
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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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

AN ISLAMIC MULTIMEDIA LEARNING APPLICATION OF MENSTRUATION FOR ADOLESCENT GIRLS

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Abstract

Currently in Malaysia, adolescent girls learn about menstruation from the internet and school textbooks such as in Islamic Education and Physical Education and Health subjects. Although they are taught about menstruation and hygiene care, the textbooks contain so little information about menstruation from an Islamic perspective. In an effort to raise awareness about hygiene care of menstruation for Muslim adolescent girls, there should be more engaging digital learning materials. The Islamic multimedia learning application, entitled 'Lily' was created as a prototype for educating early adolescent girls on hygiene care and prohibitions during menstruation based on Islamic teaching. The user experience test was conducted over a period of two weeks with 26 girls where they were required to explore Lily thoroughly, then they were administered with the User Experience Questionnaire. The UEQ consisted of 26-items to measure their feedback regarding their experience after using the application. It was discovered that Lily received a positive mean score in all six major areas of user experience which are Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation and Novelty.

Keywords: menstruation, adolescent girls, multimedia learning application, Islamic taught.

1. Introduction

The objectives of this project are to design and develop an Islamic multimedia learning application of menstruation for adolescent girls and to evaluate the user experience of this multimedia learning application. In an effort to raise awareness about hygiene care of menstruation for adolescent girls from Islamic taught, there should be more engaging learning materials. The research scope of this project is to develop a multimedia learning application that can act as an alternative media to educate on hygiene care and prohibitions during menstruation based on Islamic taught.

2. Methodology

Data were collected from participants by using the User Experience (UX) testing with respondents who were adolescent girls aged between 10 - 15 years old. Before the testing, the Consent Form was given to their guardians. Once agreement was received from their guardians, the testing was conducted. To use the Lily multimedia learning application, the respondents were provided with a tablet to use the application. The respondents were allotted around twenty to thirty minutes to explore all the learning modules and other features. Then, after 30 minutes, the researcher sat down with them to assist them while answering the User Experience Questionnaire (UEQ).

3. Results and Discussion

A total of 26 people participated in the User Experience (UX) testing are early adolescent girls aged from 10 to 15 years old. In the first phase of the survey, personal information about the participant, like name and age, was collected. The User Experience Questionnaire (UEQ) scales' results of mean after doing User Experience (UX) testing on the Lily multimedia learning application. All of the mean values show positive results, the highest mean value is 3. The questionnaire's scales provide a comprehensive impression of user experience. Both traditional usability (efficiency, perspicuity, dependability) and user experience (attractiveness, novelty, stimulation) are assessed. Based on the result, it can be

concluded that all the respondents were satisfied with the features and modules in the Lily, indicating that they had a pleasant experience with it.

4. Novelty of Research / Product

Lily serves as a digital learning tool that aims to raise knowledge and awareness about hygiene care during menstruation for early puberty adolescent girls based on Islamic taught. Lily is equipped with engaging video and graphics to attract young learners' attention to such important topics in any Muslim family. Lily is a novel product because it comes in the form of a mobile application that contains multimedia elements to specifically educate Muslim girls about hygienic and healthy lifestyle during menstruation based on Islamic teaching, something that cannot be learned effectively through textbook.

5. Conclusion

The Lily multimedia learning application was successfully created to serve as a better source of learning material for educating early adolescent girls on hygiene care and prohibitions during menstruation from a single source based on Islamic teaching. The first phase of user experience testing revealed that the participants were delighted and had an enjoyable experience while learning from it because it received positive mean scores for Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation and Novelty.

REFERENCES

- Coast, E., Lattof, S. R., & Strong, J. (2019). Puberty and menstruation knowledge among young adolescents in low- and middle-income countries: A scoping review. *International Journal of Public Health*, 64(2), 293–304. <https://doi.org/10.1007/s00038-019-01209-0>
- Allen, B., & Waterman, H. (2019, March 28). Stages of adolescence. *HealthyChildren.org*. Retrieved April 25, 2022, from <https://www.healthychildren.org/English/ages-stages/teen/Pages/Stages-of-Adolescence.aspx>
- Sosnowski, J. (2016, September 29). Advantages & Disadvantages of schools using multimedia. *Education*. Retrieved May 9, 2022, from <https://education.seattlepi.com/advantages-disadvantages-schools-using-multimedia-3099.html>
- Ikbali, I., Nurdiana, L., Luckyardi, S., & Rafdhi, A. A. (2022). Development of menstrual multimedia learning applications and its issues for Muslim women on mobile-based. *Jurnal Teknologi Informasi Dan Pendidikan*, 14(2), 185–191. <https://doi.org/10.24036/jtip.v14i2.449>
- Mayer, R. E. (2021). *Multimedia learning*. Cambridge University Press.
- Zheng, D., & Hogan, S. (2021, March 2). User experience testing: UX methods and Tools. *The Daily Egg*. Retrieved June 13, 2022, from <https://www.crazyegg.com/blog/user-experience-testing/>

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