasizes the existence of Saudi female medical students' burnout. However, it indicated that there isn't relating between burnout, humor coping mechanism and GPA.

Poster Session (W)

Evaluate the Patients Adherence to the Recommended Drug Doses

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Abstract:

Choosing the target dose of drugs is based on trials in healthy volunteers and patients. Patients specific factors(e.g. age, weight, sex, genetic factors, and co-administered drugs) and health status (e.g. renal insufficiency, heart failure, liver failure) require individualized dose adjustments. The goal is to achieve the maximum benefit with the minimum effective dose and minimal adverse effects. The aim the current study is to determine the extent of people's adherence to the recommended doses and the causes that make them increase or decrease the dose. Also to evaluate people's orientations about the effect of changing the drug dose. A questionnaire supplied to 304 participants in different cities of Saudi Arabia. 87% of the participants were adherent to the recommended doses. 15% tend sometimes to increase the dose above the recommended. The causes of this increase were quicker response(69%) and higher effect (31%). 88% are aware that increasing the dose of the drugs doesn't always produce higher effect. 56% are aware that changing the dose of a drug produce a different effect to treat another disease while the remaining 35% and 8% answers "I

don’t know" and "no" respectively. Even though a large number of participants are aware that increasing the dose for some drugs doesn't always produce higher response and changing the dose of a specific drug may change its effect, they tend to increase the dose if they want a quicker response or they are not satisfied with the effect and want it to be higher.

Poster Session (W)

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الملخص

ملخـص الدراســة تطورت مباني المكتبات مع الزمن واختلفت أشكالها وطرق بنائها عبر التاريخ منذ أن كان الكتاب عبارة عن ألواح طين وبعدها أتى ورق البردي وتطور الكتاب إلى أن أصبح مجلدا يحوي عددا من الصفحات وغلافا للحفاظ عليه . ومع هذه التطورات تنوع أسلوب طرح الكتاب في العصر الحديث وشُيِّد بما يسمى نوادي القراءة التي من أهم أهدافها تعزيز القراءة في المجتمعات العربية ، وذلك بما تحويه القراءة من علم للنهوض بأمة مثقفة في جميع مجالات الحياة ، فإن عدم وجود مثل هذه النوادي في المملكة العربية السعودية أدى إلى هجران الكتاب الورقي والذي ما إن علمنا فائدته انصرفنا عن أساليب القراءة الأخرى ، ويرجع هذا إلى وجود التكنولوجيا وانشغال العالم بها بالدرجة الأولى واندماجهم ببرامج التواصل الاجتماعي . ولصياغة هذا البحث بأساليب علمية دقيقة ، اتخذ البحث المنهج التحليلي من خلال إجراء استبيان على عدد من رواد المكتبات من كلا الجنسين وذلك لمعرفة أهمية نوادي القراءة في أي مدينة ومدى ملائمة المباني لمثل هذه الأنشطة الثقافية . من أهم نتائج هذا الاستبيان هو التأكيد على ضرورة وجود هذا النوع من المباني والاهتمام بخلق بيئة داخلية تقوم على الجذب والتحفيز بداية من الموقع الجغرافي وانتهاء بتوزيع الأثاث واختيار الألوان وأيضا نوعية الإضاءة . ومن أهم الموجهات التصميمية التي استخلصها الباحث لنادي القراء الثقافي أن تحوي البيئة الداخلية على فكرة تصميمية إبداعية تشمل أهم عناصر التصميم ، وإدخال فراغات ترفيهية مثل صالات رياضة وغرف للعب الأطفال وذلك ما يجعل رغبة الانضمام إلى النادي أكثر ، وما يضفي الأجواء الحميمية ويجعل النادي أقرب إلى قلب رواده.

Poster Session (W)

How to Save the Heritage Buildings

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Abstract:

"Heritage building" means a building possessing architectural, aesthetic, historic or cultural values which is declared as heritage building by the Planning Authority/Heritage conservation committee or any other Competent Authority in whose jurisdiction such building is situated. The generation's duty towards these old buildings is to keep them as historical and heritage landmark that generations use them as references to learn about the ancient past. Heritage buildings have a sensitivity attitude for the government because they have special cases and conditions. Each building has its own specifications and method of building, so the Heritage experts should study the building carefully and know under which category the building should be included because each type has its own method to be preserved in a professional and careful way. There are special criteria for listing heritage buildings, such as the period, the owner, the users, building type, the past use, the present use, the location, the significance, the status, and many other aspects. In addition, there are a lot of reasons that the person should care about heritage preservation such as, historical buildings are physical links to the past, so we really have to think seriously about how to renovate these heritage to save this past. Also, historically significant buildings contribute to our

city's cultural and economic well-being. Finally, repair and transform a historic building at the heart of the community, give a historic place a new lease of life, help students and volunteers at building conservation, and regenerate a historic town center. If each person try to do something or just give a simple idea, we will do a lot to develop our society.

Poster Session (W)

Fashion Design Association

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Abstract:

According to Abdulagader hussain (2015), there are multiple international companies has opened the opportunity for Saudi fashion designers to create their own fashion boutiques after their exhibit in Jeddah, which has accomplished an excessive success with more than 10,000 visitors within 3 days. In addition Waleed Alomair (2014) said that there are thousands of Saudi designers that have the talent and waiting to find a place where they can develop their designs and produce it locally. In 2015, according to general authority for statistics, around 5947 billion has been spent on only importing garments into Saudi arabia, which is an exaggerated amount of the budget. This goes back to the lack of saudi garment production and force citizens to pay for imported materials. By establishing an association that adapt the Saudi designers to develop them and gives the opportunity to work and produce their designs we will be solving two issues, reducing the imported garments and increase the number of saudi workers. The purpose of this research is to create a project to combine Saudi designers who has tendency to show their talents in fashion and produce it to the public. This project also offers an institute, production, retails and community area, which will help to increase

Saudi Arabia revenues and achieve the 2030 Saudi vision target to have more than 530 billion non-oil revenues.

Poster Session (W)

Entertainment Center for Senior Citizens

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Abstract:

Older adults, those aged 50 or above, make important contributions to society as family members, volunteers and as active participants in the workforce. United Nations projects that the number of Saudi elderly will be About 2.5 million persons by 2030, and Approximately 15% of adults suffer from a mental, physiological disorder and depression. Among our goals by 2030 Saudi vision, a vibrant society with fulfilling lives this can only be achieved through promoting physical, psychological and social well-being. At the heart of our vision is a society in which all enjoy a good quality of life, a healthy lifestyle and an attractive living environment. We are going to design a center for elderly people in each neighborhood in Saudi Arabia, that is fulfillment of the special needs and requirements that are unique to senior citizens. And emphasizes the social, personal and entertainment requirements for them under healthy and sustainable environment. The project will use the concept of "the counter clock wise ". According to the physiological researcher Ellen Langer experiment on old people , were taken to a country retreat for a week and asked to live as if they were back in Their 20's .Introducing the research and the idea of counter clockwise into the project will help to achieve the main goal of the concept and using the 60's style and decoration theme ,

show many improvement psychologically and physically such as independent functioning , attributed to the fact that their minds were actively engaged , memory recall and they were removed from their daily routines.

Poster Session (W)

Wireless Multi-Parameter Biopotential Measurement System

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Abstract:

Bio-potential measurements detect signals from the human body that help in the diagnosis of different diseases. They also represent the actual performance of the body. Electrocardiogram (ECG), Electromyogram (EMG), and Electroencephalogram (EEG) are the most common bio-potential signals used in the medical field. These signals are representation for the electrical activity of some body parts and organs, which are the Heart, Muscle, and Brain, respectively. Performing those measurements usually consume a lot of resources that may affect the accuracy. Our aim is to design and build a multi-parameter portable measurement device that can measure, process, and transmit the most acquired biopotential signals ECG, EMG, and EEG, wirelessly, to be shown on a Personal Computer (PC) with the help of a MATLAB-based Graphical User Interface (GUI). In addition, this system helps to save resources, and reduce power consumption, cost, machine size, and this will ease the process of measurement and make the patient more comfortable. The system consists of multi-stages: electrodes connected to the patient, instrumentation amplifier, different kinds of filters, operational amplifiers, analog to digital converter (ADC), transmitter, and receiving host (Personal

Computer (PC) or Mobile Application) that can analyze and present the measured signal. Our methodology is based on designing and simulating the circuit using some software such as, Multisim, and LabVIEW. after that, we are building the circuit on a breadboard, testing and simulating it, and then printing it at a Printed Circuit Board (PCB). This system will help clinicians to improve the quality and reduce the artifacts of the bio-potential measurements by decreasing the number of the ordinary wires. The Data Acquisition eases the process of entering, storing, and retrieve the data whenever it needed. It shows a promising technique that will enhance the reliability of the biopotential signals measurement.

Session M1. Engineering

A Fast, Non-destructive Technique for Measurements of Concrete Density in Existing Structures for Lab and Field Work

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Abstract:

Concrete is one of the most widely used materials in constructions worldwide. Concrete structures in existing buildings, beams or bridges need periodic inspection for quality control, reliability and safety. Concrete density is a major parameter for civil and safety engineers to determine in existing structures as mechanical property of concrete depends on it. Current density measurements depend on sampling, in which a piece of concrete is cut from existing structure, shaped and density is measured in labs. Accordingly the method is destructive, time consuming, expensive and large number of samples needs to be taken. We have developed a new technique for concrete density measurements that is non-destructive, very fast and density of concrete can be determined easily in many locations. The technique depends on measuring

backscattered radiation. Gama ray from very low activity source is allowed to be incident of the material to be tested. A portion is backscattered due to Compton interaction and is measured by a sensitive pulse type detector. The amount of scattered radiation is proportional to the material density. Measurements were made on concrete samples using 137Cs and NaI(Tl) scintillation detector. It can be concluded that backscattered gamma ray can provide accurate and safe density measurements technique in a very short time. Moreover, because the total weight of the system is about 2 kg, it can be easily used in field work.

Session M1. Engineering

B.W. Enhancement for Helical Antenna

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Abstract:

This research covers two ways of bandwidth enhancement in helical antenna since helical antenna is simple, basic and practical configuration. There are two modes of helical antenna, Normal mode (Broadside) and axial mode (End-Fire). The End-Fire mode is the most practical mode; it can achieve circular polarization C.P. over a wider bandwidth (mostly 2:1) and it's more efficient. The two ways this research covers is conical helical antenna (tapered) helical antenna and Multi-pitch Multi-band helical antenna. Each of these two ways has their advantages and their applications. The conical antenna is used to widening the bandwidth of helical antenna by combination of uniform and tapered helix section. All sections are working on the same frequency. The Multi-pitch multi-band antenna is when you have different angle (α) of the antenna. Also, Multi-pitch multi-band is working on two different frequencies or more than two which leads to have a larger bandwidth. In this paper, different techniques for bandwidth enhancement are investigated. HFSS simulation tool is used in the design. The two techniques will be measured and simulated return loss, axial-ratio, radiation pattern and realized gain are presented and discussed.

Session M1. Engineering

Design of High Performance Composites

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Abstract:

The objective of this project is to design high performance composite materials. Short carbon fiber reinforced polypropylene composites has been developed. Composite materials that have light weight, high strength and high modulus of elasticity was the focus o this project. . Two different aspect ratios of carbon were used in this study. The aspect ratios are 12 and 20. The carbon fiber diameter was 7-9mm. The length of the fiber for the two fiber selected were 90 and 150µm. Different matrix to fillers ratio composition of the composites were investigated. 5, 10, 15, 20, and 35wt% of filler to matrix ratio composite materials were processed using twin extruder machine. The composite materials were then processed using injection molding to produce testing samples. Different testing sample were produced. Study of the effect of filler ratio and filler size was investigated. The parameters that were investigated were, tensile strength, modulus of elasticity, bending strength, and electrical conductivity. The results showed a steady improvement on the mechanical properties as the percentage of filler increases reaching a modulus of elasticity in 150µm fiber length to about that7

times higher than of the raw polypropylene. While the fiber whose fiber length is 90μm reached 5 times of the raw polypropylene. The ultimate tensile strength for both fiber length have doubled the value of raw polypropylene for 35wt% fiber content. Thermogravimetric (TGA) test was conducted to measure the glass transition temperature of the composites. Also the TGA test was used to validate the content of the fiber in the composites. Scanning Electron Microscope study was conducted to investigate the distribution, direction, and dispersion of fibers along the matrix.

Session M1. Engineering

انتاج اسمنت المبلمرات الجيولوجية من موارد طبيعية محلية ذات خصائص مميزة في التطبيقات الهندسية و البيئية

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الملخص

صناعة الاسمنت و المواد بشكل عام تعتبر من اهم الصناعات العالمية، حيث تلعب دورا اساسيا في تنمية المجتمع و تطوير الاقتصاد. بل ان التقدم الحضاري المتسارع اصبح مرتبط بما يمكن تطويره من مواد جديدة ذات تطبيقات مميزة. مع تطور المجتمعات البشرية ظهرت تحديات جدية لها تاثير بعيد المدى على مستقبل البشرية مثل التحدي البيئي و اخلال التوازن البيئي. رغم اهمية صناعة الاسمنت الا انها تلعب دورا اساسيا في انتاج غاز ثاني اكسيد الكربون و استهلاك الطاقة. لذا كان لا بد من العمل على ايجاد مواد اسمنتية جديدة لتقليل الاعتماد على اسمنت البورتلاند المستخدم في الانشاءات منذ حوالي قرنين. بالاضافة الى العامل البيئي، فان تطوير مواد جديدة لها خصائص وظيفية متعددة قد يساهم في تطوير المجتمع و رفاهيته. ففي المملكة العربية السعودية يتم استهلاك غالبية ما يتم انتاجه من طاقة كهربائية في ضبط التكييف في المنازل و المنشاءات و ذلك بسبب عدم توفر عزل حراري فعال في هذه الابنية. و هو ما يؤثر على البيئة و الصحة العامة. تم في هذا البحث تصنيع اسمنت المبلمرات الجيولوجية من تربة كاولين سعودية حيث يمتاز هذا الاسمنت باستهلاك طاقة قليلة مقارنة باسمنت البورتلاند و بكونه صديق للبيئة. الاسمنت الناتج امتاز بمظهر رخامي جيد و بلون ابيض يمكن صبغه بالوان مختلفة. قوة العينات وصلت ٤٥ ميجاباسكال و هي اعلى من اسمنت البورتلاند. و رغم غمر العينات ٣ ايام في الماء الا انها حافظت على قوة عالية ، ٣٣ ميجاباسكال. العينات الناتجة مكونة بشكل رئيسي من بقايا بلورات الكاولين المتكسرة و

بلورات نانوية مكونة من صوديوم و سيليكا و المنيوم و تحيط بها شبكة مسامية نانوية قد تستخدم في العزل الحراري و انظمة التبريد الذاتي و تنقية المياه. المادة الناتجة تمتاز بخصائص تشبه بعض الصخور الطبيعية مثل الفلدسبار و الزيولايت.

Session M1. Engineering

Multi-Layers 5G MIMO Antenna with High Gain

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Abstract:

In this paper, a design of multi-input multi-output (MIMO) antenna for a millimeter wave using in a fifth generation (5G) has been presented. A new proposed design for an array MIMO antenna is done by using a four layers of linear phase antenna to operate between 28 – 38 GHz which is the licensed frequency range for 5G communication system. This design for antenna help also to increase the gain for resonant frequencies that obtained. This gives a higher frequency radiation effects on a user. A two exactly linear arrays antenna are used simultaneous in a printed board to operate at MIMO mode. In each array there will be a very compact eight dipole elements with diminutions of 5.4×0.65 mm2 located at off-center. These compact diminutions will be suitable to integrate the antenna with a board of mobile phone. Simulations show that this proposed antenna is effective well for a new 5G technology with good coverage beam, high gain, and low Specific Absorption Rate (SAR) in MIMO mode.

Session M1. Engineering

Dual Band Helical Antenna 24 GHz, 60 GHz

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Abstract:

In this paper, the design, and simulation of a dual band axial mode (end-fire) circular polarized helical antenna at 24 GHz and 60 GHz is investigated. To reach a circular polarization it needs to do some calculations that depends on the length of the wavelength, but when we combine two frequencies to work on the same antenna, there will be some difficulties to reach a circular polarized. Such as calculation for ground of each frequency is different and we must have one ground, the mismatch between the probe feed and the antenna which it will make the return loss bigger, the availability of the material in the market. There is formulas to calculate the dimensions of my antenna. Using HFSS program to simulate and get the results of the antenna with the availability of materials in the market to get the wanting results. In the end, the helical antenna is fabricated with approximate length of 6 cm. According to the design paper, the gain of the antenna will be 15 dB that it can be used for a satellite application.

Session M2 General Sciences

التصنيف الهدفي لاستخلاص الأراضي الفضاء من صور الأقمار الصناعية عالية الوضوح: دراسة تطبيقية على مدينة الرياض

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الملخص:

هذه الدراسة إلى تصنيف واستخلاص الأراضي الفضاء في مدينة الرياض، وذلك من خلال صور الأقمار الصناعية عالية الوضوح باستخدام أداة التصنيف الهدفي (Objective Classification) في برنامج الاستشعار عن بعد(ERDAS) ، والتي تعد أحدث أساليب تصنيف المرئيات الفضائية وأكثرها تطورا. حيث اتبع الباحث منهجية تضمنت أولا معالجة البيانات وتهيئتها، ثم تحليل البيانات من حيث تصنيف واستخلاص الأراضي الفضاء وذلك على (٧) مراحل، ثم اختبار صحة تصنيف واستخلاص الأراضي الفضاء ومعاودة العملية مجددا لرفع مستوى الصحة. وقد نتج من ذلك أخيرا خريطة موضوعية توضح توزيع الأراضي الفضاء في منطقة الدراسة، بالإضافة إلى عدد من النسب والاحصائيات التي توضح مساحة الأراضي الفضاء في منطقة الدراسة، حيث تم تقدير مساحة وعدد قطع الأراضي الفضاء، إذ بلغت مساحة الأراضي الفضاء ٤٩كم² لتشكل ما نسبته ٣٠,٨% من مساحة الأراضي في منطقة الدراسة، وتعتبر هذه النسبة عالية، ودلالة على وجود خلل في التوزيع العادل للاستخدام الأرضي. كما بلغت صحة تصنيف واستخلاص الأراضي الفضاء ٨٤%، وتعتبر هذه النسبة مرضية، حيث تبين أنه من الصعب الوصول إلى درجة عالية من الصحة في تصنيف واستخلاص الأراضي الفضاء وذلك لتشابه الخصائص الانعكاسية بين الأراضي الفضاء والظواهر الجغرافية الأخرى كأسطح المباني والشوارع التي أدت إلى خفض صحة التصنيف نسبيا. وتوصي الدراسة بأهمية تطبيق هذا النوع من التصنيف للظواهر الجغرافية البشرية مقارنة بالأنواع الأخرى من التصنيف التي هي أكثر ملائمة لظواهر البيئة الطبيعية. كلمات مفتاحية: الأراضي الفضاء، التصنيف، المرئيات الفضائية، الاستشعار عن بعد، التصنيف الهدفي.

Session M2 General Sciences

قياس المعرفة للمرشدين الصحيين عن حوادث الأسنان في منطقة الباحة

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الملخص:

باللغة العربية ملخص البحث الأهداف الغرض من البحث هو دراسة المعرفة والسلوك لدى معلمي مدارس الباحة الإبتدائية (المرشدين الصحيين) تجاه حوادث الأسنان وبشكل خاص الأسنان المقلوعه نتيجة الرض طريقة البحث تم استقراء معلومات سبعة وعشرون معلما (مرشدا صحيا) عن طريق التواصل الهاتفي معهم وباستخدام استبيان. تشمل بيانات الاستبيان مستويات المعلمين التعليمية وخبراتهم المعرفية السابقة بحوادث الاسنان ومصادرها كما يشتمل الاستبيان استقراء المستوى المعرفي للمعلمين عن كيفية التعامل مع حوادث الاسنان وبشكل خاص مع الاسنان المنقلعة نتيجة الرض النتائج أفاد المعلمون في جملتهم (٦٦,٦%) أنه بالإمكان إعادة السن المنقلع إلى الفك بعد سقوطه.كما استطاع أكثر من نصف المعلمين (٥٥,٥%) تحديد الوقت المناسب لإعادة زرع السن المنقلع.لكن معظم المعلمين المشاركين في الدراسة (٧٠,٣٧%) لم يتمكنوا من تحديد الطريقة المناسبة لتنظيف السن المنقلع قبل إعادة زرعه.لم نتمكن من تحليل أثر المستوى التعليمي على المستوى المعرفي للمعلمين إحصائيا بسبب صغر حجم العينة. الإستنتاج المستوى المعرفي للمعلمين (المرشدين الصحيين) عن حوادث الأسنان غير كاف وهم بحاجة لدورات تدريبية عن الطرق السليمة للتعامل مع حوادث الأسنان.

Session M2 General Sciences

تحسين خصائص اسمنت العظم الفيزيائية باستخدام النانوهيدروكسي اباتايت

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الملخص:

هناك الكثير من الامراض و الاصابات و الاورام التي ينتج عنها تاكل في مناطق معينة من العظم، حيث اصبحت هذه الظاهرة مشكلة صحية معروفة في المجتمعات البشرية. لمواجهة هذه المشكلة، في السنوات الاخيرة بدا الاهتمام بشكل واضح في مجال هندسة انسجة العظام كبديل لزراعة القطع المعدنية بدل العظم المتاكل. حيث ان زراعة القطع المعدنية قد تؤدي الى اثار جانبية مختلفة كون الجسم البشري و جهاز المناعة يتعامل معها كجسم غريب. لذا تم انتاج اسمنت العظام كمادة تتفاعل مع الجسم البشري حيويا. و منذ ذلك الحين و هناك العديد من الابحاث في هذا المجال لمعالجة التحديات العلمية المختلفة لاستخدام العظم الصناعي و المشابه للعظم البشري. و بناء على ذلك فقد تم في هذه الدراسة الى تصنيع عظم مماثل في خصائصه الحيوية و الفيزيائية للعظم البشري، حيث يمكن ان تستخدم لعلاج القطع العظمي و ايضا في تطوير نخاع عظم لمرضى اللوكيمي و في مجال العلاج باستخدام الخلايا الجذعية. حيث تمكن الباحثون من تصنيع اسمنت العظم المسامي مع خصائص فيزيائية مقبولة طبيا و مشابهة لصفات العظم الاسفنجي الطبيعي. تم انتاج المادة الاساسية باستخدام فوسفات الكالسيوم، اما النظام المسامي فقد تم تصميمه باستخدام الياف طبيعية. حيث تم دراسة فكرة علمية جديدة تتعلق باضافة حبيبات نانوية من فوسفات الكالسيوم (الهيدروكسي اباتايت) كمادة مالئة للاسمنت مما انعكس على قوته و معامل المرونة. مقارنة بالدراسات السابقة فان هناك تحسن واضح نتيجة اضافة المسحوق النانوي حيث زادت القوة من ٤,٩ ميجا باسكال الى ٨ ميجا باسكال و كذلك زاد معامل المرونة من ٠,٩ جيجا باسكال الى ٠,٩ جيجا باسكال. حيث ان هذه الخصائص تعتبر جيدة اذا اخذنا بعين الاعتبار ان المسامية لهذا العظم تبلغ ٥٥% و حجم المسامات يصل الى ٣٠٠ ميكرومتر. في حين لا تتجاوز كثافة الاسمنت ١,٢ غم /سم٣. اما بالنسبة للخصائص البيولوجية، فقد تم وضع العينات في محلول "هانك" المشابه لدم الانسان. النتائج الاولية اظهرت حدوث تفاعل بين المادة العظمية المصنعة و المحلول. و قد ظهرت نتائج هذا التفاعل عن طريق نمو بلورات نانوية طولية (ليفية) الهيدروكسي اباتايت بشكل طثيف على سطح المادة.

Poster Session (M)

Real Estate Investment Trusts (REIT's): an Alternative Investment in the Saudi Market

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Abstract:

This paper will summarize and explain The Real Estate Investment Traded Funds (REITs), which has recently been introduced in Saudi Arabia, referring to the Law that has been issued under "Royal Decree No. M/30 dated 2/6/1424H (corresponding to 31/07/2003G) (the "Real Estate Investment Funds Regulations") and the provisions of the Real Estate Investment Traded Funds Instructions issued by the CMA pursuant to its resolution number 6-130-2016 dated 23/1/1438H (corresponding to 24/10/2016G (the "REIT Regulations"). Another milestone in Saudi Arabia was achieved as the Capital Market Authority (CMA) approved a set of rules allowing the formation of Real Estate Investment Traded Funds (REITs) on the Saudi Stock Exchange (Tadawul). In correlation with the reforming of the Saudi economic, introducing REITs to the Saudi Market will help in the processes and goals of Saudi Vision 2030 and the National Transformation Program (NTP). REITs will also give investors much easier access to local real estate. For this reason, the participation of the private sector will increase in

this field, as a result the contribution of the real estate sector will be more to the overall country's GDP. Overall. Specifically, this paper will focus on the following aspects about REITs which include the background and characteristics of REITs globally and in Saudi Arabia. Since REITs are relatively new and not very well understood by investors in Saudi Arabia, this paper will discuss the rules and regulations of REIT funds as prescribed by the regulatory institutions in the Saudi Arabia, the Capital Market Authority (CMA) and Tadawul. In addition, other issues associated with REITs including the profiles of REITs currently offered in the Kingdom, the characteristics or types of investors who would or have participated in the funds, and the future potential and development of the REIT funds in Saudi Arabia will be presented. Since REITs will be an alternative investment opportunity for investors in Saudi Arabia, the paper will also review the literature and discuss the historical performance of REIT funds in other markets in comparison to equity.

Poster Session (M)

Social Networking Sites Privacy Issues

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Abstract:

Social networking sites have become an important part of people's life in modern society. The usage of these sites have increased exponentially from 400milion users in 2010 to 1.6 billion users in 2016. Among various benefits and usages like social links, knowledge sharing, shopping, chatting, connectivity and entertainment in general. Its wide usage has also raised the alarm for various ethical and social issues, as new technologies along with social networking sites made it much easier for government, organizations and social hackers to collect users' data using it for various purposes including security and privacy violations like cyber stalking, password hacking or tailgating. This research article focuses on security and privacy concerns that can occur due to social network sites usage. It also checks the awareness of users regarding privacy and security concerns. This research is conducted through survey among Prince Sultan University students to check and raise the awareness about security and privacy issues. It is found, that mostly social networking websites are used for entertainment purpose only. Users are concerned about their privacy and security but don't take any measures to address these issues. Some users have taken measures to hide their identity using VPN, proxies or other techniques but mostly did for accessing entrainment

contents. This paper also provides guidelines to raise the awareness among users about privacy issues and providing solutions to tackle these issues.

Poster Session (M)

Ethics in Software Design

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Abstract:

Nowadays, computer software have become essential in any organization that want to survive and keep up with the fast changes in the world. One of the essential and important phase in the development of the software is the design phase where understanding of problem is made, proposing an optimal solution, that can yield a successful design as well as accomplished product. This paper will examine current ethical issues in the software design and development phase. Issues like privacy, accuracy, Intellectual property and effects on the quality of life will be studied. This paper identifies key issues in area of ethical software designs and provide optimal design patterns used by experts to solve the identified issues. Perspective of IT students, teachers and software professionals has been included using survey to find the awareness about key ethical issues in software design. This paper also provides an ethical framework for solving identified issues that cam result in successful software's.

Poster Session (M)

Effect of Heat Treatment on Mechanical Properties of A-TIG Welded Aluminum Alloy

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Abstract:

The 6XXX aluminum alloys are magnesium and silicon containing alloys that are widely used in transportation and building applications for their light weight and attractive mechanical properties achieved by thermal treatments. The perfect joint comprising the weld metal, heat affected zones (HAZ) and the adjacent parent metal should have the same properties as the parent metal. There are, however, some problems associated with the welding of aluminum and its alloys make this goal difficult to achieve. Aluminum alloy is difficult to weld because of its high thermal conductivity and high thermal expansion on one hand and its tendency to give porous welds on the other hand. The weldability of aluminum alloys significantly varies depending on the chemical composition of the alloy used. In this project, an experimental investigation was performed to study the effect of heat treatment on mechanical properties of 6063 aluminum alloy for a single pass of Activated Tungsten Inert Gas (A-TIG) welding. A thin layer of flux containing fluorides and chlorides were applied in the area to be welded. Using A-TIG the edge preparation time is

considerably reduced as well as power consumption, shielding gas amount and wire quantity can be reduced. Moreover, the number of joints per shift can be increased. No degradation in the microstructure and in mechanical properties of the A-TIG welds were observed comparing to those produced by conventional TIG welding. The optimal ageing parameters (temperature-time) were determined to improve the mechanical properties. Taguchi method is a powerful tool for designing high quality systems. Experiments planned by statistical methods are the key tools of Taguchi method.

Poster Session (M)

Self-Balancing Robot

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Abstract:

The main challenges addressed by this project is designing control algorithms for self-balancing robotics and a design of fully mobile two-wheel rolling robot. The two main domains, software and hardware, are integrated to solve a feedback loop control problem. An MPU 6050 (Accelerometer and Gyroscope) is used as a sensor to measure the acceleration in all directions X, Y and Z. It sends signals to the motors to make the robot balance itself. Arduino is used for software to program and control the motors with an Ln298 H-bridge. The H-bridge is used to power the motors and to control the direction of the motors rotation. The experimental results showed the known control techniques used for controlling the robot were not stable. This research believes that the results can be improved by using filter techniques such as complementary and Kalman filtering.

Key terms: Arduino, Self-balancing robot, MPU 6050 accelerometer, Ln298 H-bridge and filter techniques.

Poster Session (M)

Exploratory Research of 3D Scanners

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Abstract:

This project uses laser scanners to understand the principles of 3D scanning. This research looks to adjust scanned images, shrink scanned objects, print them on a 3D printer then analyze the variation between the real model and the scanned model after it was printed. Objects are scanned by using two lasers and a camera. The lasers are adjusted in a special position according to the camera. Many objects were scanned, and they yielded different results. These differences are caused by many factors, such as environmental effects and the color of the scanned object. The results are 3D images that consist of small points called a Point Cloud. The quality of the images is enhanced by changing different factors. These images are adjusted by special programs, e.g., MeshLab and Blender, then printed on a 3D printer.

Poster Session (M)

XY Plotter

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Abstract:

There are many kinds of printers, for example, Inkjet printer, Laserjet printer and XY-Plotter printer. The inkjet printer operates by propelling a droplet of ink onto paper or plastic or other substrates. On the other hand, Laserjet printer works by passing a laser beam back and forth. Inkjet and Laserjet printing methods discretize drawing process in the X or the Y axis, but the XY-Plotter printer moves into two axis X and Y, and it draws a continuous line unlike the other methods. It enables printers to move and act in a robotic manner, thereby allowing the everyday user to get inspired. This is done by assembling the hardware and programming the software by using Python and Arduino language. Apparently, the results of this project were remarkable. It prints in an artistic way and moves remotely by integrating raspberry pi with Arduino. So, this means that printers can act in a robotic behavior, and it has room for improvement. However, Success and expansion of this venture will enable us to print in wider areas and in a decorative way.

Poster Session (M)

Green Building for Our Environment

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Abstract:

Green Building is a sustainable construction and high-performance building. Sustainability can be defined as the ability to meet our needs while high-performance buildings are buildings that designed and built to minimize resource consumption, reduce life cycle costs, maximize health and productivity for the building's occupants, and improve environmental performance. By making a green building, we can reduce electricity consumption, energy use, carbon dioxide (CO2) emissions and potable water consumption. Green buildings cost approximately 2% more than Conventional Buildings. LEED, or Leadership in Energy & Environmental Design, stands for green building leadership, which is a green building certification program to satisfy the green buildings. To achieve LEED certification, buildings must meet the prerequisites and earn points called credits. There are four levels of LEED certification which are certified, silver, gold and platinum. The level of the LEED certification depends on how much points the building earn. There are five rating systems that address the project types: LEED for Building Design and Construction (LEED BD+C), LEED for Interior Design and Construction (LEED ID+C) ,LEED homes, LEED for Building

Operations and Maintenance (LEED O+M) and LEED for Neighborhood Development (LEED ND). LEED credit rating system structure contains nine categories: integrative process, location and transportation, material and resources, water efficiency, energy and atmosphere, sustainable site, indoor environment quality, innovation and regional priority. A project must satisfy three requirements for LEED Certification Meet the Minimum Program Requirements which are permanent location and LEED boundaries, Satisfy all Prerequisites, Satisfy a combination of Credits that achieve a certain number of points for the desired certification level (At least 40 points). Nowadays, the world focuses on the green buildings to decreases the demand of our in environment. In order to meet vision 2030 which focuses on removing country's dependence on oil, it is clear that Building Design and Construction need a radical change.

Poster Session (M)

The Accident of Flight 8460 at King Khalid Airport; Case Study, Causes, and Recommendations

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Abstract:

Safety is important elements during any part of our day to day lives especially in Aviation industries because it affects the bottom line which means the profit. Therefore, aviation operators have worked to maintain high level of safety. The reason is that they have to pay fees and insurance premiums which are dependent on the level of safety of their fleet. In other words, the amount of fees and insurance premiums directly proportional to the rate of accident. In addition, trust from public plaies a major role on bottom line because they are considered as the maine contributors. In this paper, we present a case study of an airplane accident which took place in King khalid Airport, Riyadh, KSA on july 27, 2010. the airplane is boeing MD-11F and it operated by Lufthansa Cargo as flight 8460. The airplane bounced twice, experiencing a strong pitch up after the second hard touchdown, followed by strong nose-down pitch forces and vertical loads at the third and final touchdown that caused the fuselage to rupture. It

caught fire after a hard landing. The two pilots which are only airplane occupants were transported to the hospital with injuries.

Poster Session (M)

Visualization of the Sliding Friction Heat During the Skid Resistance and it's Effect on Road Accidents

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Abstract:

A possibly homogeneous and sufficient grip of the road is very important for traffic safety, in highway maintenance and in road construction. The pavement grip can be measured with the portable SRT (also known as the "Pendulum Tester"), which checks the resistance to skidding of wet road surfaces. A preliminary experiment was performed to assess if it is feasible to measure with the IR-camera the increment of temperature generated by the friction during the SRT test. Specimens of epoxy resin, diabase, limestone and porphyry were examined. The IR-camera allowed visualizing the typical thermal signatures of the specimens and visually perceiving the pavement grip. The temperature rises supplied information on the distribution and intensity of the pressure in the contact area. The combination of the SRT with the IR-thermography may represent a new method of investigation of the pavement grip factor offering two-dimensional information Studies of accident sites have revealed that the polishing of road stone is a major factor in skidding; for this reason the road surfaces play an

important role in the maintenance of traffic safety, in highway maintenance and in road construction. The information on the roughness and its analysis are vital for the diagnosis of the road deterioration and in the setting up of appropriate maintenance measures. As an example, this information may be used in models to predict the roughness progression in order to achieve the required prediction accuracy. The tires are the contact element between the car and the road pavement. The friction between the road pavement and that portion of tire in contact is essential for the security of the traffic. The region of connection of friction between the tire and the ground, the so-called "tire-road contact area", can be reinforced by the roughness of the road surface and the tire tread geometry. The roughness of the road surface (geometrical shape of the roadway surface, peak and valleys of the surface profile) is one of the user-relevant surface properties, which are also part of the basic road project engineering. Because the driver can not see the pavement grip of the road and because this can not be perceived except under extreme conditions, a possibly homogeneous (lengthwise and crosswise) and sufficient grip of the road becomes very important.

Poster Session (M)

Prevalence and Pattern Pediatric of Forearm Fractures in a Tertiary Health Care Center Over 8 Years

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Abstract:

The focus on this subject in the literature varies; and when it comes to forearm fractures, we find a few available date focusing on such a subject. Forearm fractures in childhood account for 25% of all other injuries. A retrospective case series done in a tertiary health care center. Our population are patients who are aged from 0-18 years old who presented from 2007 to 2015 (8 years interval). Number of patients included in this study was 318; 13 (4.09%) of them were toddlers, 23 (7.23%) preschool, 144 (45.28%) school age and 138 (43.3%) teenagers. Number of cases who had fractures due to FOOSH injury were 260 (81.76%), MVA (passenger) were cases 41 (12.89%), direct blow/hit cases were 8 (2.52%), MVA (roll over) cases were 3 (0.94%), MVA (pedestrian) cases were 4 (1.26%) and fall from height cases were 2 (0.63%). 61 (19.18%) of them were female cases, and 257 (80.82%) of them were male cases.

Forearm fractures are common injuries in pediatric age group especially in boys. It is more frequent in older children and teenagers. Fall injuries are the most common mechanism of injury. Left sided fracture cases are more than right sided cases. Distal 3rd of both radius and ulna cases are the most prevalent among others in our population.

Poster Session (M)

Interactive & Immersive Lectures using Virtual Reality

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Abstract:

The main objective of this project is to design and create a Virtual Reality (VR) application that simulates a real classroom to help students get an enhanced learning experience. In the current education system, we expect the comprehension level of the students in a classroom is the same. However, in reality, this is not the case. There are many factors that may affect the comprehension of lectures in the classroom including class size, visibility of the whiteboard, student's level of concentration, student's level of comprehension to name a few. Our main aim is to find a better way to offer the best education experience for students using the latest innovative solutions in technology. During our survey of applications, we identified several readily available applications most of which were related to either medical education, tourism or other domains of sciences. None of the applications were available for general education where a complete classroom (from instructor's point-of-view) is transported into Virtual Reality. In this project, we created a VR application that enhances the learning experience of students who face difficulties in the classroom. The application makes learning immersive, interactive and narrative offering enhanced motivation to students. The project setup involves setting up a camera (GoPro) in the classroom to capture the

whiteboard. Visuals from the whiteboard augmented with the course material (lecture slides) is compiled together to create a virtual space for the students. Students can interact with the virtual classrom by a provided set of tools in the virtual space to enhance their overall learning experience. The VR application is developed using Unity 3D Engine and interaction is implemented using a handheld wireless Bluetooth controlled (Nod Backspin). The VR application can be used with a VR headset (Oculus Rift) and an attached controller to view live and recorded lectures (known as recall). Students can take voice notes during a live lecture which are later played back to them during recall. The overall system also includes a web interface that allows instructors to manage lecture resources and control a live lecture.

KSA's Automated Automotive Future

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Abstract:

Several breakthroughs in automotive technology have enabled car manufacturers such as Tesla, Audi and others to develop self-driving cars with an objective to tackle several everyday commuting problems. Problems that currently exist in KSA include serious accidents, severe traffic congestion and their consequences. In terms of accidents, KSA is currently topping the charts for the most number of car accidents per year. The research conducted suggests that there are approximately 7,000 road fatalities and around 40,000 seriously injured individuals each year. Turning our attention to heavy traffic congestion, the study suggests that most employees lose a major amount of their productivity at work due to being stuck in traffic. Thus, the employees arrive late to work which takes away from their work time. If an organization possesses many employees who are victims of this everyday traffic congestion, then the whole organization could face negative consequences. Considering all the other organizations operating in the Kingdom which face the same problems, all these microeconomic issues add up to the macroeconomic problem of the entire Kingdom, thereby contributing to its' productivity loss. The way autonomous cars solve the problem of fatal accidents is through precision driving which is something most humans are not

capable of. These cars are programmed to keep a certain amount of distance from other cars as well as drive within the speed limits. To tackle the traffic congestions within the kingdom, self-driving cars could be used to reduce the total number of cars in the Kingdom. This could be achieved since only one autonomous car will be responsible for transporting all the members of a family. How is that possible? The answer is simple. There is a mobile application available through the car manufacturer which allows all authorized passengers to 'feed' their pick-and- drop schedules into the car's database. The car will manipulate this information to intelligently ensure that each passenger is at their desired destination on time. Since women are not permitted to drive in KSA, many families need a separate car and hire a driver to drive that vehicle which is a constant cost. This issue will be eliminated altogether with the importation of autonomous cars. The research paper explains how exactly these issues could be solved in the Kingdom through autonomous cars.

Transport Monitoring System for School Kids Safety

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Abstract:

Many kids die in school buses on their way to/from the school/home. The drivers mostly forget them unintentionally to drop them, or may be the kid has slept without being noticed by the driver. Parents do not know where their kid is and it is too late when they realize that the kid is not in the school or in the bus. This is where the problem arises; our proposed System "Transport Monitoring System for School Kids Safety" is a novel system that allows parents and the school management to monitor kids' status and to convey it to the responsible people (Parents/School) about their whereabouts. Also, the system shall inform parents about any issue the kid faces in the school. It shall be accessed easily using smart phones, desktops, and any browser connected to the internet.

Effect of Socially Intelligent Robots on Society

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Abstract:

Nowadays robots are considered more intelligent than humans due to introduction of social intelligence among them. Robots were introduced since 1960 but the concept then was to serve human needs, and currently robots are in war zones serving as soldiers, working in medical as doctor or nurse and industrial, aero space are to name few. Intelligence in robots that supersede normal humans have raised numerous ethical and social issues of whether robots can act as leaders or managers while human act as labor to them. This study tends to find the effect of intelligent robots on human lives in two perspectives (1) robot governing humans and (2) robot serving humans. A bi-lingual survey designed to address the issues was conducted using google forms inside Kingdom of Saudi Arabia (KSA). There are two major findings of the survey (a) normally people are not concerned about these issues as they are unaware of the social problems that are going to occur in future and (b) experts considered it to be an issue and are worried about social impact of robots on human lives and their behavior. In end, this paper also provide code of ethics for software engineers, robotics designers, robot programmers for ethical robotic development that keep robot as product and don't convert humans into products.

Brainwaves Authentication System

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Abstract:

Different ways to authenticate users have been around, the most common being passwords. There are three different types of Identification and Access Control methods: something you know, something you have and something you are. Password and Personal Identification Numbers (PIN) are common examples of knowledge-based methods (Something You Have). RFID Cards and Smart Cards are common examples of Possession-based methods (Something You Have). In many cases, the above two methods are combined to provide what is known as multi-modal authentication. Biometric authentication such as fingerprint, hand geometry, eye scan or voice analysis are authentication approaches that part of Characteristic-based methods (Something You Are). Biometrics is considered a stronger form of authentication due to its uniqueness and ownership. Although biometrics provide a strong way of authentication, it is susceptible to errors. Brain-Computer Interface (BCI) has shown tremendous potential in allowing users to control external objects using their brainwaves. In this project, we develop an alternate authentication method using brainwaves. Brainwaves-based authentication methods typically require the users to imagine answers to

questions (challenge-response) or perform mental tasks. Although several approaches have been proposed in literature using brainwaves in authentication, none of these approaches have used a challenge-response system derived from offline analysis of different feature extraction and classification approach. In our work, the complete system is composed of an offline part and an online part. In the offline part, a set of challenges are decided based on analysis of the data collected. Analysis is done to identify the best feature extraction method and feature classification method using various Artificial Intelligence methods. Once the methods are identified, they are implemented in an online system that will be implemented as a complete authentication system. The project uses a 14-channel Brainwave headset called Emotiv EPOC+. The data from the 14-channels is sufficient to develop unique challenges for user authentication. The offline part of the project is implemented using Matlab and EEGLab module. The online part is developed using web-based front-end technologies and Python for implementing the AI algorithms.

REITs in Saudi Arabia

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Abstract:

The real estate investment trust (or REIT) is a type of financial instruments that will have an ownership on a commercial real estate that can be traded in units. REITs are instruments that have characteristics of both real estate ownership and stocks trading. It is also a new financial instrument that has been recently issued on the Saudi Arabian stock market (Tadawul). As a new instrument, investors are intrigued about the potential of this type of alternative investment, and how REITs will benefit the growth of Saudi economy in general, and the real estate market and investors in particular. Therefore, in this paper, we attempt to evaluate the benefits of REITs to the economy of Saudi Arabia, how positively the real estate market will react to this new financial instrument, and the opportunities for investors who will now have another financial instrument in addition to stocks for trading on Tadawul. In order to gather the most accurate information regarding the REIT market in Saudi Arabia, in addition to the library research, we also conducted an interview with the Capital Market Authority (CMA) to gain more insight about the process, reasons of issuing REITs.

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