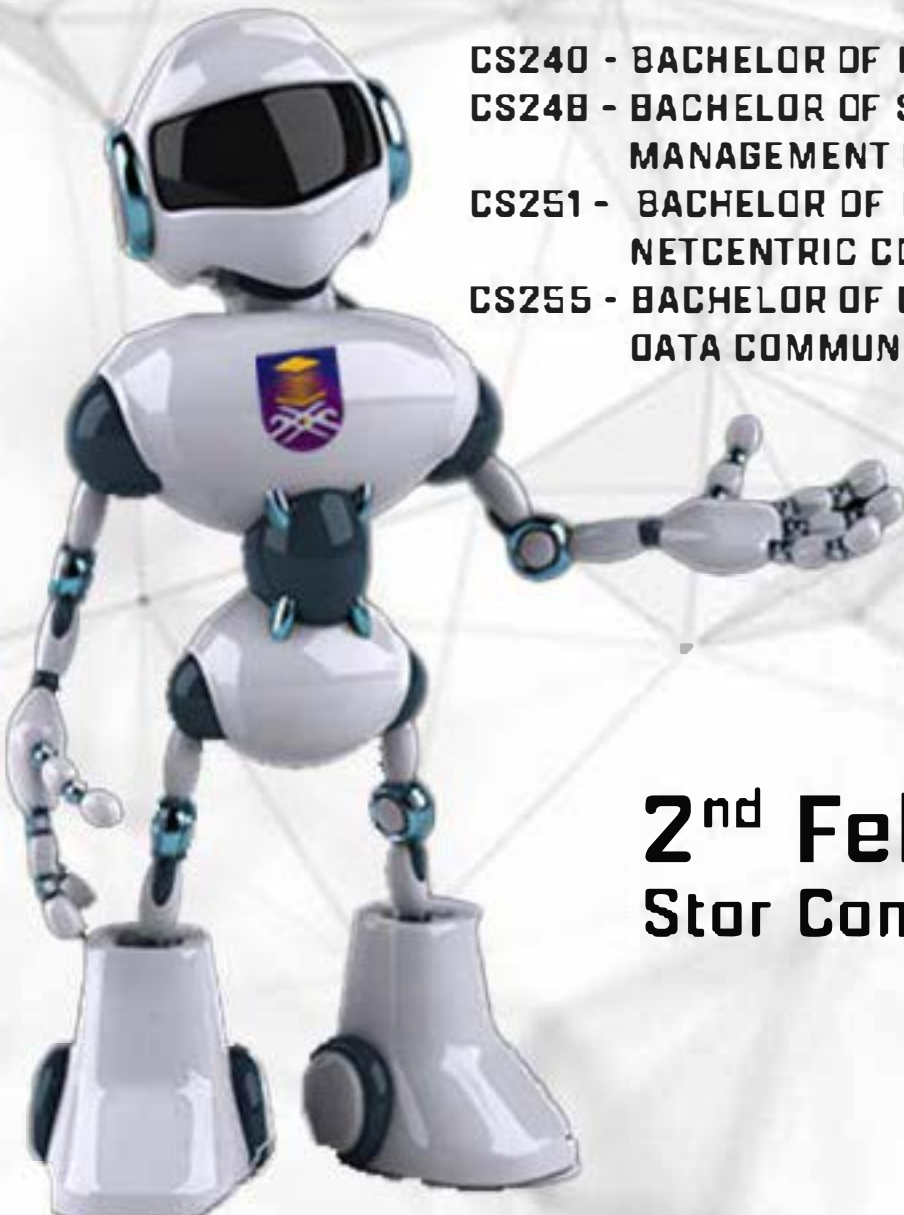

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES

REMACS 5.0



CS240 - BACHELOR OF INFORMATION TECHNOLOGY [HONS.]
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2nd 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)

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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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REMACS 5.0

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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

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EXTENDED ABSTRACTS

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES
REMACS 5.0

UITM ARAU BICYCLE RESERVATION APP WITH IMPLEMENTATION OF QR CODES (UBIKE COLLEGE)

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Abstract

Mobile technology supports to ease users daily activities. UiTM Arau in Perlis has launched a program called Ubike College where students and staff can use bicycle for free. Currently, they did not have any mobile applications that will make booking bicycles easier. The purpose of this study is to address the issue of making booking bicycles easier which is to develop a mobile application for the bicycle Reservation System with the implementation of QR Codes. The target users of the mobile application are students and staff in UiTM Arau. Integrated with QR Codes can ensure that users can use the bicycles at that time with only the need to scan the QR Codes.

Keywords: Ubike College, Mobile Application, QR Codes,

1. Introduction

Students and staff at UiTM Arau in Perlis can ride bicycles for free as part of the Ubike College initiative. There are currently no mobile applications available to make booking bicycles simpler. The objective of Ubike College mobile applications is to help solve the problems that arise that occur to the staff and students who need to reserve and use the bicycle.

2. Methodology

Data were collected from participants by Functionality Test which respondent have knowledge of system functionality. For Functionality Testing, a user had been given two sets of case diagrams which are one for the test diagram admin and the user test diagram. The user needs to test the list that had been put in the test diagram in order to know whether the system is working properly. After doing the testing phase, need to fill in the test case diagram.

3. Results and Discussion

In conclusion, overall for functionality testing all of the lists that need to be tested whether it working properly or not are successfully tested by a user. The result of functionality testing is all of the functions in the Ubike College App are working properly.

4. Novelty of Research / Product

Mobile applications are mainly developed in three ways which are native, web, and hybrid mobile applications (Ahmad et al., 2018). Having developed mobile applications such as Ubike College for students and staff in UiTM Arau can help them to book and use bicycles more easily. This makes it easier for the users to use the mobile application with the implementation of QR Codes. A QR code is a user-friendly system for quickly accessing the

target program without laborious typing, and it has become a popular and successful method of doing so (Chou & Wang, 2020). The user just can only scan the QR Codes by using the scanning that already installs in the mobile application in order to use the bicycle at that time. benefits of using QR codes in mobile application are providing more information about the product or service without sweat, and the information quickly goes to the user's device. It is because of its 360-degree readability, it can be scanned from any angle using a QR scanner on a mobile phone (Din & Fazal Fazla, 2021).

5. Conclusion

In conclusion, Ubike College mobile application can help students and staff to book and use bicycles more easily. The overall objective for Ubike College has been successfully achieved through this research, where the Mobile Application for Bicycle Reservation App with the implementation of QR Codes has been successfully developed according to plan.

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