IMPLEMENTATION OF INTERACTIVE EBOOK FOR STPM GENERAL STUDIES TOPIC

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SESI PENGAJIAN: 2020 / 2021

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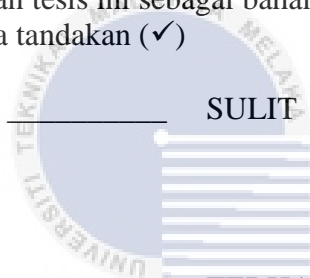
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Tarikh: 6 September 2021

IMPLEMENTATION OF INTERACTIVE EBOOK FOR STPM GENERAL STUDIES TOPIC

IZZAH SHAIRAH BINTI KHAIRUDDIN

This report is submitted in partial fulfillment of the requirements for the
Bachelor of Computer Science (Interactive Media) with Honours.

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2021

I

DECLARATION

I hereby declare that this project report entitled

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STUDIES TOPIC

is written by me and is my own effort and that no part has been plagiarized

without citations.

STUDENT　　　: _____　Date : <u>6 September 2021</u>

IZZAH SHAIRAH BINTI KHAIRUDDIN

I hereby declare that I have read this project report and found

this project report is sufficient in term of the scope and quality for the award of

Bachelor of [Computer Science(Interactive Media)] with Honours.

SUPERVISOR　　: _____　Date : <u>6 September 2021</u>

TS AHMAD SHAARIZAN BIN SHAARANI

DEDICATION

I dedicate this report to my beloved parents. My parents have always been there for me when I was on the edge of giving up. They provide me with education access that helps me reach my current level successfully and never stop supporting my studies.

ACKNOWLEDGEMENTS

I want to convey my most tremendous thankfulness to Allah SWT for the process for me to complete this project. I won't be able to finish my endeavour without Allah blessings.

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Finally, I would like to express my appreciation to my cherished friends. They never give up on making me feel motivated and helping me turn this project into a successful project.

Thank you.

IV

ABSTRACT

Interactive eBook for STPM General Studies Topic is an interactive eBook developed for all STPM students, regardless of their chosen stream, as the subject is a compulsory subject. This interactive eBook was designed to help the students in their learning process and help teachers use the interactive eBook as their teaching material. The most common students' popular viewpoints on the subject are difficult to comprehend, and there is a lack of multimedia material to aid their comprehension of the subject. Therefore, the project's goals of exploring the aspects and requirements and developing an interactive eBook for the General Studies subject were also met. This interactive eBook also assesses students' perceptions on using the interactive eBook as a learning tool for General Studies subject. This eBook provides interactive features such as interactive graphics, video, audio, gallery, and quiz, which help students increase their understanding of the subject. This interactive eBook only covers for semester two syllabus. The platform used for the development of this eBook is Adobe InDesign from Adobe. Adobe InDesign can produce a variety of features, elements, and requirements for interactive eBooks. The ADDIE model is used for the project methodology. The project methodology is done by planning the projects thoroughly and executes through the phases set to complete the project. The analysis of the project is done by making a comparison of the project with the existing project. The expected outcome of the study is that improvements can be analysed and applied to develop the project. Thus, modifications were added for a better result of the eBook during the final stage. The project progressed smoothly, and all of the project's objectives were met. This interactive eBook has the potential to be a new platform for making learning and teaching more fun.

ABSTRAK

eBuku Interaktif untuk STPM Pengajian Am Topik adalah eBuku interaktif yang dibangunkan untuk semua pelajar STPM, tanpa mengira aliran pilihan mereka, kerana subjeknya adalah subjek wajib. eBuku interaktif ini direka untuk membantu pelajar dalam proses pembelajaran mereka dan membantu guru menggunakan eBuku interaktif sebagai bahan pengajaran mereka. Sudut pandangan pelajar yang paling umum mengenai subjek adalah ia sukar difahami, dan terdapat kekurangan bahan multimedia untuk membantu pemahaman mereka mengenai subjek tersebut. Oleh itu, matlamat projek untuk meneroka aspek dan keperluan dan membangunkan eBuku interaktif untuk subjek Pengajian Am juga tercapai. eBuku interaktif ini juga menilai persepsi pelajar terhadap penggunaan eBuku interaktif sebagai alat pembelajaran dalam subjek Pengajian Am. eBuku interaktif ini menyediakan ciri-ciri interaktif seperti grafik, video, audio, galeri, dan kuiz interaktif, yang membantu pelajar meningkatkan pemahaman mereka mengenai subjek. eBuku interaktif ini hanya merangkumi sukatan pelajaran bagi semester dua. Platform yang digunakan untuk pengembangan eBook ini adalah Adobe InDesign dari Adobe. Adobe InDesign dapat menghasilkan pelbagai ciri, elemen, dan keperluan untuk eBuku interaktif. Model ADDIE digunakan untuk metodologi projek. Metodologi projek dilakukan dengan merancang projek secara menyeluruh dan dilaksanakan melalui fasa yang ditetapkan untuk menyelesaikan projek. Analisis projek dilakukan dengan membuat perbandingan projek dengan projek yang ada. Hasil kajian yang diharapkan adalah bahawa penambahbaikan dapat dianalisis dan diterapkan untuk mengembangkan projek. Oleh itu, pengubahsuaian ditambahkan untuk hasil yang lebih baik semasa peringkat akhir. Projek ini berjalan lancar, dan semua objektif projek tercapai. eBuku interaktif ini berpotensi menjadi platform baru untuk menjadikan pembelajaran dan pengajaran lebih menyeronokkan.

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LIST OF ABBREVIATIONS

STPM	**-**	**Sijil Tinggi Pelajaran Malaysia**
SPM	**-**	**Sijil Pelajaran Malaysia**
ADDIE	**-**	**Analysis, Design, Develop, Implement, Evaluate**
EPUB	**-**	**Electronic Publication**

CHAPTER 1: INTRODUCTION

1.1 Introduction

In this era, with the speedy growth of technology, online learning has started to be implemented as part of the learning method in a particular school. However, most schools are still using the traditional book, and only a tiny amount of the eBook is implemented there. Hence, digital eBooks should be implemented in the school to advance parallel with the advancement of the current technology.

The eBook helps bring a refreshing and enjoyable learning method. As eBooks can be viewed in the form of an interactive book, many students find using the eBook helps them focus on the subject. The eBook may differ from the typical traditional book as the eBook contains various types of multimedia features. An eBook can provide videos, graphics, audio, animation, and an interactive pop quiz to help the students learn more interactively. The usage of multimedia elements helps in creating a more effective way of knowing for the interactive book. Based on the previous study by Roberts (2018), images promote greater engagement and comprehension than text alone. The findings also back up the theory that using appropriate visuals in combination with less text boosts students' engagement and comprehension of an academic subject. Thus, this eBook has much better potential for the students to enjoy the learning process and focus on rather than the traditional book.

The *Sijil Tinggi Persekolahan Malaysia* (commonly known as the Malaysian Higher School Certificate or STPM) is a one of the many possibilities available programme after the completion of SPM. SPM or also known as the *Sijil Pelajaran Malaysia* is a national test for all form 5 students in Malaysian government schools that follow the education pathway. General Studies (also referred to as *Pengajian Am*) is a compulsory

subject for all STPM students. This subject is also known as one of the most challenging subjects as the subject required the ability to think critically, creatively, and innovatively. The goal of General Studies is to generate students who are mature-minded, skilled, moral, and able to contribute to their own well-being and the well-being of the nation. Students can apply awareness of human experience and the environment through this subject, including one's heritage. In addition, the subject also could cultivate a sense of love for the country, responsibility for oneself, others, community, society, and respect for other cultures and societies.

The eBook of the subject is a restorative material and tool both for the teachers and the students. The eBook will be able to ease the process of teaching and learning. Through the eBook, the average lesson turn into an enjoyable task during the class session. The eBook also will be helpful for the students to review when preparing for the examination in a more fun way. Therefore, an eBook will be an excellent alternative to bring a new experience of studying a tricky subject to become a more delightful experience.

1.2   Problem Statement

Nowadays, all information can be found easily through the internet. Despite the ease of finding information, the multimedia materials for General Studies subject were quite rare and hard to find. As the General Studies subject is compulsory, some students think the General Studies subject needs a more interactive eBook that helps better understand the issue.

The students' popular viewpoint on the subject is difficult to comprehend as the subject is very complex. Besides that, due to lack of interactive eBooks affects their comprehension of the subject. All of this shows that an interactive eBook for STPM students for General Studies will help to assist STPM students' learning process.

Apart from that, the subjects tend to have more text rather than visuals. Due to that, the issue is always deemed uninteresting by certain students, especially those who dislike reading. However, through an interactive eBook, the students will overcome the stigma and see the subject better.

1.3 Objective

This project pursues the following objectives:

1. To explore the elements and requirements for interactive eBook development.

2. To develop an interactive eBook for the General Studies subject.

3. To evaluate the perception of the students towards using the interactive eBook as a learning tool in the General Studies subject

1.4 Scope of the Project

This project is developed for STPM students and teachers to help them enhance the learning and teaching process for the General Studies subject for semester two. The eBook contains various interactions and features that help the students understand the subject deeper. Due to this, the students could increase their knowledge and shorten valuable information to help them understand the subject more simply. Moreover, the eBook can also help the teacher convey the syllabus more interactively, attracting the students to learn in a fun way.

STPM students have overall three semesters for their studies. This project only includes the syllabus of General Studies for semester two. The syllabus includes two main topics which is *Alih Bentuk Komunikasi* and *Malaysia,Maju Dan Sejahtera.* As for the first topic, *Alih Bentuk Komunikasi*, the topic focuses on the know-how to draw graphs. While for the second topic, *Malaysia Maju Dan Sejahtera* covers the importance of progressive Malaysia in multiple sectors. The project provides interactive notes and tips for each chapter. Furthermore, the eBook also offers few examples of the past-year questions to help the students get used to the examination format in an enjoyable manner. The past year questions were taken from the book called *Model Kertas Peperiksaan Pengajian Am STPM Semester 2 (Versi 2020)* published by the Local Publications (M). The past year questions provided from the book can be used and referred as for the development of the project. There are also some animated videos provided that tell the learning outcomes for each topic. The eBook also includes few quiz questions by the end of each topic.

1.5   Project Significant

The project's significance is developing an eBook for the STPM General Studies Topic for semester two. Additional interactions enhanced the appeal of the existing physical learning book through this eBook. The eBook helps the students grasp the content of the General Studies subject through the multimedia elements shown in the interactive eBook. The usage of interactive graphics, videos, audio, interactive quiz, and other features attract the viewers' attention and keep them focused when using the eBook.

The project aimed to helps the students improve their knowledge and ease the teachers in delivering the subject's content. The project's expected outcome is that the students and teachers can use the eBook for their learning and teaching process. Through the interactive eBook usage, the students and teachers can have a fun and relaxing method to learn and teach. Plus, the eBook can be accessed at any time and from any location.

1.6   Conclusion

The chapter explains the eBook overview for the General Studies subject. As digital devices are the norm nowadays, this eBook will be beneficial and easy to access both for the students and the teachers. From the problem statement until the project significance, all the information and the details have been stated. The problem statement shares the concerns of the students regarding their understanding of the subject.

At the same time, the objectives explain the main aims of the project that needs to deliver. Next, the scope talks about the target users of the eBook. Then, the project significance brief about the benefits that will be gain throughout the eBook. Lastly, these promising eBook results are helpful and enjoyable to use regardless of the user and time.

The next chapter explained the literature review of the project. The chapter also presented the details about the project methodology used for the project and the existing system was compared with the project to identify the differences and changes are made that improved the development of the interactive eBook.

CHAPTER 2:   **LITERATURE REVIEW AND PROJECT METHODOLOGY**

2.1   Introduction

The primary purpose of this chapter is the explanation of the literature review and the project methodology. In addition, there was a comparison and observation between this project and the existing project. Furthermore, a few details are pointed out about the current project and this project. All data were compiled from multiple sources such as a journal to prove the literature review in this chapter.

The methods that have been applied in the development of the project were also be explained. Also, there is an explanation of the software and hardware requirement that have been used for the eBook.

2.2   Domain

Form Six is the educational avenue for SPM school leavers to grow talent and innovation to become a generation that will significantly affect both inside and outside of Malaysia. The new STPM assessment framework included a total of twenty-two subjects. However, students could only choose four or five subjects, one of which was General Studies, also known as *Pengajian Am,* which is compulsory to be taken by every student. Since this subject is essential and compulsory to pass the examination, the students need to be diligent in reading. Although many STPM General Studies reference books can be purchased in bookstores, general knowledge greatly influences student achievement in the STPM examination.

Due to that, eBook is developed to create learning and teaching materials packed with multimedia elements. This project aims to eliminate the barrier between the users and the stigma of books. This eBook can become an inventive outturn as the interactive eBook allows users to read the eBook and interact as preferred. This project enforced a new way of creating an eBook packed with information and enjoyable compared to the traditional book.

In the long run, Harman (2018) argues that there are nine benefits of interactive eBooks. Firstly, interactive eBooks have better engagement compared to the physical books. By incorporating technologies, the user can use interactive content such as images, audio, and video, resulting in higher levels of engagement with the content. Secondly, interactive eBooks can easily be upgrades. Unlike paper books, interactive eBooks can be upgraded with minimal effort whenever necessary and make the eBook simple to incorporate multimedia into the content. Thirdly, interactive eBooks have better retention. Traditional learning approaches are limited to physical books. These approaches lack interactivity, limiting them to only reading and learning when necessary. On the other hand, interactive eBooks enables a user to incorporate technology for retention and contextual learning.

As the fourth benefit, interactive eBooks could create a collaboration between professors and students. Some digital publishing platforms allow professors and students to collaborate directly through the eBooks themselves. When students have difficulties understanding concepts, the students can highlight and make a comment on the eBook, which the professor can address the issues afterwards. Fifthly, interactive eBooks have better accessibility compared to the physical book. Interactive eBooks available on various devices, including mobile phones, e-readers, and computers. Sixthly, an eBook is also a contextual and realistic learning experience. Integration of multimedia into interactive eBooks can make the content more contextually meaningful and easier to relate to. Students can learn by watching various multimedia features thanks to the integration of technology. All of this enhances the learning experience by adding a layer of knowledge over facts.

The cost-effectiveness of possessing an eBook is the seventh benefit. Putting out a physical book is a costly endeavour. The quantity and quality of the paper have a significant impact on the cost. On the other hand, creating an eBook is more cost-effective because reduces all these costs and can update the material without reprinting the interactive eBook moreover, numerous use cases. The eighth advantage of using interactive eBooks is that the interactive eBooks may be used in a variety of applications. Interactive eBook has a wide range of applications due to the interactive eBook ability to increase interaction. Finally, the interactive eBooks may provide the assessment and quizzes. The students may use the interactive eBook to answers quizzes using the functionality provided in the eBook.

2.3   Existing System

The main objective of the project is to develop an eBook for the General Studies subject. Therefore, a comparison between multiple projects is needed to recognise the strength and weaknesses of each of them. The three projects which similar with this project are: (i) *Ace Ahead Teks STPM Pengajian Am Semester 2 Edisi Keempat*, (ii) *Nota Ringkas STPM Pengajian Am Penggal 2* and (iii) *eBook Subscribe Online:Model Kertas Peperiksaan Pengajian Am STPM Semester 2 (Versi 2020)*. This stage helped improve the missing part in developing the eBook. Furthermore, the platform for the eBook play a vital aspect in attracting users. Thus, the existing content was analysed in this project to gain an outline for developing the project.

2.3.1 *Ace Ahead Teks STPM Pengajian Am Semester 2 Edisi Keempat*

The first similar content with the project is *Ace Ahead Teks STPM Pengajian Am Semester 2 Edisi Keempat*. This book is a physical book that needs to be purchased to use the book. This book provides detailed notes of the subject throughout every chapter. The book also includes sample questions that can help the students to understand the exam scheme of the General Studies subject. The publisher of this book has published three editions before this. This book is the latest edition of the book based on the newest scheme of the subject.

Figure 2.1 below shows the front cover of the traditional reference book of the General Studies subject. The content of this book are mind maps notes, infographics and the text were arranged in point form. Regarding the exercises, the publisher provides a space to fill in answers at the side of the notes related to the chapter. The publisher also includes clones' questions that resemble the actual format of the STPM examination and the model of the questions paper.
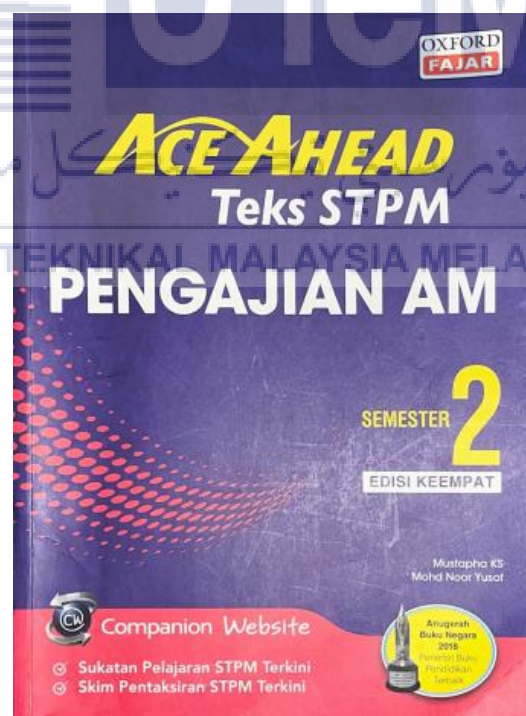

Figure 2.1 Front Cover Book of *Ace Ahead Teks STPM Pengajian Am Semester 2 Edisi Keempat*

(Source: Oxford Fajar)