
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]
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DATA COMMUNICATION & NETWORKING

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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

WEB-BASED FOR UiTM ARAU FOOD ORDER

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Abstract

The UiTM Online Food Ordering web-based system is a computerised system created to make it simpler for UiTM staff and students to purchase food and beverages. This technology was developed in response to the present lack of an automated system, which is depending on paper orders and long queues. The need for social isolation and the ongoing COVID-19 pandemic have highlighted the significance of a computerised system to improve cafeteria management and accessibility. The UiTM Arau Food Order System was developed using the Waterfall method, which includes stages including planning, information gathering, requirements analysis, design, development, implementation, and testing. The user experience is given top priority, and features like email integration for purchase tracking and alerts are included. The system was evaluated for usability and functionality by prospective end-users, and the response time was tested using network performance testing. With 32 respondents, the results showed that the system met its objectives and was successful.

Keywords: Food order, web-based system, integration, computerised system

1. Introduction

The purpose of this system is to make it convenient for users to purchase food and drinks. It aims to reduce the risk of human error when taking orders by eliminating the need for users to physically wait in line or place phone orders. The staff and students of UiTM Arau in Perlis are expected to use this system. The administrator may track and update order details as well as the food and beverage products that are currently available on the website, which is one of the system's most significant features because it removes the need for human order taking and boosts efficiency.

2. Methodology

The Waterfall Model technique, which divides the project development process into different phases such as Requirements Analysis, Design, Development, Testing, and Documentation, is the initial step in this project's development. The first step is known as Requirements Analysis, and it involves conducting an initial study, identifying the project's requirements, and analysing relevant information from journals and publications. Next, the Design phase which a prototype of the non-functional interface is designed to clearly demonstrate the project's structure. The next phase is development, which involves using Notepad++ to write computer code and accessing the MySQL database. The testing phase is then carried out, including usability testing with 32 respondents to assess the system for placing food orders.

3. Results and Discussion

The respondents agreed that the UiTM Arau Food Order system should replace the function of the present manual ordering procedure using paper, based on the usability and functionality tests. In terms of the proposed web-based system's user interface quality, content, and usefulness, most respondents also expressed satisfaction. Following the functionality testing, the website system operates well. This led to the successful accomplishment of objective 2 in this project, which is to evaluate the proposed

web-based system via a functional and usability test. The creation of this food ordering website also makes it possible for students and staff to place orders online, fulfilling this project's main objective.

4. Novelty of Research / Product

The UiTM Arau Food Order web-based system enables the administrator to easily view users' orders and alert users via email push notifications technology when their food is ready. This makes it more convenient for users as they are alerted about the status of their order without having to wait for their food to be prepared. This can be an effective technique to reach users and quickly deliver urgent alerts to them. Additionally, the admin also can decide whether to approve or reject requests from registered users who want to become as a merchant. This feature provides an advantage for users who are accepted by the administrator, as they can start selling on the system and have their own dashboard for monitoring sales.

5. Conclusion

In conclusion, the web based UiTM Arau Food Order system aims to improve the ordering process for staff and students by making it more convenient and effective. It has been established through testing and interface of the system that this method is efficient in achieving its goals. On the other hand, there are some possible innovations that may be done in the future, such integrating WhatsApp notifications and utilising a cloud-based database. Overall, the adoption of this system has improved accessibility for users and administrators while reducing human waiting times.

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