TESIS^ APPROVAL STATUS FORM

JUDUL: E - LEARNING MATHEMATICS SUBJECT FOR UPSR

SESI PENGAJIAN: 2004 / 2005

Saya MOHD YUSOF BIN ZINALDIN
(HURUF BESAR)

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E-LEARNING
MATHEMATICS SUBJECT FOR UPSR

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This report is submitted in partial fulfillment of the requirements for the
Bachelor of Information Technology (Software Development)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA
2004

ADMISSION

I admitted that this project title name of

E-LEARNING MATHEMATICS SUBJECT FOR UPSR

is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT : _____ Date : 26/10/2004

(MOHD YUSOF BIN ZINALDIN)

SUPERVISOR : _____ Date : 26/10/04

(MUHAMAD SYAHRUL AZHAR BIN SANI)

DEDICATION

To my beloved parents and family that always give me enthusiasm...

ACKNOWLEDGEMENTS

The main objective of this 'Projek Sarjana Muda' is to gain first-hand experience of project working as an engineering professional, including the technical application of engineering methods. This is important for students to provide themselves to faces these new challenges and to ensure that they abide by the rules and regulation of KUTKM and the project criteria. So, KUTKM students will undergo the project successfully, effectively and to the best of their ability while maintaining the good name and reputation of KUTKM.

I'm would like to express my appreciation to the many people who have contributed to the successful completion of this project. Most especially, I would like to thank my faculty supervisor En. Muhamad Shahrul Azhar bin Sani supervise me during my 'Projek Sarjana Muda'.

Special thank you goes to my parents and family that always give me enthusiasm for me to carry out this project. Thanks for my all section mate for giving advice and assist me for this project.

Lastly, thanks for all that involve with this project directly or indirect and generosity of sharing their time and wisdom.

ABSTRACT

'E-Learning - Mathematics Subject for UPSR' is e-Learning software that builds for students and teachers for UPSR. Users can interact and navigate with the project. Its also attract student to learning Mathematics. This project is to be an alternative reference material for student and teachers. The project will developed follow the current syllabus for UPSR. There is eight capture cover in this project. This project only contains the Mathematics UPSR lesson and it is standalone application. This project built because teachers have problem to attract student to learn and score the mathematic subject and they don't have any interesting matters that can be used for teaching. Student don't have many option for their reference unless the exercise books and text books and the current software are not enough interactive and can't interact student to use them. Waterfall methodology is use for project methodology. Educational systems in Malaysia provide good advantage for business rules. This project will give alternative to educational environment and because of that, the quality of educational system in this country will be decrease.

ABSTRAK

'E-Learning - Mathematics Subject for UPSR' adalah satu perisian e-Pembelajaran yang dibangunkan untuk murid-murid serta guru-guru UPSR. Pengguna dapat melakukan interaksi dan navigasi dengan perisian ini. Ia juga dibangunkan untuk menarik minat murid-murid untuk mempelajari matematik. Projek ini dapat dijadikan sumber rujukan murid-murid dan guru-guru. Ianya dibangunkan mengikut silibus terkini matapelajaran UPSR. Lapan topik terangkum dalam projek ini. Projek yang dibangunkan hanya mengandungi pelajaran matematik untuk UPSR serta ianya adalah satu aplikasi yang tidak bergantung kepada rangkaian serta perisian lain. Projek ini dibangunkan kerana guru-guru menghadapi masalah untuk menarik minat murid-muridnya mempelajari matematik dan guru-guru sendiri tidak mempunyai cukup bahan untuk mengajar. Pelajar pula tidak mempunyai banyak bahan rujukan dan hanya bergantung kepada buku latihan dan teks untuk belajar. Perisian yang ada sekarang juga tidak cukup interaktif untuk menarik murid-murid mnggunakannya. Metodologi Air Terjun (Waterfall Model) digunakan untuk membangunkan projek ini. Projek ini mengambil kelebihan dalam sistem pendidikan di Malaysia untuk kajian perniagaaan. Denan adanya projek, ia akan dapat memberi kelainan di dalam bidang pendidikan dan seterusnya meningkatkan lagi kualiti sistem pendidikan negara.

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CHAPTER I

INTRODUCTION

1.1 Preamble/Overview

The developing of Information Technology today is faster and can't turn down anymore. Integrations of Information Technology in globalizations, trading, commerce, banking and also educational have to be more important, and the uses of computers for carried out the data communication already widespread. This situation cause the Information System is built, repaired and upgraded time to time for increase their capability, usability and adapted to nowadays environment. This situation is following of people needs that want the new information faster and reliable.

The 'E-Learning - Mathematics Subject for UPSR' is an application that built for primary school student for their Mathematic subject. This application is following the e-Learning concept which the user can interact and navigate with this system. The application is used by UPSR candidates and Mathematics' subject teachers.

The project is developing to take good opportunity to enhance the e-Learning application in Malaysia. Following by research in case study, there is a few numbers of e-Learning applications which it is built in Malaysia. Not enough for that case, we can saw

very few suppliers sold this kind of e-Learning application. By the way, it was easy to introduce people to use this application by the widespread publicity.

1.2 Problem statements

Through the research that has been doing before, the problems that identify with current situation are:

i. Teacher have problem to attract student to learn and score the mathematic subject.
ii. Teachers don't have any interesting matters that can be used for teaching.
iii. Student don't have many option for their reference unless the exercise books and text books.
iv. The existing e-Learning software today are not enough interactive and can't interact student to use them.
v. The existing e-Learning software today is under control of Ministry of Educational Malaysia. So, it's difficult to find it at market.

1.3 Objectives

Following are the objectives for the project:-

i. Developed an interactive application that allowing users to interact and navigate with the application.
ii. Attract student to learning Mathematics.

iii. The application is to be an alternative reference material for student and it will reduce the student's depended on text book.

iv. The application is to be an alternative teaching material for teachers that teach mathematic for UPSR.

1.4 Scopes

Project scope gives an important role for preparing limitation of the developed project. Following are the scopes for the project:-

i. Application will developed follow the current syllabus of Ministry of Educational Malaysia and Malaysian Examination Council for UPSR.

ii. The syllabus that related with this application is Number, Add, Minus, Multiply, Divide, Percent, Decimal and Average only.

iii. This application contains the Mathematics UPSR lesson only.

iv. This application is standalone application. It not depends to other support software and hardware.

1.5 Contributions

The project is expected to give lot of advantage and interest in educational environment. The interactive application not only have interact student to learn Mathematics but it also can give teachers new teaching materials. It's also provided current syllabus of Mathematic UPSR.

With developed of this application, parents also can encourage their children to learn Mathematics at home. Parents who not be able to send their children to tuition and additional classes also can prepare learning material that easy to used and cheapest compare to others.

Students also can reduce relies on text book and reference book. The application expected can attracts student to learn mathematics well and result in mathematic subject will be excellent. Therefore, this developed of this application not only encourage spirit of learning mathematics between students but also it can stable the educational system in this country.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

E-Learning can be defined as software that related by the educational process worldwide, referring to smart learning and information delivered with related technologies. In a broader sense, the term characterizes not only a technical development, but also to improve educational locally, regionally, and worldwide by using information and communication technology.

2.2 Fact and finding

The method of how the current project information is collected is very important to describe and decide. Uses of interview method will give an opportunity to exercise conceptual, quantitative and analytical reasoning skills to arrive at the best solution. But solid quantitative skills aren't the only thing looking for. There are interested in leadership experience, communication skills, creativity and flexibility, as well. The best surveys contained methodological questions and questions which were shaped and asked in a way that reflected a clear purpose.

Interview a few people whose is responsibility and involve in the project development. Many kind of the interview are informal ways. There has takes the informal ways because it is a good decision to collect more information and analysis the requirement.

Below, there have divides into four stages of the interview session. There are:-

i. Introduction

The common exchange of names, small talk, casual questions that are escorted to the place of the interview is first chance to impress. The purpose is to establish rapport and put both parties at ease. First, should have some small talk topics prepared.

ii. Broad Question and Answer

The interviewer will begin to ask questions about self task of works and other items that related with project. There have also been asked questions about the task in overall view, opinion and suggestion.

iii. Focus on the position

There have concentrates more on the details of the analysis phase. It will be able to discuss how experiences and qualifications fit the requirements of the project. There should ask pointed questions about the previous research.

iv. Conclusion

There will summarize what has been said and clarify any questions may have. This is when need to reiterate interest in this project development and stress again how are uniquely qualified for the scope of the project.

For this study, case study methodology is employed, which can afford the ability to study the phenomenon in-depth and describe the project in real world.

2.3 Conclusion

The literature study in previous system could give more references in system development process. All the advantages in the previous system can be implementing in the system development. The characteristic of the previous system such as interface and module flow should be improve and enhance from the previous system.

The main concept of the project is e-Learning application. Because of that, this project must have the user friendly interface with method that can allow users to navigate with system optimally. For example, this project should have attractive interface that can attract the users and avoid them to feel bored with the application. This project also should have the function that obeys the users to navigate the system with easy way.

CHAPTER III

PROJECT PLANNING AND METHODOLOGY

3.1 Introduction

This project is applying the waterfall model in development and implementation process. Although there are many variations on the theme of the system development lifecycle, each approach has its own characteristics such as specific activities, techniques, outcomes are associated with each stage, and progression between stages is orderly and proceeds in a linear fashion.

In this application development, work completed in each stage is passed on and becomes the input basis for work at the next stage. At each point of transfer between stages it is possible that miss-communication may occur and therefore assumptions used for the work in a particular stage may be based on an incorrect understanding. There is little opportunity to back up and correct problems that are propagated this way.

3.1.1 Importance of work planning

The work plan itself is a written statement which identifies the work which needs to be accomplished by an individual to successfully achieve the aims of work. It makes use of available expert knowledge and attempts to maximize the

quality of work which is done. Work planning is a structured process which helps individuals defines the unique identities, distinctive purposes and critical relationships within their environments. Work planning assesses individual strengths and limitations and analyzes potential opportunities or threats within systemic relationships. Ultimately, planning clarifies purpose and determines direction.

The work planning process may be used in a variety of formats or plan designs ranging from short-term action plans to long-term positioning strategies. The plan delineates purposeful activity with objectives, practical steps or tasks, time frames and performance measures. All of these activities are designed to be accountable to objectives and declared goals.

3.2 Project Methodology

A methodology is a set of documented series of activities that need to be executed in order to complete a complex job. There are many types of methodology used in project development such as Waterfall Model, System Development Life Cycle (SDLC), Spiral Model, Prototyping Model, Formal Transformation Model and Rapid Application Development Model (RAD). The methods imply in each methodologies have it significances and have their own functionality and advantages.

For this project, the Waterfall Model will be implementing. The Waterfall model divides the project into well-defined sequential phase with intermediate milestones. Apart from this, waterfall is a system approach to problem solving and consists of several phases. This methodology consists of six main phases that are Requirement Phase,

Design Phase, Implementation Phase, Integration Phase, Evaluation Phase, and Maintenance Phase as state in **Figure 3.1.**

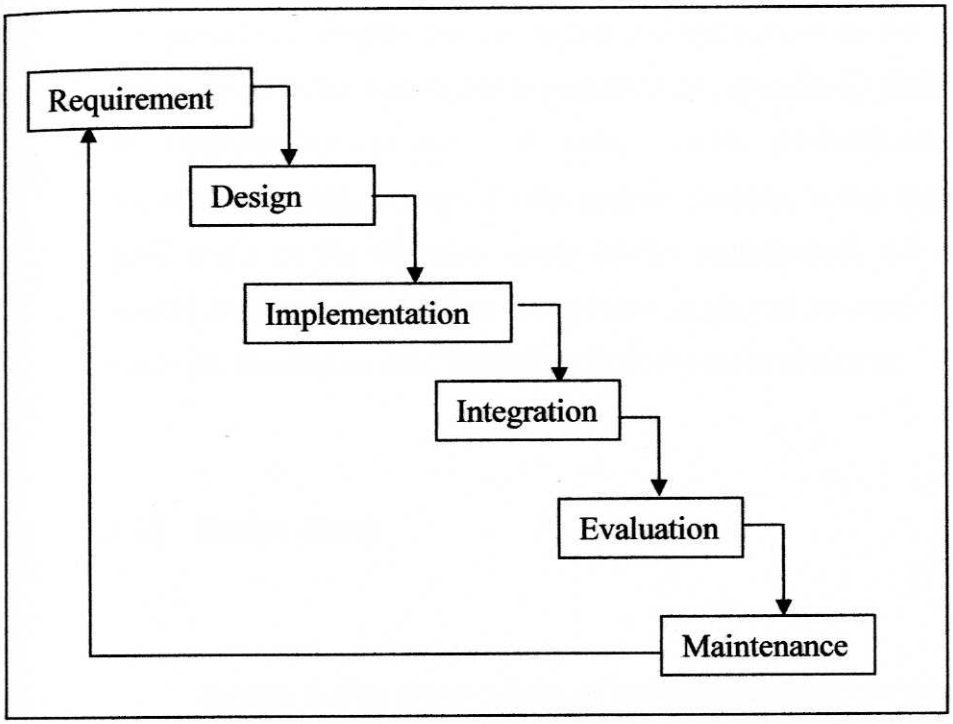

Figure 3.1: Waterfall Model Methodology

In this model, the stages of software development occur in a specific order, with each successive phase being completed before work begins on the next phase. All of this is to ensure the quality, reliability, and maintainability of the developed software. The progress of the project can be easily evaluated at the end of each phase and an assessment can be made to determine whether to proceed to next phase or adjustments need to be made.