

---

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES

# REMACS 5.0

---



CS240 - BACHELOR OF INFORMATION TECHNOLOGY [HONS.]  
CS248 - BACHELOR OF SCIENCES [HONS.]  
MANAGEMENT IN MATHEMATICS  
CS251 - BACHELOR OF COMPUTER SCIENCE [HONS]  
NETCENTRIC COMPUTING  
CS255 - BACHELOR OF COMPUTER SCIENCE [HONS]  
DATA COMMUNICATION & NETWORKING

**2<sup>nd</sup> February 2023**  
**Stor Complex, UiTM Perlis**

---

Organized by:  
College of Computing, Informatics and Media  
Universiti Teknologi MARA Perlis Branch

**Research Exhibition in Mathematics and Computer Sciences  
(REMACS 5.0)**

Research Exhibition in Mathematics and Computer Sciences (REMACS 5.0)

© 2023 College of Computing, Informatics and Media, UiTM Perlis Branch. Some Rights Reserved.

This work is licensed under the Creative Commons Attribution-ShareAlike 4.0 International License (CC-BY-SA 4.0). You are free to:

- Share - copy and redistribute the material in any medium or format
- Adapt - remix, transform, and build upon the material for any purpose, even commercially
- Under the following terms:

**Attribution** - You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

**ShareAlike** - If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original.

**No additional restrictions** - You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

For more information on the Creative Commons Attribution-ShareAlike 4.0 International License, please visit: <https://creativecommons.org/licenses/by-sa/4.0/>

#### *Editors*

Rafiza Ruslan, Mohamad Najib Mohamad Fadzil, Noorfaizalfaird Mohd Nor, Mohammad Hafiz bin Ismail

e ISBN: 978-629-97934-0-3



Perpustakaan Negara Malaysia

#### *Published by*

MOHAMMAD HAFIZ BIN ISMAIL

Universiti Teknologi MARA

02600 Arau, Perlis

Tel: +604 988 2028

<https://fskmpерlis.uitm.edu.my/remacs50/>

# CONTENTS

<b>Preface</b>	<b>iii</b>
<b>Committee</b>	<b>iv</b>
<b>Event Schedule</b>	<b>v</b>
<b>List of Papers</b>	<b>vi-xxiii</b>
<b>Articles</b>	<b>1-278</b>

# Preface

It is with great pleasure that we present this extended abstract book, titled "The 5<sup>th</sup> Research Exhibition in Mathematics and Computer Sciences (REMACS 5.0)". This book is a collection of research work in the fields of Computer Science and Mathematics, contributed by the final year students from Universiti Teknologi MARA, Perlis Branch. The aim of this book is to showcase the diversity and depth of research in these two interrelated fields.

Mathematics and Computer Science are two fields that have seen tremendous growth and advancement in recent years. With the rise of new technologies and the increasing demand for data-driven solutions, researchers in these fields have been working hard to develop new theories, algorithms, and models that can help solve some of the most pressing problems of our time. This book is a testament to their hard work and dedication.

The abstracts in this book cover a wide range of topics, including algebra, analysis, logic, computer architecture, algorithms, artificial intelligence, machine learning, computer network, netcentric computing and many more. The work presented here is both theoretical and practical, and has the potential to impact many areas of society, from finance and healthcare to education and security.

We hope that this book will serve as a valuable resource for future students in the fields of Mathematics and Computer Science. We also hope that it will inspire more students to pursue innovative and groundbreaking research in these two fields. Finally, we would like to express our gratitude to all the contributors for their hard work and dedication, without which this book would not have been possible.



RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES  
**REMACS 5.0**

# COMMITTEE

## PATRON

- PROF. MADYA Ts. DR SHUKOR SANIM MOHD FAUZI

## ADVISORS

- Ts. DR SITI ZULAIHA AHMAD
- PN SUZANAWATI ABU HASAN
- PN NORA YANTI CHE JAN

## PROGRAMME DIRECTOR

- EN MUHAMAD ARIF HASHIM

## PROGRAMME DEPUTY DIRECTOR

- DR NURIZATUL SYARFINAS AHMAD BAKHTIAR

## SECRETARY

- PN SITI SARAH RASELI
- CIK SITI SARAH MD ILYAS

## TRESURER

- PN NORPAH MAHAT

## PROMOTION

- PROF. MADYA DR RIZAUDDIN SAIAN
- DR RUZITA AHMAD
- PN NORWAZIAH MAHMUD

## EXHIBITION

- DR AZNOORA OSMAN
- EN MOHAMAD HAFIZ ISMAIL
- EN ROS SYAMSUL HAMID
- PN RAIHANA ZAINORDIN
- DR HUDA ZUHRAH AB.HALIM

## REGISTRATION COORDINATORS

- Ts. DR ABIDAH HJ MAT TAIB
- DR NUR FATIHAH FAUZI
- PN NOR HAYATI SHAFII
- PN WAN NURSHAZELIN WAN SHAHIDAN

## TECHNICAL & LOGISTIC

- EN MOHD FARIS MOHD FUZI
- EN IMAN HAZWAM ABD HALIM
- EN MOHD FAZRIL IZHAR MOHD IDRIS
- EN MOHD HASBULLAH MOHD RAZALI

## EVENT MGT & PROTOCOL

- PN ROMIZA MD NOR
- EN ABDUL HAPES MOHAMMED
- PN DIANA SIRMAYUNIE MOHD NASIR

## CERTIFICATE

- EN ALIF FAISAL IBRAHIM
- EN HALIMI AB HALIM

## PROGRAMME BOOK

- PN RAFIZA RUSLAN
- EN MOHAMAD NAJIB MOHAMAD FADZIL
- Ts. NOORFAIZALFARID MOHD NOOR

## BANQUET

- CIK KU AZLINA KU AKIL
- DR NUR IZZATI KHAIRUDIN



# EVENT SCHEDULE

8:00 – 8:30 am

- Registration

8:00 am – 12:00 pm

- FYP Project Presentation

12:00 - 2:00pm

- Lunch Break

2:15 – 2:35 pm

- National & Wawasan Setia Anthems
- Doa Recitation

2:35 – 2:45 pm

- Welcoming Address by Director of REMACS 5.0

2:45 – 2:55 pm

- Officiating & Closing Remarks from Rector of UiTM Perlis

2:55 – 3:00 pm

- REMACS 5.0 Montage

3:00 – 4:00 pm

- Awarding of Winners:
  - Best Poster
  - Best Project Award

- Photo Session

- End of Ceremony

*Dress Code: Formal / Corporate*

## List of Papers

Article Title	Page
<b>WEB-BASED BLOOD DONATION MANAGEMENT WITH REWARDS SYSTEM</b> Ahmad Syakir Mohd Sakeri and Nadia Abdul Wahab	1
<b>FINAL YEAR PROJECT MANAGEMENT SYSTEM (FMS)</b> Aimuni Nadhrah Yazit and Ros Syamsul Hamid	3
<b>UNIBUKU: UiTM Book Reselling Web Application</b> Anis 'Aisyah Md Nazri and Mohammad Hafiz bin Ismail	5
<b>STUDENT INTERNSHIP PLACEMENT USING PERSONAL DECISION AID</b> Anis Nabila Azizi and Azmi Abu Seman	7
<b>INTERNSHIP MONITORING AND ASSESSMENT SYSTEM</b> Ezza Liyana Jalaludin and Azmi Abu Seman	9
<b>AR FOR PLANTATION AND AGROTECHNOLOGY AREA AT UITM PERLIS</b> Faizah Ahmad Rodi and Nor Arzami Othman	11
<b>MOBILE APPLICATION FOR COLLEGE LAUNDRY BOOKING SYSTEM IN UITM PERLIS</b> Haizatul Zulaikha Annual and Siti Zulaiha Ahmad	13



<b>SKIN CARE E-COMMERCE MOBILE PLATFORM WITH PRODUCT RECOMMENDATION BASED ON SKIN TYPE</b>	15
Haziq Asyraf Abu Hanifah and Nadia Abdul Wahab	
<b>HEALER – MENTAL HEALTH PERSONAL DECISION AID</b>	17
Huda Nabila Ishak and Norfiza Ibrahim	
<b>VETERINARY CLINIC MANAGEMENT SYSTEM</b>	19
Mas Nur Alya Binti Mohd Yusof and Prof. Madya Ts. Dr. Shukor Sanim Bin Mohd Fauzi	
<b>SOCIAL MARKETPLACE WEB APPLICATION FOR UITM PERLIS STUDENTS</b>	21
Mohamad Azimi Zakariah and Muhammad Nabil Fikri Jamaluddin	
<b>FASTBLOOD: BLOOD DONOR MOBILE APP INTEGRATED WITH QR CODE</b>	23
Muhamad Saifullah Yussri and Nora Yanti Che Jan	
<b>MOBILE APPLICATION FOR HEALTHY SLEEP RECOMMENDATION WITH CALM TECHNOLOGY</b>	25
Muhammad Arif Haikal Meli and Romiza Md. Nor	
<b>ROADMATE: IMPROVING RIDESHARING AND CARPOOLING VIA MOBILE APP</b>	27
Muhammad Farid Muhammad Dahri, Arifah Fasha Rosmani	
<b>FELINERINARY: CAT HEALTH MANAGEMENT APP WITH APPOINTMENT REMINDERS USING PUSH-NOTIFICATION</b>	29
Muhammad Hakimie Azraei Mahzir, Siti Sarah Md. Ilyas	

<b>MOBILE INTERVENTION FOR USED CLOTHING MANAGEMENT WITH GEOLOCATION</b>	31
Muhammad Haziq Anuar, Siti Sarah Md Ilyas	
<b>UITM ARAU BICYCLE RESERVATION APP WITH IMPLEMENTATION OF QR CODES (UBIKE COLLEGE)</b>	33
Muhammad Nur Hakimi Azman, Siti Zulaiha Ahmad	
<b>EASYRENT: A WEB BASED RECOMMENDATION SYSTEM FOR SHOP RENTAL – A CASE STUDY IN JITRA, KEDAH</b>	35
Nur Azlina Ariffin, Nora Yanti Che Jan	
<b>MEDCARE: A WEB-BASED CLINIC APPOINTMENT SYSTEM WITH SHORT MESSAGE SERVICE (SMS) NOTIFICATION</b>	37
Nur Elya Fhazlein Zamri, Mohd Nizam Osman	
<b>FASTPARK MOBILE APPLICATION USING GEOLOCATION</b>	39
Nur Hazmiera Mohd Hazline, Nora Yanti Che Jan	
<b>AN ISLAMIC MULTIMEDIA LEARNING APPLICATION OF MENSTRUATION FOR ADOLESCENT GIRLS</b>	41
Nur Irham Atikah Mohd Rafee @ Sukiman, Aznoora Osman	
<b>FUTSAL BOOKING WEB BASED SYSTEM INTEGRATE WITH TELEGRAM NOTIFICATIONS</b>	43
Nur Izzat Hakim Bin Norazam, Mohd Nizam Bin Osman	
<b>HOUSE RENTAL MANAGEMENT SYSTEM FOR STUDENT IN UITM PERLIS</b>	45
Nur Nadiyah Husna Samsudin, Muhammad Nabil Fikri Jamaluddin,	

<b>PENANG TRAVEL SERVICE PROVIDER APPLICATION USING GEOFENCING</b>	47
Nurezzatul Husna Ismail, Mohd Nizam Osman	
<b>MOBILE APPLICATION SYSTEM FOR CARDIOVASCULAR DISEASE PATIENT</b>	49
Nurul Azwa Atikah Ahmad Tarmizy, Abdul Hapes Mohammed	
<b>WEB-BASED CARBON FOOTPRINT CALCULATOR FOR BAKERY FOOD WASTE</b>	51
Nurul Fatihah Mohamed Yusof, Romiza Md Nor	
<b>FOOD TRUCK FINDER</b>	53
Qistina Amirah Abdul Hadi, Iman Hazwam Abd Halim	
<b>RESPONSIVE WEB-BASED CAFE FOOD ORDERING SYSTEM USING BOOTSTRAP AND QR CODE</b>	55
Siti Nadzirah Parsikun, Khairul Anwar Sedek	
<b>WHEELS4RENT: A WEB-BASED VEHICLE RENTAL AND MANAGEMENT SYSTEM WITH SHORT MESSAGE SERVICE (SMS) NOTIFICATION</b>	57
Siti Zulaikha Zaidi, Mohd Nizam Osman	
<b>IMPLEMENTATIONS OF QR-CODE FOR BUS TRANSPORT PASS USING MOBILE APPS</b>	59
Wajeedah Hamdzar Hamizan, Norziana Yahya	
<b>DEVELOPING A CATERING SERVICES MOBILE APPLICATION FOR LOCAL COMMUNITY</b>	61
Masturina Binti Azmi, Ts Dr Norziana Binti Yahya	

<b>ON-DEMAND HOME SERVICES USING MOBILE APPS FOR DIGITAL HOUSEHOLDS</b>	63
Sarah Nurhasya Abd Aziz, Norziana Yahya	
<b>FAKE NEWS CLASSIFICATION USING MACHINE LEARNING TECHNIQUES</b>	65
Adib Farhan Ahmad Rashdi and Mohd Nizam Osman	
<b>DATA VISUALIZATION OF FAMILY INCOME AND EXPENSES</b>	67
Aimi Amisha Ahmad Sabri and Mohd Nizam Osman	
<b>DATA VISUALIZATION : CAUSES AND RISK FACTORS OF DEATH</b>	69
Amirah Mohd Yusof and Jiwa Noris Hamid	
<b>DEVELOPING GRAPHICAL VISUALIZATION FOR UNDERSTANDING THE PATTERN OF STUDENTS PERFORMANCE IN EXAM</b>	71
Anisah Rosli and Norfiza Ibrahim	
<b>DIABETES RISK PREDICTION SYSTEM AND DATA VISUALIZATION</b>	73
Azizah Mohamad Imran and Hawa Mohd Ekhsan	
<b>WEB-BASED APPLICATION FOR PLACES RECOMMENDER USING MACHINE LEARNING</b>	75
Farah Nurshaziela, Ruzita Ahmad and Shukor Sanim Mohd Fauzi	
<b>DATA VISUALIZATION OF CHRONIC KIDNEY DISEASE SYMPTOMS</b>	77
Hanif Ikmal Ahmad Akibi and Hawa Mohd Ekhsan	

<b>SMART SUPPLY CHAIN MANAGEMENT USING DATA VISUALIZATION</b>	79
Hidayah Hushairi and Jiwa Noris Hamid	
<b>DATA VISUALIZATION OF BLOOD DONATION DURING CORONAVIRUS DISEASE (COVID-19) IN PERLIS</b>	81
Maisarah Aisisa and Khairul Anwar Sedek	
<b>DIABETES PREDICTION USING MACHINE LEARNING</b>	83
Muhammad Adib Mohd Nazri and Mahfudzah Othman	
<b>THE DEVELOPMENT OF DISEASES PREDICTION SYSTEM BASED ON SYMPTOMS</b>	85
Muhammad Faiz Mohd Faisol and Mohd Nizam Osman	
<b>LUNG CANCER PREDICTION USING MACHINE LEARNING TECHNIQUES</b>	87
Muhammad Muhaimin Mohd Fauzi and Mohd Nizam Osman	
<b>OBJECT DETECTION MODEL FOR MANGO LEAF DISEASES</b>	89
Muhammad Norzakwan Mohd Sham and Mohammad Hafiz bin Ismail	
<b>ANALYZING ON HOW FOOD CONSUMPTION CAN AFFECT IN DIABETES</b>	91
Muhammad Saiful Azim Mohd Ariff and Khairul Anwar Sedek	
<b>DASHBOARD : RISK PERCEPTION AND TRAVEL SATISFACTION USING PUBLIC TRANSPORT DURING COVID-19</b>	93
Nafeis Sukaiynah Noor Azli and Jiwa Noris Hamid	

<b>DASHBOARD VISUALIZATION OF MOBILITY COVID-19</b>	95
Noor Syarafana Nordin and Noorfaizalfarid Mohd Noor	
<b>DEVELOPING GRAPHICAL VISUALIZATION FOR ANALYZING STUDENT ADAPTABILITY LEVEL IN ONLINE EDUCATION</b>	97
Nur Balqis Mohd Azuddin and Norziana Yahya	
<b>DATA VISUALIZATION ON STUDENT STRESS LEVEL</b>	99
Nur Syifa Ramzi, Mohammad Hafiz bin Ismail and Tajul Rosli Razak	
<b>DASHBOARD: DATA VISUALIZATION OF COVID-19 CONFIRMED AND DEATHS IN MALAYSIA (COVIM)</b>	101
<b>Nurul Izzati Iddarus, Ruzita Ahmad and Shukor Sanim Mohd Fauzi</b>	
<b>DATA VISUALIZATION OF HUMAN STRESS DETECTION LEVEL</b>	103
Nurul Syahirah Md Saad and Hawa Mohd Ekhsan	
<b>DASHBOARD VISUALIZATION ON RENTAL HOUSE DATA IN PERLIS FOR UITM ARAU STUDENTS</b>	105
Putera Mohd Aliff Bakhtiar Mohd Zahir and Khairul Anwar Sedek	
<b>DATA VISUALIZATION OF HIGHER EDUCATION STUDENTS' PERFORMANCE EVALUATION</b>	107
Siti Nur Syahirah Osman and Hawa Mohd Ekhsan	
<b>FUZZY ANALYTIC HIERARCHY PROCESS TO STUDY THE IMPACTS OF OPEN DISTANCE LEARNING ON UiTM PERLIS STUDENTS</b>	109
Adriana Nazihah Cha Ariff and Norpah Mahat	

<b>FORECASTING UNEMPLOYMENT RATE IN MALAYSIA: COMPARISON BETWEEN ARIMA AND FUZZY TIME SERIES</b>	111
Ahmad Faidhi Amir Faisol and Nur Azriani Mohamad Nor	
<b>STAGNATION POINT FLOW OF NANOFLUIDS OVER STRETCHING/SHRINKING SURFACE WITH HEAT SOURCE/SINK AND CONSTANT WALL TEMPERATURE</b>	113
Aifa Afrina Ahmed Rodzuan, Nur Fatihah Fauzi and Nurizatul Syarfinas Ahmad Bakhtiar	
<b>EVALUATION OF FORECAST PERFORMANCE OF COVID-19 WITH DIFFERENT TIME HORIZONS</b>	115
Amirul Rashid Che Samsol and Azlan Abdul Aziz	
<b>SELECTION THE TYPE OF INVESTMENT IN MALAYSIA USING FUZZY ANALYTIC HIERARCHY PROCESS (AHP)</b>	117
Ardini Athirah Mhd Munawar and Mohd Fazril Izhar Mohd Idris	
<b>PREDICTING STROKE USING ANT COLONY OPTIMIZATION ALGORITHM</b>	119
Azfaruddin Azri and Rizauddin Saian	
<b>STAGNATION POINT FLOW OF HYBRID NANOFLUIDS OVER STRETCHING/SHRINKING SHEET WITH HEAT SOURCE/SINK AND CONSTANT WALL TEMPERATURE</b>	121
Fatin Nur Ayuni Mohd Nor, Nur Fatihah Fauzi and Nurizatul Syarfinas Ahmad Bakhtiar	
<b>ANALYSING THE EFFICIENCY OF LOCAL AND FOREIGN CARS IN MALAYSIA USING DATA ENVELOPMENT ANALYSIS (DEA)</b>	123
Khairul Sanusi Samuil and Anas Fathul Ariffin	

**APPLICATION OF VANILLA LONG SHORT-TERM MEMORY NETWORKS (LSTM) AND AUTO-REGRESSIVE INTEGRATED MOVING AVERAGE (ARIMA) ON EXCHANGE RATE FORECASTING** 125

Mysarah Haslan and Nor Hayati Shafii

**RANKING THE EFFECTIVE PREVENTION MEASURES AGAINST COVID-19 BY USING FUZZY AHP METHOD** 127

Nur Afifah Zabidi and Teoh Yeong Kin

**A NUMERICAL STUDY ON A HIV TRANSMISSION MATHEMATICAL MODEL** 129

Nur Izyan Hasna Suhaili, Nur Izzati Khairudin and Nurizatul Syarfinas Ahmad Bakhtiar

**APPLICATION OF FUZZY DELPHI ON THE FACTOR INFLUENCING BUYING BEHAVIOUR FOR ORGANIC FOOD** 131

Nur Syafiqah Abdul Rashid and Mohd Halimi Ab Hamid

**THE USE OF TRAPEZOIDAL RULE TO APPROXIMATE THE VOLUME OF CLOUDS OF SOIL AT GUNUNG PERLIS TAMAN NEGERI PERLIS** 133

Nur' Afaf Zahiah Khairulfahmi, Mohamad Najib Mohamad Fadzil and Zaki Ahmad Dahlan

**THE USE OF TRAPEZOIDAL RULE TO APPROXIMATE THE VOLUME OF CLOUDS OF SOIL AT GUNUNG PERLIS TAMAN NEGERI PERLIS** 135

Nur' Afaf Zahiah Khairulfahmi, Mohamad Najib Mohamad Fadzil and Zaki Ahmad Dahlan

**AN APPROACH OF FUZZY AHP TO ANALYZE THE FACTORS OF DOMESTIC VIOLENCE AMONG WOMEN IN MALAYSIA** 137

Nurain Syahirah Mahusin and Norpah Mahat



**THE USE OF SIMPSON’S RULE TO APPROXIMATE THE VOLUME OF CLODS OF SOIL AT GUNUNG PERLIS, TAMAN NEGERI PERLIS** 139

Nurliyana Najwa Husaini Failos, Mohamad Najib Mohamad Fadzil and Zaki Ahmad Dahlan

**FACTORS INFLUENCING THE SELECTION OF HALAL PRODUCTS AMONG PERLIS COMMUNITY USING FUZZY AHP** 141

Nurul Asyqin Abu Bakar and Siti Nor Nadrah Muhamad

**ANALYSING ON INFLUENCING FACTORS OF STUDENTS’ CAREER CHOICE USING FUZZY ANALYTIC HIERARCHY PROCESS (FAHP)** 143

Salsabila Saimuddi and Khairu Azlan Abd Aziz

**APPLICATION OF FUZZY AHP ON THE SELECTION OF ONLINE SHOPPING PLATFORM IN MALAYSIA** 145

Siti Nurmaisarah Zakaria and Khairu Azlan Abd Aziz

**CLASSIFICATION OF DIABETIC PATIENTS WITH IMBALANCED CLASS DISTRIBUTION BY USING A COST-SENSITIVE FOREST ALGORITHM** 147

Umami Asyiqin Che Muhammad and Muhammad Hasbullah Mohd Razali

**A FUZZY CONJOINT ANALYSIS APPROACH FOR EVALUATING CREDIT CARD SERVICES: A CASE STUDY OF MALAYAN BANK** 149

Umami Umira Mohd Akhir and Zurina Kasim

**SELECTION THE BEST TYPE OF INVESTMENT IN MALAYSIA USING FUZZY TOPSIS** 151

Muhamad Aizat Iman Roslan and Fazril Izhar Mohd Idris

<b>ONLINE EMPLOYMENT PLATFORM SELECTION BY USING FUZZY ANALYTIC HIERARCHY PROCESS</b>	153
Muhammad Iqbal Muhamidi and Mohd Halimi Ab Hamid	
<b>TOURIST TRIP DESIGN PROBLEM WITH USER PREFERENCE AND POPULARITY: A CASE STUDY OF LANGKAWI ISLAND</b>	155
Nabilah binti Anuar Ahmad and Huda Zuhrah Ab. Halim	
<b>ANALYZING FACTORS AFFECTING TO E-LEARNING SUCCESS BY FUZZY ANALYTIC HIERARCHY PROCESS (FAHP)</b>	157
Nor Syahazlin Mohd Zaki and Jasmani Bidin	
<b>EARLY DIABETES RISK PREDICTION USING ANT COLONY OPTIMIZATION ALGORITHM</b>	159
Nur Aisyatul Husna Ahmad Yusri and Rizauddin Saian	
<b>COMPARISON BETWEEN ARIMA MODEL AND FUZZY TIME SERIES: FORECASTING ENDEMIC COVID-19 CASES IN MALAYSIA</b>	161
Nur Atikah Mohd Razali and Nor Azriani Mohamad Nor	
<b>ANALYSING STUDENTS' PERCEPTIONS OF ONLINE MATHEMATICS LEARNING</b>	163
Nur Izza Hazwani Azali Azman and Zurina Kasim	
<b>Reconstruction the Rational Quadratic Bezier Curve Using Properties of Rational Quadratic Bezier and Segmentation</b>	165
Nur Nabilla Azmi and Siti Sarah Raseli	
<b>ANALYSING INFLUENTIAL FACTORS IN UNIVERSITY SELECTION USING FUZZY TOPSIS</b>	167
Nurul Athilah Azaman and Jasmani Bidin	

**NUMBER OF STAFF OPTIMIZATION OF TOLLMAN SCHEDULING WITH INTEGER LINEAR PROGRAMMING** 169

Nurul Athirah Syuhadah Ruslan and Diana Sirmayunie Mohd Nasir

**A FUZZY PROMETHEE APPROACH FOR CHOOSING THE MOST PREFERABLE HEALTH INSURANCE COMPANIES** 171

Nurul Qistina Mohd Kamal and Raihana Zainordin

**THE NUMBER OF EMPLOYED PEOPLE AND TOURIST ARRIVAL IN MALAYSIA USING ARIMA AND FUZZY TIME SERIES MODEL: PRE, DURING AND POST COVID-19** 173

Siti Norashikin Roslan and Siti Fatimah Abd Rahman

**THE PREFERRED SOCIAL NETWORKING SITE (SNS) FOR INFORMATION DISSEMINATION AMONG UiTM STUDENTS USING FUZZY AHP METHOD** 175

Siti Nuraisyah Syafiqah Abdullah and Noorzila Sharif

**MATHEMATICAL MODELLING ANALYSIS OF DIET PLANNING FOR THALASSEMIA PATIENTS** 177

Siti Sarah Md Zulkifli and Siti Nor Nadrah Muhamad

**RANKING FIVE MODELS OF LAPTOPS USING FUZZY PROMETHEE** 179

Wan Nur Syahirah Wan Muhammad Sukardi and Raihana Zainordin

**PREDICTION OF BREAST CANCER DISEASE USING MACHINE LEARNING APPROACH** 181

Wan Nashua Amira and Nor Hayati Shafii

<b>HEAT SOURCE AND CONSTANT WALL TEMPERATURE OF MHD FERROFLUIDS ON EXPONENTIALLY STRETCHING AND SHRINKING SURFACE UNDER STAGNATION POINT REGION</b>	183
Natasya Syafina Ismail, Nurizatul Syarfinas Ahmad Bakhtiar and Nur Fatihah Fauzi	
<b>WEB-BASED UITM BOOK STORE MANAGEMENT SYSTEM INTEGRATED WITH WHATSAPP API AND GOOGLE SERVICES</b>	185
Amir Imran Ahmad and Mohd Nizam Osman	
<b>FACIAL EXPRESSION RECOGNITION USING DEEP LEARNING TECHNIQUES</b>	187
Aznal Anas Azlan and Muhamad Arif Hashim	
<b>ANALYSIS ON RANSOMWARE CHARACTERISTICS USING STATIC ANALYSIS METHOD</b>	189
Maryam Adreena Mohd Mokhtaruddeen and Mohd Faris Mohd Fuzi	
<b>WEB-BASED JEWELRY MANAGEMENT SYSTEM USING WEB SCRAPPING</b>	191
Mohd Irfan Hafizi Bin Fakhrurrazi, Ts. Noorfaizalfarid bin Mohd Noor	
<b>EMPLOYEE ATTENDANCE SYSTEM USING FLUTTER</b>	193
Muhamad Faiz Akmal Bin Mohamad Noor and Sir Alif Faisal Ibrahim	
<b>STAFF RESIDENT COLLEGE (SRK) REPORT MANAGEMENT SYSTEM USING FLUTTER</b>	195
Muhammad ‘Atif Abdul Rahim and Ahmad Yusri Dak	
<b>UiTM PRIHATIN DONATION SYSTEM USING A RESPONSIVE WEB DESIGN APPROACH</b>	197
Muhammad Aiman Bin Rosli and Zulfikri Paidi	

<b>FOOD COURT MANAGEMENT SYSTEM</b>	199
Muhammad Alif Rusyaidi Bin Abdul Rashid and Alif Faisal Bin Ibrahim	
<b>INVENTORY MANAGEMENT SYSTEM FOR SMEs IN KULIM</b>	201
Muhammad Bilal Hakim Bin Azmi and Muhammad Nabil Fikri Bin Jamaluddin	
<b>FINAL YEAR PROJECT SUPERVISOR ACCEPTANCE SYSTEM (FYPSA)</b>	203
Muhammad Fikri Bin Mohd Firdaus and Ros Syamsul Hamid	
<b>UiTM ARAU STUDENT ORIENTATION APPLICATION EXTENDED ABSTRACT</b>	205
Muhammad Hafiz Bin Ghazali and Nurzaid Mohd Zain	
<b>VOAS: VETERINARY ONLINE APPOINTMENT BOOKING SYSTEM</b>	207
Muhammad Harith Bin Mokhtar and Arifah Fasha Binti Rosmani	
<b>ZAKAT MANAGEMENT SYSTEM WITH ELECTRONIC MAIL</b>	209
Muhammad Najmi bin Othman and Noorfaizalfarid bin Mohd Noor	
<b>PINEAPPLE DISEASE DETECTION SYSTEM USING MOBILENETV2 MODEL</b>	211
Muhammad Nu'man Hakim Abdul Aziz and Iman Hazwam Abd Halim	
<b>FIGHTING FISH IDENTIFICATION USING DEEP LEARNING</b>	213
Muhammad NurSyafiq and Mohammad Hafiz bin Ismail	
<b>C++ RUSH: INTERACTIVE GAME IN LEARNING COMPUTER LANGUAGE FOR NOVICE</b>	215
Muhammad Salman Hakim bin Shaiful Nizam and Arifah Fasha binti Rosmani	

<b>E-EXAMINATION SYSTEM FOR ANSWERING OBJECTIVE AND SUBJECTIVE QUESTIONS</b>	217
Muhammad Yasir Zulfikri and Nurzaid Muhd Zain	
<b>SPORT FACILITIES AND EQUIPMENT BOOKING SYSTEM FOR UITM PERLIS</b>	219
Musfira Mohd Azmir and Nurzaid Muhd Zain	
<b>ONLINE HOSPITAL APPOINTMENT CARD WITH QR CODE</b>	221
Nabilatulwidad Binti Abdul Mueiz and Mahfudzah Binti Othman	
<b>MYBUKU PINK MOBILE APPLICATION USING ANDROID</b>	223
NorHafizah Ayob, Mohammad Hafiz bin Ismail and Tajul Rosli Razak	
<b>MOBILE APPLICATION FOR ORDERING FOOD FROM UITM ARAU CAMPUS CAFETERIA</b>	225
Norsyuhana binti Noordin and Nurzaid Mohd Zain	
<b>UITM WEB PRACTICAL LOGBOOK SYSTEM</b>	227
Nur Arifa Najiha Bt Ahmad Zawawi and Mahfudzah Bt Othman	
<b>BLOOD BANK MANAGEMENT SYSTEM</b>	229
Nur Syamimi Izzati Binti Zulkifli and Ros Syamsul Bin Hamid	
<b>WEB-BASED FOR UiTM ARAU FOOD ORDER</b>	231
Nur Zahirah Izzati binti Mohd Zahir and Zulfikri Paidi	

<b>MASK AWARE: IOT FOR FACEMASK DETECTION AND MONITORING</b>	233
Siti Nurfatim Binti Mohtar and Aznoora Osman	
<b>IOT-BASED FLOWER GARDEN CARE SYSTEM USING ESP8266 WIFI MODULE AND TELEGRAM APPLICATION</b>	235
Syahida Atirah Binti Che Omar and Rashidah Binti Ramle	
<b>UITM STUDENT’S ATTENDANCE SYSTEM BASED ON BIOMETRIC FINGERPRINT WITH IoT IMPLEMENTATION</b>	237
Wan Muhammad Rahimi bin Wan Fadzli and Abidah Hj Mat Taib	
<b>CORN LEAF DISEASE DETECTION SYSTEM USING CONVOLUTIONAL NEURAL NETWORK</b>	239
Wan Nurul Izzah Binti Abd Hadi and Iman Hazwam Abdul Halim	
<b>HOMENETSEC: ENHANCING HOME NETWORK SECURITY BY SURICATA INTRUSION DETECTION SYSTEM USING RASPBERRY PI</b>	241
Ahmad Shariff and Abidah Hj Mat Taib	
<b>MALWARE DETECTION IN WINDOWS USING DEEP LEARNING CLASSIFICATION APPROACH</b>	243
Aishah Anuar and Mohd Faris Mohd Fuzi	
<b>E-VOTING SYSTEM PROJECT IN LARAVEL BASED ON WEB-BASED APPLICATION</b>	245
Anis Natasha Zahimi and Ros Syamsul Hamid	
<b>WATER LEVEL MONITORING USING WIFI</b>	247
Azizie Azizan and Iman Hazwam Abd Halim	

<b>FACE SKETCH RECOGNITION SYSTEM USING CLOUD-BASED DEEP LEARNING</b>	249
Faiz Elmie Shah Izahar Shah and Muhamad Arif Hashim	
<b>AN ENHANCEMENT OF SMART TRAFFIC LIGHT IN LORA NETWORK FOR SMALL SCALE AREA</b>	251
Lutfi Hadi Azizul Adry and Rafiza Ruslan	
<b>REMOTE CONTROL DESKTOP SYSTEM</b>	253
Muhammad Akmal Idlan Hissamuddin and Ros Syamsul Hamid	
<b>IoT-Based Smart Chili Farm Monitoring Using Arduino and GSM Module</b>	255
Muhammad Baihaqi Bakar and Rashidah Ramle	
<b>IMAGE AUTHENTICATION SYSTEM USING DEEP LEARNING</b>	257
Muhammad Faisal Amer Faudzli and Muhamad Arif Hashim	
<b>NETWORK AUTOMATIONS ON ACCESS CONTROL LIST (ACL) FOR MULTIVENDOR DEVICES USING ANSIBLE AND NAPALM IN GNS3</b>	259
Muhammad Haziq Ikhmal Suhaimi and Rafiza Ruslan	
<b>PERFORMANCE ANALYSIS OF HTTP FLOODING ATTACK AT APPLICATION LAYER IN MOBILE AD-HOC NETWORK (MANET)</b>	261
Muhammad Hilmi Hafizi Muhamad and Ahmad Yusri Bin Dak	
<b>PERFORMANCE ANALYSIS OF DOS ATTACK AT MAC LAYER IN WLAN</b>	263
Muhammad Naufal Abdul Rahim and Ahmad Yusri Dak	



<b>SMART IRRIGATION SYSTEM USING LORA-BASED IOT DEVICE</b>	265
Muhammad Nizamuddin Abd Muttalib and Iman Hazwam Abd Halim	
<b>ANDROID MALWARE DETECTION USING DEEP LEARNING CLASSIFICATION APPROACH</b>	267
Nur Amirah Amri and Mohd Faris Mohd Fuzi	
<b>STUDENT ATTENDANCE REGISTRATION SYSTEM USING QR CODE FOR TUITION CENTRE</b>	269
Nur Farizah Ishak and Zulfikri Paidi	
<b>STUDENT ATTENDANCE SYSTEM USING FACIAL RECOGNITION BASED ON DEEP LEARNING</b>	271
Syahila Aina Haris and Zulfikri Paidi	
<b>REDUCING DOS ATTACKS BY RUNNING MULTI INSTANCES OF NGINX WEB-SERVER IN DOCKER USING SHELL SCRIPT</b>	273
Ismail Arif M. Zulkepli and Abidah Mat Taib, Nor Alifah Rosaidi	
<b>SMART CHICKEN FEEDER SYSTEM USING NODE MCU ESP8266</b>	275
Ilham Syahmin Nasruddin and Mohd Nizam Osman	
<b>REMOTE MONITORING AND CONTROLLING OF LIGHTS USING IOT</b>	277
Nurul Najihah Yusra Zolkarnain, Nurzaid Muhd Zain and Mahfudzah binti Othman	



# EXTENDED ABSTRACTS

---

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES  
**REMACS 5.0**

---

# HEALER – MENTAL HEALTH PERSONAL DECISION AID

**Huda Nabila Ishak and Norfiza Ibrahim**

College of Computing, Informatics and Media, Universiti Teknologi MARA Perlis Branch, Malaysia

## **Abstract**

Healer is an application whose goal is to help adults recognise their mental health problems and control the symptoms. The goal of this project is to develop a personal aid for adults who are struggling with mental health problems. A design science research methodology (DSRM) was used to develop and evaluate materials to help address the identified problems. During the evaluation, the benchmark scale was measured, analysed, and recorded. The results demonstrate that the attractiveness scale is above average, the perspicuity scale is excellent, the efficiency scale is good, the stimulation scale is above average, the dependability scale is above average, but the novelty is bad. The design and development of the Healer achieved all of the objectives of this study, including outlining the requirements and techniques for developing a mobile mental health application.

*Keywords: Mental Health, Anxiety, Panic, Depression, Mental Health Disorders, Adults*

## **1. Introduction**

Healer is an application whose goal is to help adults figure out their mental health problems and control the symptoms. The scope of this project is to develop a personal aid for adults who are struggling with mental health problems. The first module in this project is the mood tracking module. Personalisation tests will be done where the user will be prompted to choose their feelings and answer questions that they have been facing to identify their mood and symptoms. Second is the exercise recommendation module. From the personalisation test, a diagnosis will be made as well as suggestions of exercises treatment will be offered. Third module is the motivational quotes where in this module, simple yet needed consolation is offered to users in the form of motivation quotes that will help them get their lost motivation. Lastly is the expert treatment that will help them locate experts from psychology and counselling units available around them.

## **2. Methodology**

Data were acquired through a survey utilising the User Experience Testing method (UXT). The User Experience Questionnaire (UEQ) consisted of 26 questions, each represented by a pair of words having opposing meanings. To accomplish the UXT, adults between the ages of 18–50-year-old were approached. The evaluation procedures were held at UiTM Perlis. The respondents were given an Android smartphone to use during the evaluation procedures and 10 minutes to explore the prototype of the application. Following the completion of the application by the responders, a Google Form questionnaire based on User Experience Testing (UXT) was issued for evaluation.

## **3. Results and Discussion**

As a consequence, personal information such as gender, age, occupation, and education level were collected for the demographic questions in the first phase of the survey. This user experience testing had 30 participants that took part in the testing. The questionnaire's scales provide a full view of user experience. Both traditional usability criteria like efficiency, perspicuity, and dependability, as well as user experience elements like originality and stimulation, are measured. The UEQ has a 7-point Likert scale and twenty-six components that represent the main characteristic. The benchmark

scale was measured, analysed, and recorded. The results demonstrate that the attractiveness scale is above average, the perspicuity scale is excellent, the efficiency scale is good, the stimulation scale is above average, the dependability scale is above average, and however, novelty is bad.

#### **4. Novelty of Research / Product**

Poor mental health is a complex and widespread psychological issue affecting adults in both industrialised and developing countries. Various psychological and psychiatric surveys done in a variety of developed and developing countries indicated that the incidence of stress, anxiety, and depression (SAD) is significantly greater among adults than in the general population (Mofatteh, 2020). One of the ways to help those in need is giving the treatment they really need and entertain their problem as early as possible to avoid regretting it later. Personal recommender system may help in aid or assist adults with mental health problems receiving the treatment they need according to their symptoms and diagnosis. It can be done by taking a personalisation test that will require them to identify their moods and symptoms that will be analysed by the system to generate a diagnosis of the problem. According to the personalised diagnosis, a treatment can be offered to them with hope will help them to get better. Pedrelli et al., (2015) emphasised that technology-based programmes for detection and early treatment would have the benefit of giving anonymity, being accessible at any time, and possibly being cost-effective.

#### **5. Conclusion**

The personality test proved successful in capturing users' symptoms, making a diagnosis, and providing personalised exercise treatment suggestions to help people with mental health problems understand and control their mental health condition. Moreover, they can make use of the application to control their symptoms and seek experts' help.

#### **REFERENCES**

- Mofatteh, M. (2020). Risk factors associated with stress, anxiety, and depression among university undergraduate students. *AIMS public health*, 8(1), 36–65. <https://doi.org/10.3934/publichealth.2021004>
- Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2014). College students: Mental health problems and treatment considerations. *Academic Psychiatry*, 39(5), 503–511. <https://doi.org/10.1007/s40596-014-0205-9>

**Research Exhibition in Mathematics and Computer Sciences: REMACS 5.0**  
© 2023 College of Computing, Informatics and Media, UiTM Perlis Branch

e ISBN 978-629-97934-0-3

