

THESIS^ APPROVAL STATUS FORM

JUDUL: Fairy Tales – Read and Play : Read – Along And Generate Mental Skills

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Fairy tales - read and play : read-along and generate
mental skills / Azilina Md Buang.

**FAIRY TALES – READ AND PLAY :
READ – ALONG AND GENERATE MENTAL SKILLS**

AZILINA BTE MD. BUANG

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

**FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA
2006**

DECLARATION

I hereby declare that this project report entitled

FAIRY TALES – READ AND PLAY

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

STUDENT : *Azilina* Date : 24 March 2006
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DEDICATION

To my beloved parent, your love and support are my greatest inspiration.

To my friends, for your sacrifices, encouragement, and support towards project accomplishment.

To my lecturer, for being receptive and critical, and provide guidance and advice.

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Finally, I owe special thanks to my parents who always support me during the period I work on this project. For those whose name is not stated, I would like thanks all the help and support that give to me in performing the PSM.

ABSTRACT

As one of the efforts to the development and the usage of information technologies as a strategic education tool, Fairy Tales – Read and Play will be develop. This project was to design and develop an electronic storybook that includes popular tales and games through the concept of read and play. The scopes of this project are focus on two deliverables, knowledge and game. The underlying idea is that children learn better when they are having fun and at the same time are engaged in the learning process. This Fairy Tales – Read and Play could be use among children age six to nine years old. It aimed is to increase the use of English Language and Grammar in reading process. Besides that, the use of game element will generate their mental skills in resolving different type of games. Normally, e-storybook only provides stories to users but with this Fairy Tales – Read and Play it provide electronic book based game application. It will be encourage children learn and improve reading in English innovatively and having a fun at the same time. Besides that there are easy-to-follow directions that allow for independent learning and play. ADDIE methodology has been chosen as the multimedia development methodology for the project. This project will be develop and design using the Macromedia Flash. An interactive environment will be provided in the program to make sure the reading journey is really fun for the users. The significance of this project provide flexible learning environment that allow children to learn at their own pace through the instruction that will be given.

ABSTRAK

Fairy Tales – Read and Play akan dibangunkan sebagai salah satu usaha dalam membangunkan serta menggunakan teknologi maklumat sebagai satu alat pembelajaran yang strategik. Projek ini adalah untuk merekabentuk dan membangunkan sebuah buku cerita elektronik yang mengandungi cerita-cerita dongeng yang popular serta permainan melalui konsep membaca dan bermain. Skop bagi projek ini adalah memfokus kepada dua penyampaian iaitu pengetahuan dan permainan. Idea yang menjadi dasar pembangunan projek ini ialah dimana kanak-kanak lebih memahami apabila sesuatu proses pembelajaran itu lebih menyeronokkan. Fairy Tales – Read and Play ini boleh digunakan oleh kanak-kanak yang berumur dari enam tahun sehingga sembilan tahun. Tujuan utama pembangunan projek ini adalah untuk meningkatkan penggunaan bahasa Inggeris dan tatabahasa di dalam proses pembacaan. Selain itu, penggunaan elemen permainan akan menjana kemahiran mental mereka dalam menyelesaikan pelbagai jenis permainan. Pada kebiasaannya, e-buku hanya menyediakan cerita-cerita yang berkaitan sahaja, tetapi dengan Fairy Tales – Read and Play ini, ia menyediakan buku elektronik yang berasaskan aplikasi permainan. Projek ini dapat mengalakkan kanak-kanak belajar dan memperbaiki penguasaan membaca di dalam bahasa Inggeris secara inovatif serta dalam masa yang sama turut bergembira. Di samping itu juga, terdapat arahan yang mudah untuk dipahami yang membolehkan kanak-kanak belajar dan bermain secara berdikari. Metodologi ADDIE telah dipilih sebagai metodologi pembangunan multimedia untuk projek ini. Projek ini akan dibangunkan menggunakan perisian Macromedia Flash. Persekitaran yang interaktif akan disediakan di dalam program ini bagi memastikan proses pembelajaran yang menyeronokkan kepada pengguna. Kepentingan projek ini adalah menyediakan satu persekitaran pembelajaran yang fleksibel yang membenarkan kanak-kanak belajar dengan sendiri melalui arahan-arahan yang disediakan.

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ABBREVIATION

CAL	- Computer – Assisted Learning
CD	- Compact Disc
HCI	- Human Computer Interaction
PC	- Personal Computer
GIF	- Graphic Interchange Format
JPEG	- Joint Photographic Experts Group
PNG	- Portable Network Graphics

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CHAPTER I

INTRODUCTION

This project will be design and develop an electronic storybook with game activities that could be use among children age six to nine years old. It aimed is to increase the use of English Language and Grammar in reading process and generate their mental skills in resolving different type of game.

1.1 Project Background

In the late 70's and early 80's video games moved from an experience only found in arcades or carnivals to living rooms with the advent of the early game consoles. This was the moment that would change people lives and how users viewed digital entertainment forever. Once video games moved into home users where quickly adapted by PC developers. Unlike the early game consoles, PCs provided the processor speed and memory required to enable an expansion in scope and genre.

In the years to come PC developers were able to create a wide variety of experiences for players. With the production of games, some educators who have their eyes on school improvement are taking a close look at the increasing of learning effectiveness based on game application. With the combination of electronic text (electronic book) and game application, it can improve learning process as it is part of a dynamic system of instruction.

As one of the efforts to the development and the usage of information technology as a strategic education tool to create the effectiveness and increase the learning process, Fairy Tales – Read and Play will be develop. The concepts of this interactive project are read and play. The development of Fairy Tales – Read and Play is to disseminate the use of English Language and Grammar in learning process of reading and generate mental skills in resolving different types of game among children age six to nine years old. This electronic book based game application will be encourage children learn and improve reading in English innovatively.

This interactive game also includes interesting graphic, animation and sound to attract the children. Those features will avoid the users from easily get bored during reading and playing the game process. In game such a puzzle, the users have to drag the pieces of Fairy Tales images into the square and release them in the correct places to construct the puzzle. The user will hear a ‘clunk’ sound when the piece is placed in the right position. In game such as Bean and Golden Egg Shooter, the user must hit the bean to collect score. The user will be guide through the fun-learning journey that combines reading and game. Fairy Tales –Read and Play provide easy-to-follow directions that allow for independent learning and play.

Given limitations of time and resources, together with the nature of the objectives with the thesis, it found that qualitative method is the best method of getting answers to the research.

McCracken (1988) has state his opinion about qualitative method:

‘Qualitative methods often tend to focus deeper on the specific study questions. By doing this, it is easier to answer the questions on how and why certain phenomena apply. On the other hand, researchers are usually more subjective and thereby harder to generalize onto other research projects.’

Using this qualitative method, it will focus deeper on researching the abilities of computer learning (interactive learning) and the use of game elements. It is also to explore the importance of HCI (Human Computer Interaction) aspect that usually used in developing educational and game project. This study will focus on the interface interesting element, which is the theme used, color chosen, text, sound effect, narration and background music, the user friendly interactivity and animation included.

1.2 Project Statement

Based on the research on the market and internet, there are not many CD games based education. Many computer games developer is not really represent the concepts of the games. They often create fun rather that education and knowledge. The games that is develop normally not specific to group of users and not according user own preferences. Children age six to nine years old usually need a games that based education in order to create fun entertainment.

One attribute of the learning approach used by children is that they learn skills that are of value. At present, there are many electronic books in the market and knowing that it is important to the e-learning approach but not many of it included with game such as jigsaw puzzles. To increase their mind and understanding ability, a game element should be provided to generate their mental skills.

1.3 Project Objectives

The main objectives development of Fairy Tales – Read and Play are to change the conventional learning and reading process to interactive computer learning, in other words it is to organize educational and training program to use the

computer technology. With this project, the children learning process can be scheduled around the parent and family.

Others objective of the project are to improve the effectiveness in English reading in addition it is also and giving children ability to evaluate their mental skills in resolving different puzzles. It can help children learning English innovatively using computer and with the static and animated tasks are aimed to determine and memorize situation, to comprehend connections between object and to generate their mental skills.

The benefits largely come from the fact that education CD based game application usually provides a more engaging experience, with text, audio, audio narration, graphic, and animations all used to convey information. This use of multiple media means that learning is optimized for all three learning styles: auditory, kinesthetic and visual.

The goal that has to be achieved is to combine two activities in one concept; read and play. With this proposed concept, the children will enjoy reading, playing puzzles and automatically will solve the weakness of reading process in English. It will also educate them to make English as second language acquire by the children in Malaysia.

1.4 Project Scope

Given the problems with digital and interactive learning using game application, a major challenge is to make it more interesting. This report is written based on a hypothesis the use of games as one way of learning medium for children. To explore how and to what extent games can be used as elements for presenting learning content. The main focus is to highlight whether games can help the procedure of learning.

The scopes of this project are focus on two deliverables, knowledge and game. The underlying idea is that children learn better when they are having fun and at the same time are engaged in the learning process. The project scope is to deliver a new education process that's compelling, informative and fun. It focuses on learning aspects for children age six to nine years old. It also focuses on corporate users and buyers, even though the products might have been developed by an educational institution. The skills trained could be both hard skills and soft skills.

This Fairy Tales – Read and Play will include the popular Fairy Tales such as Cinderella, Aladdin, Beauty and the Beast, Sleeping Beauty and Jack and the Beanstalk. Every tales will followed by their own types of game. It means that after the children finished read the tale, they can test their mental in resolving a puzzle according to the tale. Due to the time restrictions it is focus on the software content in actual use and the effect derived from its use.

1.5 Project Significance

The significance of the project Fairy Tales – Read and Play is the strengths of interactive education program that use the multimedia elements such as text, audio, audio narration and graphics. With the advantages of computer program, this Fairy Tales – Read and Play will change the conventional storybook from paper to a interactive storybook. For example, when reading a storybook, children may come across a series of pictures that presented the story, while with the digital story book; children can run a story by listen to the narration.

This interactive project utilizes all of learning styles in increasing the effectiveness of learning and reading process and improves comprehension level. The significance of this project provide flexible learning environment that allow children to learn at their own pace through the instruction that will be given. With only learn and play from a CD, it is inexpensive learning tool. This project is also cost effective way of comprehending learning and reading material. It can be used

more than once time. The most significance of this project is will improve the effectiveness in English reading and giving children ability to evaluate and generate their mental skills in resolving different types of game.

1.6 Conclusion

The development of Fairy Tales – Read and Play will encourage reading proclivity in English among children ages six to nine years old. A new digital story book combines the learning and reading process with fun games increasing the reading level among children and generates their mental skills in resolving different types of games.

General conclusions often presented by researchers' claims that people learn more effectively when the learning has an experimental component, hence they learn by doing. Educational psychologist (Glasser, 1994) claims that people learn:

- 10% of what they read
- 20% of what they hear
- 30% of what they see
- 50% of what they see and hear
- 70% of what they discuss with others
- 80% of what they experience
- 95% of what they teach someone else.

The importance of developing this project is to achieve the best per cent of learning and to make sure the Malaysian children acquire knowledge in English reading.

CHAPTER II

LITERATURE RIVIEW AND PROJECT METHODOLOGY

This chapter presents briefly about the literature review on the research of issue related with learning effectiveness that cover from learning theory, learning process and skills, multimedia learning effects and game enhance children's learning. The literature review also research on Human Computer Interaction (HCI) aspect that cover issue related user interface design. This chapter also presents the type and justifications of methodology used for the project, define hardware and software requirement. The last section of this chapter will define the suggestion and the things that have to be taken into consideration to solve the problem, and plan the task required.

2.1 Introduction

Theories and concepts that are related to the project development being studied here in order to wise idea on develop this project. The term 'research' has been used in so many contexts and with such a variety of meanings that it is difficult for the developer to sort it all out. What have been taught about research is based on misconceptions. The important fact about research is, it is not just information gathering or rearranging facts but will focus deeply and overall to the topic that is been chosen.

Educational researcher (Leedy, 1993) in his book lists eight characteristics of research:

- Research originates with a question or a problem.
- Research requires a clear articulation of a goal.
- Research follows a specific plan of procedure.
- Research usually divides the principal problem into more manageable sub-problems.
- Research is guided by the specific research problem, question, or hypothesis.
- Research accepts certain critical assumptions. These assumptions are underlying theories or idea about how the world works.
- Research requires the collection and interpretation of data in attempting to resolve the problem that initiated the research.
- Research is, by its nature, cyclical or more exactly, spiral or helical.

This literature review focused on issues related to learning effectiveness based on games application. It focuses at certain factors that will influence learning effectiveness: willingness to learn, expectations, content, learning design, engagement, mentoring and collaboration.

2.2 Fact and Finding - Research

This section will discuss on the fact finding techniques that have been adopted to gather relevant information to be used in project development. The following section is present the research work that focus on the learning theory, learning process and skill, multimedia learning effect, and research on the use of game based learning are also outlined.

2.2.1 Learning Theory

Education combines the three disciplines of technology, economic and management. Therefore, finding theories within the common boundaries of both technology and management was important. It feel that the problem-definition lies within the borders of both, since digital learning is both developed and delivered using technology, and learning effectiveness is crucial for management.

Based on the problem definition and educational background, more general discussion of children learning principles was defined, some of which are based on ideas from a broad range of learning theories, and for instance problem-based learning.

Recent research into brain function (explained by Field, 1998) has shown that:

‘There is a huge growth in the number of synapses (connections between that brain cells) after birth, followed by a time of ‘pruning’, when the least used connections are limited. The young child’s brain, up to the age of about ten years, has more synapses than at any other time of life. The brain is highly ‘plastic’, and new learning creates new pathways and networks, which improve brain function. Children need physical activity, concrete and relevant experiences to aid this learning.’

Learning is the process by which we receive and process sensory data, encode such data as memories within the neural structures of our brain, and retrieve those memories for subsequent use. Certain learning theorists are advocating the greater use of technology, namely computers, in learning situations because they see enormous potential of computer technology to replicate education optimum moments of flow. Learning is a simple process it may seem, but the root of understanding how the learning is not as straight forward.