
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

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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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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.



RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES
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

E-VOTING SYSTEM PROJECT IN LARAVEL BASED ON WEB-BASED APPLICATION

Anis Natasha Zahimi and Ros Syamsul Hamid

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

Abstract

As part of this course requirement, the project will discuss the planning and execution of an online voting system. Voters are provided with a dependable and highly secure environment to cast their ballots through the use of internet terminals, which are personal computers, through the online voting system. In this voting method, the voter is not required to physically travel to the polling place in order to cast their vote. They are able to vote using their own personal computers immediately which can save a lot of time. There is a database that is kept up to date, and it saves all of the information pertaining to the users, including the full extent of that information. Simply filling out a registration form is all that is required for the System Administrator to register voters as they are eligible to vote. After they have registered, they will be able to vote for a certain party and candidate. The counting procedure is totally automated, therefore there is no opportunity for error or possibility for the results to be manipulated. When the analysis has been completed, the results, together with any accompanying statistical studies and graphical representations, will be published on the results page.

Keywords: online voting system, voters, registration, vote

1. Introduction

Elections are a vital component of a democratic society, allowing citizens to express their opinions through voting. The E-Voting system was created to develop an user-friendly web-based application that inspires security trust in this technology to enhance voter confidence and experience. The system is verified in Laravel that will ease up and simplify voting during an election. The E-Voting mechanism involves system administrators, voters, and candidates. It is performed inside the confines of one tiny community in certainly for election day using English language in the whole system. As a result, E-Voting requires something that all individuals possess with their own identity, specifically their identity card itself. As we know, every user will have their own unique identity card to register into the system.

2. Methodology

System development methodology as a standard process followed in an organization to conduct all the necessary transitions and to analyze design, implement, and maintain information systems. I advocated using SDLC (System Development Life Cycle) as my systems development technique in the E-Voting system. The E-Voting system was made for election day to encourage every user or voter involved in voting management. Users have to log in using their own identity card and choose their leader properly. The system required system administrators to register every voter and candidates to make sure the data of every user was kept safe.

3. Results and Discussion

In the subsequent findings, the profile of respondents was provided initially, followed by the usability of testing for assessing respondents' evaluations of E-Voting systems. Overall, the findings of this set of experiments were quite satisfactory. In the questionnaire task the users were asked to state the level of feasibility E-Voting became a good system and the outcomes were extremely satisfactory with average of 90.9% to 97.0% of respondent grading the system as the convenient system, good time management system, a complete information of system, a modern system with an alert message

provided, the voting methods with automated calculator without human errors, and the satisfaction of users to use it in future. The feedback of the electoral process is important to ensure the integrity and impartiality of an election. Although there is slight improvement to do, the system structure helps every user to simplify their electoral process. Thus, E-Voting is an electoral process that should be retained and protected.

4. Novelty of Research / Product

There have been a number of research that have investigated how E-Voting system develops, particularly those intended for society, highlighting issues such as how to build a remote voting system that allows voters to vote remotely and facilitates access on election day (Meor Muhammad Kamal Meor Muhammad Sulaiman, Mohd Fairuz Iskandar Othman, Wahidah Md Shah, Aslinda Hassan, Norhayati Harum, and Ibrahim Mohammed Alseadoon, 2021). Previous research about how to utilize wireless and web technology makes the voting process exceedingly simple and efficient was done through the perspective on how convenient the system is for society (Rajesh M. Ghadi, Priyanka S. Shelar, 2017). There have also been several research on ways of against the manipulation of the findings throughout the publication process (Shankar, Pandiaraja. Sumathi, Stephan & Sharma, 2020). In addition, the research about to learn how RT managers manually handle assets, events, and finances, watch firsthand the asset loan transaction procedure and the recording of minutes and data gathering at each event also been recorded for implementation of E-Voting system (Johan Setiawan, Arif Faizal Rahman, Bambang Sugiantoro, 2020)

5. Conclusion

The development of E-Voting has been tested in several studies and utilised with legal standing. One of the most intriguing parts of my methodology is the fact that I make use of Laravel as my application framework. The system's usability has been exhaustively evaluated to ensure its success. It is undeniable that the testing results provide the opportunity for E-Voting to build a reliable voting system in society.

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