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JUDUL: PCs GAME – COLLECTING OBJECT USING MNEMONICS
TECHNIQUE

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PCs GAME – COLLECTING OBJECT USING MNEMONICS TECHNIQUE

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

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DECLARATION

I hereby declare that this project report entitled

PCs GAME – COLLECTING OBJECT USING MNEMONICS TECHNIQUE

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

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DEDICATION

I would like to dedicate to my beloved parent who has been giving me support and motivation throughout my project.

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Firstly, it is a must for me to express my greatest grateful to almighty Allah subhanauwataa'la because of his honors and blesses for me to complete my *Projek Sarjana Muda I* (PSM I).

For my beloved parent, thank you for your support and all the advice that you gave. They also give me a spirit to push me to give my best effort to finishing the documentation and the product in this PSM1. I will give all the best that I can do in this PSM I.

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To all my friends, who always support me in whatever I do, your help are thankful and hope we will success go through this PSM1 and next PSM2. Hope our dreams will come true.

May Allah bless all of us.

ABSTRACT

This project is about developing a PCs game using adobe flash software and action script 2.0. The game that will be developed is finding and collecting the hidden object. The object that will be finding is historical and traditional items in Malaysia. The main purpose of developing this system is to developed 2d collecting object game that applies mnemonics technique which is remembering technique. The type of mnemonics technique that had been chosen is imagery-based. This game is about a mission to collect the entire lost or hidden object in a few places that will be dividing by level difficulty. Each level is differentiating by the number of item need to be collect but the time is fixed to 1 minute. At the end of the game, when the entire hidden object had been collected, the mission was complete and the problem has been solved. This mission game is about giving an interesting experience playing this game and teaching the user to be more focus and try hard to solve the problem. If we more focus while doing something, everything can be done well and succeed. Based on that reason, this finding and collecting hidden object game has been proposed.

ABSTRAK

Projek ini berkisarkan tentang cara membangunkan permainan computer peribadi menggunakan perisian *Adobe Flash* dan *action script 2.0*. Permainan yang akan dibangunkan ini ialah mencari dan mengumpulkan barangan yang tersembunyi. Objek yang perlu dicari dan dikumpulkan ialah barangan bersejarah dan barangan tradisional yang terdapat di Malaysia. Tujuan utama pembangunan permainan ini adalah bagi membangunkan permainan mencari dan mengumpulkan barangan sejarah yang mengaplikasikan teknik mnemonics iaitu salah satu teknik untuk mengingat. Jenis teknik mnemonics yang dipilih ialah teknik mengingat berdasarkan atau menggunakan gambar. Permainan ini adalah berkenaan dengan misi untuk mengumpulkan kesemua barangan di beberapa tempat yang akan dibahagikan mengikut tahap kesukaran. Setiap tahap kesukaran dibezakan dengan jumlah bilangan barang yang perlu dicari dan dikumpulkan tetapi masa yang diberi adalah sama iaitu selama 1minit. Di akhir permainan, apabila kesemua barangan telah dikumpulkan, misi telah terlaksana dan masalah telah dapat diatasi. Misi membangunkan permainan ini adalah bagi memberi pengalaman bermain yang menarik kepada pengguna selain mengajar pengguna supaya lebih memberi tumpuan dan cuba sedaya upaya bagi mengatasi sebarang masalah. Jika memberi tumpuan yang lebih semasa melakukan sesuatu, perkara tersebut akan dapat dilakukan dengan baik dan jayanya. Berdasarkan sebab itulah pembangunan permainan mencari dan mengumpulkan barang ini telah di cadangkan.

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1.2 Problem Statement

There are a lot of PC games in the market nowadays. Lack of PC game that use Malaysia environment and its historical items is a reason why this project is being proposed. The target is to give an entertainment and at the same time expose the historical items of Malaysia to the user.

1.3 Objective

1. To develop 2D game with theme historical items in Malaysia.
2. To apply mnemonic technique into collecting objects game.
3. To see the effectiveness of mnemonics technique collecting objects game.

1.4 Scope

1. Module

This game is focusing to find and collect the hidden objects on 3 levels. This project will apply mnemonics technique which is remembering technique for user to collect all the items so the list of items need to be collected will be given. It is 2D game and will be developed using Adobe Flash and ActionScript. It is PC game so the module to deliver is standalone.

2. Target User

Target user for this game is teenagers and the range for the aged is 13 to 15 years old. Teenagers usually like and have a big interest on PC games. Based on that, the target user for this project had been determined.

1.5 Project Significant

The one who will get benefits from this project is the target user which is teenagers aged 13 to 15 years old. This target user had been chosen because on this aged, they start to learn about historical in Malaysia and they usually have big interest with PC games. The purpose of this game is to give an entertainment to the user. Besides, this project also wants to apply mnemonic technique which is remembering technique in searching object game type.

1.6 Conclusion

As a conclusion, the expectation from this project is it will give an entertainment and some information at the same time to the user. Besides, other expectation is the mnemonic technique that will be applied can mix well with this game flow. This chapter covered the project background, identifying the user, benefits of the project and objective of developing this project. The next chapter will cover about literature review and do the comparison of existing system. It also involve requirement of hardware and software also identifying the methodology that will be used to develop this project.

CHAPTER II

LITERATURE REVIEW & PROJECT METHODOLOGY

2.1 Introduction

A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis. A summary is a recap of the important information of the source, but a synthesis is a re-organization of that information. For scholars, the depth and breadth of the literature review emphasizes the credibility of the writer in their field. Literature reviews also provide a solid background for a research paper's investigation.

This project is about developing a mission game which is collecting object. This literature review is so important to look at current or existing system that already in the market and find it pros and cons. The good thing apply in those existing game can be a references while doing the development process and the cons can be overcome. Based on research made none of the existing system on this category (collecting object) use any mnemonic technique using pictures. So, this system or game had been proposed to make collecting object games that apply mnemonics technique as a clue to the gamers to play this game.

2.2 Domain

This game is a PC game or as known as personal computer game so it is standalone system. It is 2D game and about collecting historical objects in Malaysia. The type of this game is a mission because the users have a mission to collect the entire object to achieve its goals. This game will be developed using Adobe Flash as its main platform and using ActionScript for its scripting. As a guide for the user, the list of the items will be given and here the mnemonics technique, one type of remembering technique, will be applied. Mnemonics are techniques for remembering information that is otherwise quite difficult to recall. The idea behind using mnemonics is to encode difficult-to-remember information in a way that is much easier to remember. The technique that will be used is the image-name technique, which is suitable for remembering an image or name. This technique invents a relationship between the name and the physical characteristics of the item.

There are a few things that can be followed to make the mnemonics technique more memorable:

- Use positive, pleasant images because the brain often blocks out unpleasant ones.
- Use vivid, colorful, sense-laden images because these are easier to remember than drab ones.
- Use all senses to code information or dress up an image.
- Exaggerate the size of important parts of the image.
- Use humor, funny or peculiar things because it is easier to remember than normal ones.
- Symbols like red traffic lights, pointing fingers, road signs and can code quite complex messages quickly and effectively.

2.3 Existing System

There is a lot of existing system that had been referred for this literature review. The concept is just the same, which is collecting object that a bit hidden to achieved it goals. Here is the example of the existing games.

1. Amazing Adventures-The Lost Tomb



Figure 2.1: Amazing Adventures-The Lost Tomb

It is about an adventure of seeker who travels the world (Egypt) in search of forgotten & lost treasures. Search for hidden objects and circumvent unique puzzle traps to recover the Lost Tomb of Ancient Egypt. It takes on 20 missions travelling to amazing Egyptian locations like the Sphinx, the Great Pyramid of Giza, and the River Nile. The colour that had been use in this game is warm colour like brown which suitable with the item and environment using in this game.

2. Pirateville



Figure 2.2: Pirateville

It is about take on the role of Jack the Sharpshooter, a handsome pirate with a penchant for gold. When Jack stumbles upon an ancient casket, his curiosity is peeked and he sets out on an adventure full of magic, love, gold, weapons and a Cursed Ghost. Unravel the secrets of the ancient casket by finding Hidden Objects. The colour use in this game is a bit dark and gloomy suitable with it theme.

3. Mystery Case Files – Huntsville

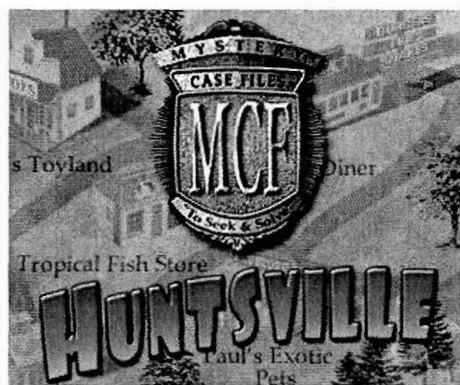


Figure 2.3: Mystery Case Files - Huntsville

It is about user take on role of a police to locate enough hidden clues to solve the crimes and become a Master Detective. Mystery Case Files: Huntsville provides gamers with a collection of intriguing mysteries and brain-teasers to solve. There are picture puzzles to ponder and strange crime scenes to explore. This game using combination of all colour based on environment used but mostly it is used bright colour. From my point of view, this game has same lackness and one of it is the clue given to find the object sometimes not really clear. As an example, gamers need to find Jack and Jill. For those who not really familiar with it will not know the meanings of it.

2.3.1 Comparison of Existing System

Table 2.1 below will show the comparison of those three games which have same type (collecting object) but difference theme. Comparison of those games had been made based on input, sound and music, save and load, technique and colour.

Table 2.1: Comparison of Existing System

	INPUT	SOUND & MUSIC	SAVE & LOAD	TECHNIQUE	COLOR
Amazing Adventures-The Lost Tomb	Login (name)	Yes	Name, last checkpoint and high score	No	Warm colour for Egypt environment
Mystery Case Files: Huntsville	Login (name)	Yes	Name, last checkpoint and list of best time	No	Bright and colourful for house or room environment

Pirateville	Login (name)	Yes	Name and last checkpoint	No	Gloomy and dark colour for mysterious places
Proposed Game	No	Yes	No	Remembering technique : Mnemonics technique	Mix of warm and bright colour depend on it environment , historical and Malaysia environment

Based on this type of games which is collecting objects or hidden object that already in market, there are none game that using mnemonics technique which is one of the remembering techniques. So, this project had been proposed to develop one collecting object game that applies this mnemonics technique. Johanna van Laar-Veth, who was at Farm Cove Intermediate do a research about does using an imagery-based mnemonic technique, help students with long-term retention of Chinese characters. The results of her study showed that the imagery techniques produced a higher immediate recall than did rote-learning. So, this technique had been chosen to help users to find the item based on item image that had been given as a clue. From the literature review that had been made, the suitable colour that had been chosen for this game development is bright and warm colour based on the environment. This type of colour had been choose because although it is involving historical item which more suitable with warm colour, it is also want to use Malaysia environment. So, the colour should be bright and more cheerful but still in the theme mode (historical).

2.4 Project Methodology

Methodology is an analysis of method principle or rule to be followed. It can refer to one method or more than set of method that is think appropriate to be follow as guidance to a achieve more accurate methodology. The importance of the methodology cannot be understood as simple it is. A methodology may require a lot of feature to determine the project management. In addition, the right choose of methodology also act to reduce the risk that may occur during development of the project.

The methodology that had been chosen for this project development is the spiral model or spiral lifecycle model also known as Boehm's Model. It is a systems development lifecycle model used in information technology (IT). This model of development combines the features of the prototyping model and the waterfall model. It is been developed to overcome the cons of waterfall methodology which is it is no fair division of phase in the life cycle, not all the problem related to a phase are resolved during the same phase, it sometimes are carried out and need to be resolve in the next phase. The structure of spiral model is shown on figure 2.4 below.

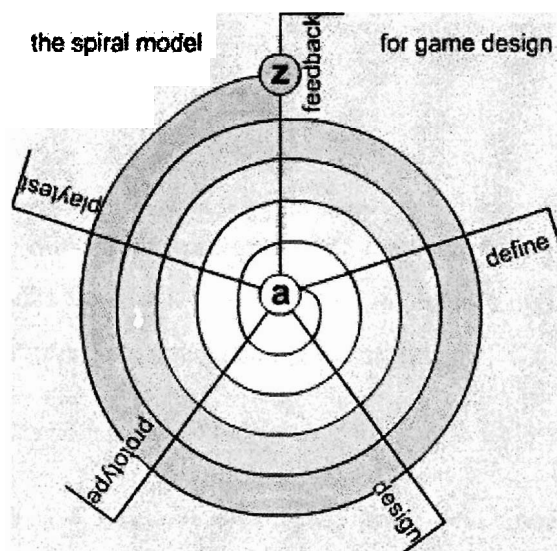


Figure 2.4: Spiral Model

Spiral model had represent as an iteration activity that allows the process to turn back or loop the process. Each iteration produces a deliverable or prototype, and each prototype is closer and closer to the final production model in complexity and degree of completion. The process begins when the idea to develop a game begin. The spiral model phase for game development is defined, design, prototype, playtest, feedback and redefine.

1. Define - Define the new idea, make an outline, and hash out the basics of your design.
2. Design - Get down working writing the rules for the core mechanic, making the basics workable.
3. Prototype - Build a working model and start to get the look and feel of the physical features of the game.
4. Playtest - Can do a solo playtest, an internal playtest, or a blind playtest.
5. Feedback - Gather, collate, and synthesize the feedback.
6. Redefine - Go back to the drawing board with what had learned and change the outline.

2.5 Project Requirement

2.5.1 Software Requirement

1. Adobe flash 8

Adobe flash is a multimedia platform that contains scripting language called Action Script. Adobe flash will be use in this project as a main platform to create the game which is interface, navigation and scripting.

2. Adobe Photoshop

Adobe Photoshop is a graphics editing program developed and it is primary leader in image manipulation. In this project, all picture or graphics that needed in this project development will be edited using Adobe Photoshop.

3. Adobe audition

Adobe Audition is a digital audio editor computer program featuring both a multitrack, non-destructive mix or edit environment and a destructive-approach waveform editing view. Adobe audition will be use to edit the sound that needed in this game development.

4. Microsoft Office Project 2007

Microsoft Office Project 2007 is a project management software program. It will be use to prepare the Gantt chart for the proposal.

5. Microsoft Office Word 2007

Microsoft Office Word 2007 is (officially called 2007 Microsoft Office system) is the most recent Windows version of the Microsoft Office system. In this project, it will be use to make a report and the documentation.

2.5.2 Hardware Requirement

1. Set of computer
2. Speaker

2.6 Conclusion

This chapter cover literature review which is analysis and research of existing system or similar system that already in market. Most important thing about literature review is it provides a solid background for a research paper's investigation. Comprehensive knowledge of the literature of the field is essential to most research papers. This chapter also covered about methodology that will be use during development process. The methodology chosen is important to ensure that the

development process is on track. Besides, this chapter also covered about software and hardware that require for development process. Next chapter will cover about analysis of current scenario and all requirements needed detailed.