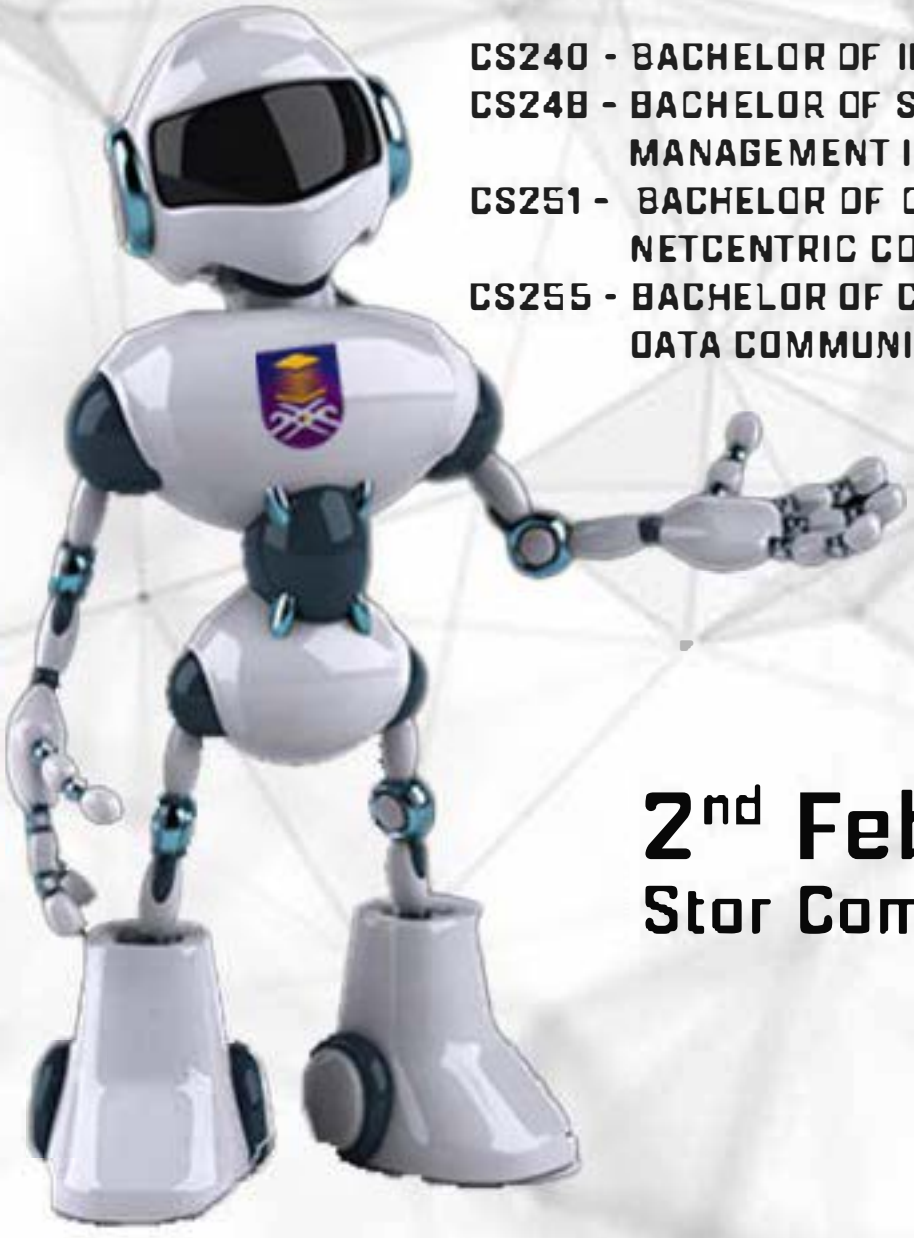
UNIVERSITI TEKNOLOGI MARA
Perlis Branch
Arau Campus

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

2nd Februory 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)

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

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Preface

It is with great pleasure that we present this extended abstract book, titled "The 5th 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.

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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

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES

REMACS 5.0

EXTENDED ABSTRACTS

AR FOR PLANTATION AND AGROTECHNOLOGY AREA AT UITM PERLIS

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Abstract

The advancement of AR technology for information transmission makes the practice more interesting and interactive. In the use of this AR virtual elements that look real can be displayed in Plantation and Agrotechnology area by providing useful information and knowledge in the field of plantation. Augmented Reality (AR) is an interactive concept to provide learning that is considered as a new technology especially in Malaysia because lack of exploration to demonstrate effectiveness technology in getting. Besides, in AR exploration in the field of farming this can create an interesting form of technology ask regardless of age level. Through augmented reality (AR), various information can be conveyed in one application such as in the form of sound, image, video and more. In this project, it can also be seen that the problem of information delivery that supports the use of AR needs to be implemented in the Plantation and Agrotechnology area. In developing a mobile application, an appropriate development methodology has been implemented using the ADDIE model. Each ADDIE acronym stands for the analysis, design, development, implementation, and evaluation of AR plantations and agrotechnology area at UiTM Perlis. At the same time, in order to assess the user acceptability of augmented reality (AR), students were obliged to complete a series of user acceptance tests of AR for plantation and agrotechnology at UiTM Perlis.

Keywords*: Augmented Reality, UiTM Perlis, Plantation, Agrotechnology, user acceptance test, ADDIE Model.*

1. Introduction

AR for plantation and agrotechnology area at UiTM Perlis is the project that to develop mobile applications for the Plantation and Agrotechnology area to provide information on crops and livestock by bringing the Augmented Reality approach as a knowledge in the field of agrotourism and to evaluate user acceptance of AR for Plantation and Agrotechnology area at UiTM Perlis. The scope of this project is to develop Augmented Reality applications to help improve the information available in the Plantation and Agrotechnology area. Through this application there are also sounds, videos and information in the form of text to improve the apps is produced. In addition, this Augmented Reality application is suitable for students as knowledge and to promote eco-tourism at UiTM.

2. Methodology

ADDIE model is process analysis, design, development, implementation, and evaluation (Constancio et al., 2019). This analysis stage is to explore and inspect the problem statement, objective, scope and project significance. The design stage will discuss how to design the system using various diagrams, such as a flow chart, site map, and sketch storyboard. In development can also the use of some software to develop AR and Alpha testing and heuristic testing activities before the app is fully used by the scope user. The implementation is modified to ensure optimal effectiveness and successful outcomes. Evaluation is determine on what, how, why, and when of the tasks that were completed or not completed during the whole project(Kurt, 2018).

3. Results and Discussion

In this user acceptance was includes Alpha testing and heuristic testing conducted in the development phase. Alpha testing began after the initial development of the augmented reality app being tested was completed by using a checklist. Besides, the heuristic test process calls for the participation of two knowledgeable users from the UiTM Perlis teaching faculty. The process of heuristic testing requires a user who is an expert in the field of plantation and agrotechnology so that the information conveyed in AR apps can be conveyed to the user, who is the student, to achieve the objective. However, the user acceptance test from UiTM Perlis students is measured in the evaluation phase, where 30 respondents are required from UiTM Perlis students to answer the questionnaire via Google. Based on the results of the three tests, the changes are implemented and made a recommended feature for this AR for the plantation and agrotechnology area in the future.

4. Novelty of Research / Product

Plantation and Agrotechnology area was also encouraged as a tourist attraction destination as eco-tourism (Aswan, 2020). Besides, the benefits of using this Augmented reality as the best marketing for eco-tourism because UiTM students and residents can visit the whole area of plantation and agrotechnology With the use of this AR technology, virtual elements that look real can be displayed in the plantation and agrotechnology areas by providing useful information and knowledge in the field of the plantation that can create an interesting experience that replaces the old method of a notice board. Next, in AR exploration in the field of farming this can create an interesting form of technology ask regardless of age level. In this project, it can also be seen that the problem of information delivery that supports the use of AR needs to be implemented in the Plantation and Agrotechnology area.

5. Conclusion

AR for plantation and agrotechnology area at UiTM Perlis is the goal of the project was to give students information about the plantation in the plantation and agrotechnology area at UITM Perlis. This augmented reality software was developed using the ADDIE technique, which is well-known for its effectiveness in creating comprehensible and useful educational materials. The presence of AR in plantation and agrotechnology areas has the potential to boost agritourism by promoting the production of UiTM Perlis in plantations.

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