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RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES

# REMACS 5.0

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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**

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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 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.



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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

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RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES  
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# UNIBUKU: UiTM Book Reselling Web Application

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## **Abstract**

In recent years, global online retail activities have seen a pattern of continuously expanding, with strong growth momentum. As a result of this sort of demand, a market for second-hand products that allows for the sale and purchase of a variety of unused things has emerged. Nowadays, books are quite costly, making it difficult for everyone to get them. As a result, many are seeking other methods to receive their desired books at a lower cost, and one of the options is to buy a used book. Ideally, people have a tendency to purchase new items while discarding older ones. This is especially common among college students, resulting in the abandonment and waste of many items that are still available. Unfortunately, there are not many web applications or platforms suitable for students to sell their used or old books. The study proposes to develop a web application to sell, and purchase used books. Students who are less capable of owning a book can discover an UiTM book that the older senior resells in this web application, and it is less pricey than the new book. The Web Development Life Cycle approach was used for this web system development. Then usability testing is carried out in order to evaluate the acceptability and applicability of the UNIBUKU web application. Overall, the UNIBUKU web application met all criteria and achieved the project's goals of establishing a web application that enabled students to have a proper platform to acquire and sell their used books.

*Keywords: Second hand, Web application, Used Books, UiTM books*

## **1. Introduction**

Nowadays, books are quite costly, making it difficult for everyone to get them. As a result, many are seeking other methods to receive their desired books at a lower cost, and one of the options is to buy a used book. The objective of this project is to identify the requirements of the UNIBUKU: UiTM Book Reselling Web Application. The scope of the project is primarily focused on all students of the Faculty of Computer and Mathematical Science at the University of Technology, Mara (UiTM) to design and develop web applications, including evaluating the usability of UNIBUKU. The web application focuses on providing a platform for students to sell their old or used books. It will assist other students in overcoming the abandonment and waste of their old but still useful books.

## **2. Methodology**

Usability testing is done to see if the UNIBUKU web application is acceptable and useful in terms of user engagement and how well the features work. During the testing phase, ten people between the ages of 20 and 26 were chosen to test how well the UNIBUKU web application worked and how easy it was to use. The initial step for testers involved the system's registration process. The testing took 15 minutes for the user to explore the system. After the user completed the system testing, the developer presented a series of questions to the testers to evaluate the UNIBUKU web application's applicability and usability.

### 3. Results and Discussions

In conclusion, system requirements are determined by fulfilling both the functional and non-functional criteria of the web application design for UNIBUKU. The web application has been tested to determine whether it is capable of reaching the development objective. In addition, the System Usability Scales (SUS) were utilised to assess the UNIBUKU online application's efficacy, efficiency, and usability. According to the findings from the 10 people who participated in the survey, three out of ten of them agree that the functions on this website are well integrated. Aside from that, the remaining 70 percent of respondents are in strongly agree that the function is nicely integrated. The score for usability testing shows that the 10 respondents provided scores greater than 68, which is considered good. The UNIBUKU web application's usability performance was graded as "good," with an average score of 79.75. Overall, the UNIBUKU web application met all criteria and achieved the project's goals of establishing a web application that enabled students to have a proper platform to acquire and sell their used books.

### 4. Novelty of Research / Product

The purpose of this project is to develop a web application for students to sell and purchase used or resold UiTM books. As a result of this sort of demand, a market for second-hand products that allows for the sale and purchase of a variety of unused things has emerged. In addition to resolving the issue of users not having access to trading channels, the system is also capable of resolving the issue of users' concerns over the safety of the process of purchasing second-hand items. The benefit for senior students is that they can easily sell their old or used books. It will assist senior students in overcoming the abandonment and waste of their old but still useful books. This web application also provides a platform for senior students to advertise their old books. As for the junior student, this web application is convenient as it assists in searching for old or used books and purchasing them. This web application can save students time as they don't need to be at the store. This web application will display the availability of the books. So, it is easier for students to know if the books are still available.

### 5. Conclusion

In conclusion, the project to design and construct a web application for students that provides a platform to buy and sell secondhand UiTM books was successful in accomplishing the goals, objectives, and methodology that were set forth for the project. Both the problem of students not being able to find the right used books and the problem of students having limited budgets were solved by develop and putting them both into a single web application.

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