OLDIES MATCHING GAME

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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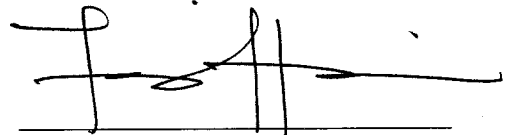|	
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Tarikh: <u>25/6/2010</u>

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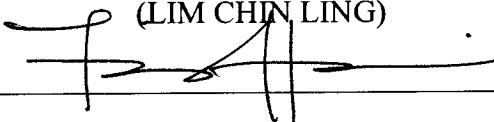is written by me and is own effort and that no part has been plagiarized

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(DR. SYARIFFANOR BINTI HISHAM)

DEDICATION

This project is dedicated to my father, who taught me that the best kind of knowledge to have is that which is learned for its own sake. It is also dedicated to my mother, who taught me that even the largest task can be accomplished if it is done one step at a time.

ACKNOWLEDGEMENTS

I would like to take this opportunity to express my gratitude to my supervisor, Dr. Syariffanor Binti Hisham for her patience and guidance throughout this project.

I would like to thank my friend without who I would not be able to carry out this methodology, for spending his valuable time and contributed his thoughts.

For my parents, thank you for being a constant source of love and encouragement to me.

Last but not least, I would like to thank my coursemates, Lee Pei Pei and Kwan Swee Yee for their opinions and support.

ABSTRACT

This project is an exploration of the Flash game that uses Actionscript 3.0 and to comprehend the characteristics of older people. In this project, it offers a perfect memory skill development tool for older people. It slowly increases the level of difficulty. Players should be encouraged to play their way through all 9 levels, where developmentally appropriate. Older people should repeat this memory activity, so that they are able to quickly find out all the objects in as few clicks as possible. The objects on the cards are common essential things that use in our daily lives. This is because I think that older people are more familiar with the common things that use every day. Besides, this game is suitable as they have long term effect in preventing mental issue like Alzheimer. It may help to reduce the symptoms of this disease. At the same time, it can also increase the performance of them for example their enthusiasm of learning a new skill. As a conclusion, this game will develop their brain memory in an active way when they age.

ABSTRAK

Projek ini adalah satu penerokaan permainan flash yang menggunakan actionscript 3.0 dan bertujuan memahami perwatakan warga tua. Projek ini menyediakan kemahiran perkembangan daya ingatan yang sempurna kepada warga tua. Tahap kesukaran permainan ini meningkat mengikut peringkat. Pemain digalakkan untuk bermain kesemua sembilan peringkat permainan agar perkembangan berlaku dengan sewajarnya. Orang tua harus mengulangi aktiviti mengingat ini, supaya mereka mampu mengenalpasti kesemua objek di dalam permainan ini secepat yang mungkin. Objek di atas kad adalah barang kegunaan umum yang kita gunakan dalam kehidupan seharian. Saya berpendapat demikian kerana, warga tua lebih selesa dengan benda-benda yang mereka gunakan setiap hari Selain itu, permainan ini adalah wajar kerana ia mempunyai kesan jangka panjang dalam mencegah isu sakit mental seperti Alzheimer. Ia juga mampu menolong mengurangkan punca-punca penyakit ini. Dalam masa yang sama, ia juga dapat meningkatkan prestasi mereka sebagai contoh, meningkatkan semangat untuk mempelajari ilmu baru. Kesimpulannya, permainan ini akan membina pembangunan minda meraka dengan cara yang aktif sewaktu mereka dalam proses penuaan.

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INTRODUCTION

1.1   Project Background

Brain game is an educational game that provides stimulation through challenges. There are different types of brain games such as memory game, puzzle, riddle, trivia, IQ test and strategy game. Memory game and concentration game are suitable for older people as they have long term effect in preventing mental issue like Alzheimer. Furthermore, puzzles that are brain stretching also good for older people because it can strengthen their brains otherwise they become weak due to lack of practice. According to Zelinski (2009) in an article found in The Online Brain Games Blog, "A brain game or any other activity cannot improve thinking or turn back the mental clock unless it's both challenging and novel enough to build new connections between brain cells."

Matching games are a group of card games. They are simple memory games played in the physical world. The idea is to place pairs cards face down in a random arrangement. Then, try to find matches by turning over two cards at a time. When the two cards match, they are removed. If do not match, they are turned face down again.

Matching games keep an active mind you need to improve their memory skills for and the brain needs to be engaged in constant constructive activity. It will be all the more disturbing if you learn that the brain functions with less agility from the age of thirty and the other factor, which can affect your memory that is aging.

According to Malcone (1981), he had described several factors concerning the fun aspects of educational games design such as challenge, fantasy and curiosity with few factors on its interfaces. Education game development usually begins with a game design. However, the game interface for older people cannot be similar to the games for youngsters today. Hence, I would like to create interfaces that accommodate to older people. Among the considerations are the colours used and the size of the fonts. Colours should be mild yet suitable for their eyesight and words should not be too small for most of the older people suffer from long-sighted problem. Another factor that must be taken into account is the graphics and icons; they should not be too complicated either.

Besides that, the game should concern about the intuition of older people's needs. Therefore, the instructions for this game have to be easily acquired and be learnt by heart.

1.1.1 Current scenario

One of favourite casual game is a matching game. It is a game that players will train our brain. Memory is not just one of many intellectual skills; it is the most important of all. This is because it directly affects every other intellectual process. Memory is the easiest mental process to train.

There are plenty of matching games can be found in the market. Here are the two examples that I would like to introduce. The comparison of these existing games will be covered in Chapter 2.
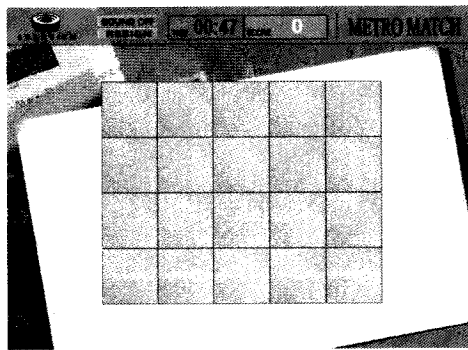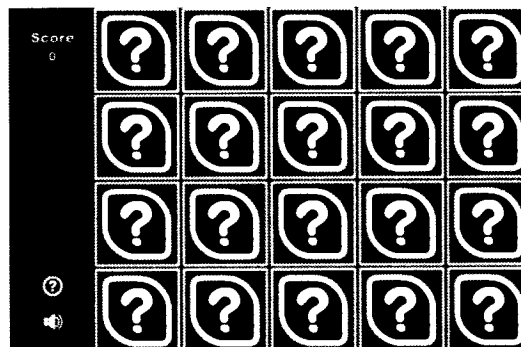

Figure 1.1: Metro Match

Figure1.2: Memory

1.1.2 Problem that Might Arise from Current Situation

Each game has different way to attract users. Problems will appear when user plays the game like not friendly use.

In addition, there are some weaknesses that I found from these two games which are:

i.   The cards of the pictures are too small, unable to see clearly.

ii. The levels of the game are the same, unable to feel any excitements.

iii. The background music of the game may irritate the user.

1.2   Problem Statements

For most people, memory lapses are a normal part of aging. Advancing age is the number one risk factor for developing Alzheimer's disease. The probability of being diagnosed with Alzheimer's disease nearly doubles after age of 60.

Memory is not a single cognitive process, and it is not stored in a single area of the brain. It is classified by time which are short-term versa long-term and by type which is the information you have to recall, and information that becomes part of you such as how to drive a car or get dressed. Different areas of the brain govern different activities and sensory functions, the nature of the information you want to remember determines what part of your brain takes it in and stores it.

An older person often experiences decreased blood flow to the brain and processes nutrients that enhance brain activity less efficiently than a younger person.

1.3   Objectives

Based on the problems stated, it is hoped that the game will be able to:

i.   To increase the performance of older people like their enthusiasm of learning a new skill.

ii.   To develop working memory (short term memory).

iii. To enhance focus and attention which decrease the symptoms of Alzheimer's disease.

1.4   Scope

The target users are the older people of 60 years of age and older (approximately up 80 years of age) for both male and female. As a whole, this proposed brainpower game will focus more on the interface designs. The important elements in the interface designs should have the proper dimension and font of the words as well as the colours of the background, icons and words. The sound effect of the game should also be considered in order to produce the ideal game for them.

1.5   Project Significance

Computer versions of matching games have advantages over physical versions because no need to shuffle, collect, and place the cards to start each game. The game will give players experience to strengthen their memory. The technology used to develop this game is Flash.

Whether the project will be success or not, this game can be used and developed better to give contribution to the older people and to in crease their awareness of memory loss.

Last but not least, computer games serve a range of educational functions. Computer games have a main role in our lives. We can make use of them for therapy, disease, having fun and better education.

1.6   Conclusion

New technology can upgrade our information and skills but until today, it is still a myth to believe that older people will avoid using new technology. For my project, I would like to create a matching game which is suitable for older people that improve short term memory. This type of game is helpful in mind development even when aging. It can help to stimulate our brains and provide an excellent way to challenge and improve brain function.

In regard to this matter, I would hope that my game will enable them to be more productive than younger people in acquiring new skills. Once they get started with a brain fitness program, it will definitely make them hold onto it, thus stay with it over time.

The second chapter will discuss about the literature that related with the development and the methodology of the game.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1   Introduction

This chapter reviews literatures that have been written by other that have connection with the title for this project. These literatures and reviews will be compared to strengthen the chosen title. They are the secondary sources that refer to the study on collection of published materials in selected areas such as articles, journals, thesis, and case studies. The comparisons are made based on the domain of the project, current technology found, techniques to develop the project, kind of multimedia skill, and combining the game with management skill to achieve learning experience.

Besides, this chapter states and explains methodology used in developing the project, describes all the stages needed to be achieved and also explains all activities done in each phases of methodology. The smoothness of this project is depending on the suitable methodology. This review is based on the multimedia methodology that has been written before. There are a lot of methodologies and SDLC (Systems Development Life Cycle) is one of them. This methodology is chosen to be used in the project development. The methodology will be used to produce a complete product and to achieve the objectives of the project.

The project requirement is also discussed including software requirement and hardware requirement for developing the project. Choosing the right hardware and software are to make sure that the development process will face less obstacles.

2.2   Domain

All domains that are connected with this project must be stated and explain clearly. This review is done by comparing earlier project or paper to support this development of project. The game that I am developing is called Oldies Matching Game. It provides a user with a gaming experience that produces in a change in mental behavior which can give the user an interesting way to play and improve memory at the same time. This is for older people of 60 years of age and older (approximately up 80 years of age). It is based on the symptoms of Alzheimer disease that is to recognize pictures and words.

2.2.1   Games

Based on book of Les jeux at les homes (Games and Men) written by French sociologist Caillois (1961), defined a game as an activity that has the following characteristics:

- *fun*: the activity is chosen for its light-hearted character
- *separate*: it is circumscribed in time and place
- *uncertain*: the outcome of the activity is unforeseeable
- *non-productive*: participation does not accomplish anything useful
- *governed by rules*: the activity has rules that are different from everyday life
- *fictitious*: it is accompanied by the awareness of a different reality

In many decades, people have been engage with activity that we call as a game. The reasons people play games are because of entertainment and relaxation. Secondly, people desire to compete with the game or other players. They desire to find the solution for the particular game. By playing game, people will also gain knowledge and learning experience. Game in a computer is a newborn in gaming history. Although computer is aimed for calculation and business, it has received good enthusiasm from engineers and markets to develop computer gaming. Market

of game consists of two main areas, games for personal computers (PCs) and games for dedicated game consoles for example Xbox, Wii, and Play station.

There is a distinct difference between game type and game genre. Game type is description of the game play whereas game genre describes about the narrative content of the game.
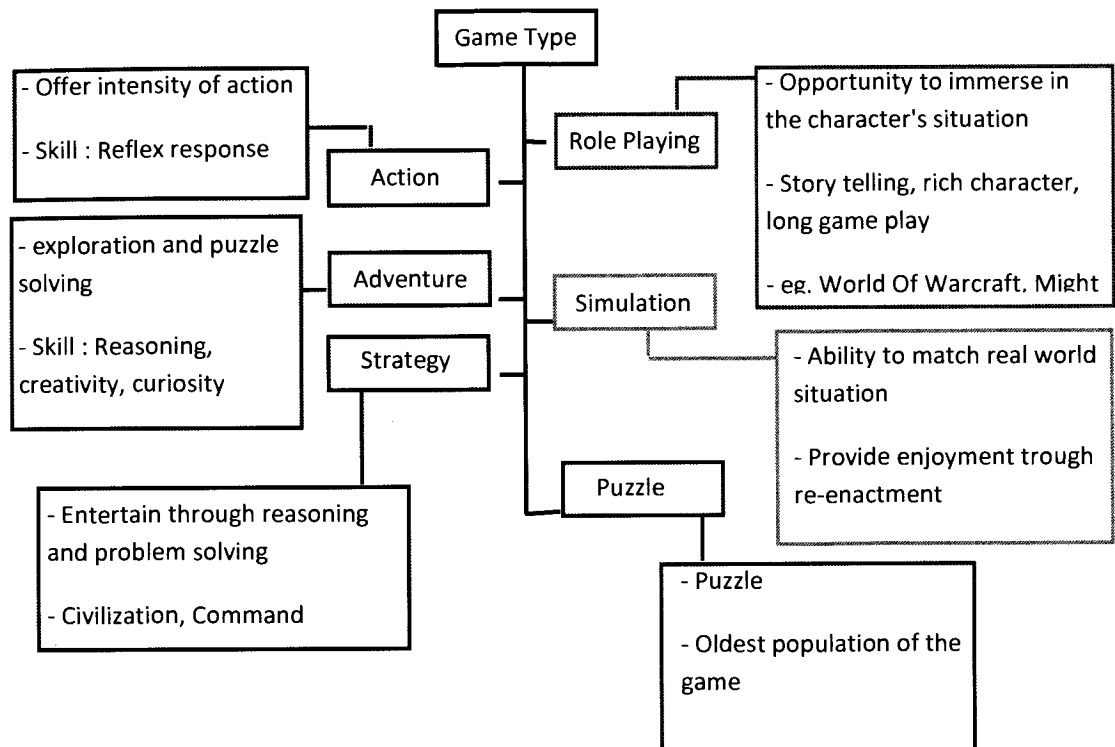

Figure 2.1: Game Type (Grace, 2005)

Game genres describe how the game story is told. It is a narrative style that affects the structure of the story, the depth of the character, and other story telling elements. The examples are drama, crime, fantasy, mystery, horror, romance, science fiction, war, history, etc.