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JUDUL: **ACTION MOBILE GAME: BLACK & WHITE**

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ACTION MOBILE GAME: BLACK & WHITE

PHANG YUEN JUN

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2013

DECLARATION

I hereby declare that this project report entitled
ACTION MOBILE GAME: BLACK & WHITE

Is written by me and is my own effort and that no part has been plagiarized
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STUDENT : _____ **DATE** : _____

(PHANG YUEN JUN)

SUPERVISOR : _____ **DATE** : 3/9/2013

(PUAN ANIZA BINTI OTHMAN)

DEDICATION

To my beloved parents, brothers, supervisor, lecturers and friends.

ACKNOWLEDGEMENTS

I would like to thank Puan Aniza binti Othman for giving assistant to complete this project successfully.

I would also like to thank my beloved parents who have been giving me support and motivation throughout my project.

ABSTRACT

This project is about mobile game, named 'Black & White'. In this project, the 'Black & White' was developed by using Adobe Flash Professional CS6 and Adobe Illustrator CS6. There are three main objectives of this project, firstly is to identify the requirements of mobile games for both female and male players. Secondly, a mobile game was designed to attract the interest from both female and male players and lastly is to list out the features of the mobile game. Nowadays, the game designer and game developer company are focusing more onto the female players' market. By developing games for two different categories is such a time consuming and waste of money. Therefore, the purpose of this project is to develop a mobile game that can attract the interest from both female and male players and also to list out the features of the mobile game. In the implementation of this project, the Adobe Illustrator CS6 had been used for designing the character, interface and also the button that found in the mobile game. For the overall mobile game, it was developed by using the Adobe Flash Professional CS6. For the testing process, 10 persons that had experience in developing game had took part in checking and testing the function and logical of this mobile game. In addition, 34 persons in the age range of 18 to 30 years ago had also took part in checking the features of this mobile game. In conclusion, the mobile game that can attract the interest from both female and male players was developed in this project and the features of the mobile game were listed out.

ABKSTRAK

Projek ini adalah kira-kira permainan mudah alih, yang dinamakan 'Black & White'. Dalam projek ini, 'Black & White' telah dibangunkan dengan menggunakan Adobe Flash Professional CS6 dan Adobe Illustrator CS6. Terdapat tiga objektif utama projek ini, pertama adalah untuk mengenal pasti keperluan permainan mudah alih untuk pemain kedua-dua wanita dan lelaki. Kedua, permainan mudah alih telah direka untuk menarik minat kedua-dua pemain lelaki dan wanita dan akhir sekali adalah untuk menyenaraikan ciri-ciri permainan mudah alih. Pada masa kini, pereka permainan dan permainan syarikat pemaaju memberi tumpuan lebih ke pasaran pemain wanita. Dengan membangunkan permainan untuk dua kategori yang berbeza adalah seperti memakan masa dan membazirkan wang. Oleh itu, tujuan projek ini adalah untuk membangunkan satu permainan mudah alih yang boleh menarik minat kedua-dua pemain wanita dan lelaki dan juga untuk menyenaraikan ciri-ciri permainan mudah alih. Dalam pelaksanaan projek ini, Adobe Illustrator CS6 telah digunakan untuk mereka bentuk watak, muka dan juga butang yang terdapat dalam permainan mudah alih. Bagi permainan mudah alih keseluruhan, ia telah dibangunkan dengan menggunakan Adobe Flash Professional CS6. Untuk proses ujian, 10 orang yang mempunyai pengalaman dalam membangunkan permainan telah mengambil bahagian dalam memeriksa dan menguji fungsi dan logik permainan mudah alih ini. Di samping itu, 34 orang dalam lingkungan umur 18 hingga 30 tahun yang lalu juga telah mengambil bahagian dalam memeriksa ciri-ciri permainan mudah alih ini. Kesimpulannya, permainan mudah alih yang boleh menarik minat daripada pemain kedua-dua wanita dan lelaki yang telah dibangunkan dalam projek ini dan ciri-ciri permainan mudah alih telah disenaraikan keluar.

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION	I
	DEDICATION	II
	ACKNOWLEDGEMENT	III
	ABSTRACT	IV
	ABSTRAK	V
	LIST OF TABLES	VII
	LIST OF FIGURES	VIII
CHAPTER 1	INTRODUCTION	1
CHAPTER 2	LITERATURE REVIEW	7
CHAPTER 3	METHODOLOGY	24
CHAPTER 4	ANALYSIS	40
CHAPTER 5	DESIN AND IMPLEMENTATION	44
CHAPTER 6	TESTING	67
CHAPTER 7	CONCLUSION	73
	REFERENCES	76
	BIBLIOGRAPHY	78
	APPENDICES	79

LIST OF TABLES

TABLE	TITLE	PAGE
Table 2.1	Differences between female brain and male brain	10
Table 2.2	Types of the game	14
Table 2.3	Element of the game	20
Table 2.4	Comparison between Catch Cows and Black & White	23
Table 3.1	Miles stone	39
Table 5.1	Storyboard	52
Table 5.2	Table of multimedia element	56
Table 5.3	Time table of develop game	57
Table 5.4	Table of the text used in the game	58
Table 5.5	Table of the image used in the game	60
Table 5.6	Table of result for first time testing	66
Table 6.1	The result of test user	69

LIST OF FIGURES

FIGURE	TITLE	PAGE
Figure 2.1	Angry Birds Space	11
Figure 2.2	Resident Evil 4: Lite	11
Figure 2.3	The Simpsons:Tapped Out	12
Figure 2.4	Final Fantasy IV	12
Figure 2.5	LINE: I Love Coffee	13
Figure 2.6	Real Football 2009	13
Figure 2.7	Command & Conquer: Red Alert 3	14
Figure 2.8	Main Menu of Catch Cows	20
Figure 2.9	Instruction of Catch Cows	21
Figure 2.10	Play Screen of Catch Cows	21
Figure 2.11	Display Score Screen of Catch Cows	22
Figure 3.1	Result of Question 8	26
Figure 3.2	Result of Question 9	26
Figure 3.3	Result of Question 10	27
Figure 3.4	Result of Question 11	27
Figure 3.5	Result of Question 12	28
Figure 3.6	Result of Question 13	29
Figure 3.7	Result of Question 14	29
Figure 3.8	Result of Question 15	30
Figure 3.9	Gantt chart	36
Figure 5.1	Flow chart	47
Figure 5.2	Progress of playing game	47
Figure 5.3	Introduction page	49
Figure 5.4	Main menu page	49
Figure 5.5	Best score menu page	50
Figure 5.6	Instruction page	51
Figure 5.7	Game play screen page	51
Figure 5.8	Game over screen page	52
Figure 5.9	Navigation flow of the white and black	54
Figure 5.10	Production of animation in Adobe Flash	61
Figure 5.11	the entire source import into the library	62
Figure 5.12	white sheep	63
Figure 5.13	the code of drag and drop.	63
Figure 5.14	the code of randomly come out the sheep	63
Figure 6.1	the total number test user choose the features	71

CHAPTER I

INTRODUCTION

1.1 Project Background

Mobile games are structured playing that are specially designed for mobile devices, such as smartphones, features phones, pocket PCs, personal digital assistants (PDA), tablet PCs and portable media players. It can be defined as embedded, downloaded, or network games conducted in handheld devices. Mobile games range from basic (like Tetris on the Hagenuk MT-2000 or Snake on Nokia phones) to sophisticated (3D and augmented reality games). Nowadays, mobile games were classified into seven types of games which included action, action-adventure, adventure, role-playing, simulation, sport and strategy.

The game designer and developer company lay great stress on the male players' market compare to the female players' market. This is because male players are the group player who is willing to spend more time and money in the game. Other than that, a comparison figure from 2013 game developer gender wage gap by

Tami Baribeau, show that 89 % of the game industry's designers are male.[1] Therefore, games in market are actually more toward to the male's requirement due to the designers are indeterminate with females players' requirements.

Based on mobile games trend report by Newzoo, 60% of the mobile games player in Asia are male.[2] This type of condition happened due to the reason because the game developers and game designers can hardly fulfil the requirements that requested by the female players. The difference structure of brains between the female and male is one of the reasons which lead to this condition. This is because the game designers had the difficulty to fulfil all the requirements from both female and male players at the same time.

The majority of female players would prefer type of games which are rich social interactions games and only the minority of female players will choose games which include the violent content and also heavy gender-stereotyping games. The word in research of Maizatul H.M Yatim, "The games industry is starting to wonder and realize that women, small children and senior citizens (so-called Silver Gamers) are still an untapped market." [3], shown that game industry and game designers are focusing more onto the female players' market. Based on the 2012 PopCap games mobile gaming research, the number of the female player is increases from 45 % to 50 %.[4] Based on the report, it can be concluded that female players' market is a potential market in game industry.

The game industry developed games separately for both female and male players simultaneously. This method is very time consuming and also waste of money, hence, by designing a new game that is suitable for both female and male players is the most effective way in saving the cost and time. By doing this, they need to find out the features that fulfil both players and to make sure that the designer able to develop games that fulfil players' requirements.

Therefore, in this project it will proposed a mobile game which will be amused by both players. The overall design of this mobile game is based on the requirements from both female and male players. In this mobile game, the players are required to do a set of questionnaire and provide feedbacks after they play the game. Based on the answers of questionnaire and the feedbacks provided by the players will let the game designer know which features will suit the players from the two different groups.

1.2 Problem Statement

Nowadays, the male players' market for the mobile games are almost filled to capacity. Due to this reason, the game developer company and game designer are expanding their product line into the female players' market. During the expanding of their product line, they will be facing three main problems which are identified as follows:

- **Less information about the requirements from both female and male players**

A good mobile game is a game that had fulfils the requirements of both female and male players. The requirements of the male players are different from time to time. On the other hand, the female players are the new target of the product line by the game designer and they have no idea on how to develop a mobile game speciality for female players. Therefore, by gathering information about the requirements of a mobile game from both female and male players is very important before the game designer wants to develop a new mobile game.

- **Difficult to fulfil the requirements of both female and male players at a same time**

The requirements of mobile games for both female and male players are very difference in many aspects. When a game designer only lay stress on the requirements of female players, it will automatically affects the interest by the male players in the respective game. Thus, in developing a new mobile game, it is very important for the game designer to find out the requirements from both female and male players by letting them to try the game first.

- **Do not know the features of mobile games that can attract both female and male players**

Despite of the difficulties mentioned above, indeterminate about the features of games that can attract both female and male players is also one of the problems. The features of mobile game are good elements to help the game designer in developing a mobile game when he or she come up with a new idea. Sometimes, unexpected features or requirements from the game could be acceptable by the players. Hence, feedbacks and comments play a very important role here to confirm on whether that the features of the game is attractive enough for all the fellow players or not.

1.3 Objective

The main objectives of this project are listed as below:

- **To identify the requirements of mobile games for female and male in the market from a group of both female and male players**

By adding the requirements into mobile game, the players need to answer several questions accordingly which are provided by the game designer and the players need write down their own comments on what is

their expected output before the game designer starts to develop the mobile game. By using this way, the game designer will get a more accurate information on the requirements for both female and male players in developing a mobile game.

- **To develop a mobile game that can attract the interest from both female and male players**

The purpose of this project is to develop a mobile game that includes the requirements of both female and male players, so that it can attract the interest of both female and male players.

- **To list out the features of mobile game that will be interested by both female and male players**

By using this mobile game, the game designer can get the features of the mobile game that can attract both female and male players through the study of the questionnaire that had been answered by the players after playing the game.

1.4 Scope

In this project, the scope can be categorized into two categories, which are the mobile game that include both female and male players' requirement and focus on the features that will attract both female and male players. The target users in this mobile game are both female and male players in any range of age. By playing the same mobile game by both the female and male players will show their same interest in playing a game.

1.5 Project Significance

The project significant is to develop a mobile game that can attract the interest of both female and male players. Through this mobile game, game designer can get the features of mobile game that can attract the interest of both female and male players. By doing this, the features of mobile games will help the game designer to have a reference to refer to when he or she need to design game which has the similar concept.

1.6 Conclusion

As a conclusion, this project is very important because it helps the game designer when they are developing a mobile game that is suitable for both female and male players at the same time and also as a reference to the game developer company when they need to expand the mobile game into the female players' market. Our vision is to show that a mobile game can be played by both the female and male players, so that both categories of players can equally enjoy this mobile game.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

A game involves mental and physical participation and is conducted according to rules with the participants competing with each other, usually undertaken for enjoyment and sometimes used as an educational tool. Games have been classified into seven types, that is action, action-adventure, adventure, role-playing, simulation, sport and strategy. In this era of high technology, games can be played on many devices, such as computers, mobile phones, pocket PCs, personal digital assistants (PDA), tablet PCs, portable media players and other platforms.

In this project, the development of action games suitable for both female and male players playing simultaneously by using mobile phones as a platform will be discussed. In this chapter, the detail about the fact and finding, existing game and comparison between the games will be discussed.

2.2 Fact and Finding

To develop this game, the requirements of game from both female and male players and the information about the type of game and the devices to present the games needs to be investigated.

2.2.1 Domain

The domain of this project is focused on action games which are suitable for both female and male players playing at the same time by using mobile phone as a platform. The female brain is predominantly hard-wired for empathy and male brain is predominantly hard-wired for understanding and building.[5] Based on 2012 PopCap games mobile gaming research, the mobile phone are the devices used most playing games and the size of the mobile game's market is increased 13% compare between 2011 year and 2012 year.[4] Therefore, this game is proposed by using mobile phone device to playing the game and suitable for both female and male players to expand the size of market.

2.2.2 Introduction to Female Brains and Male Brains

The subject about the thinking of female brain and male brain is clearly very delicate. Base on the book "Essential Difference: Male and Female Brains and the Truth about Autism", the female brains is predominantly hard-wired for empathy and the male brains is predominantly hard-wired for understanding and building system.[5] The female brains and male brains are classified by using the features, such as spatial abilities, verbal abilities, aggression, activity levels and interests.

	Female Brains	Male Brains
Spatial Abilities	<ul style="list-style-type: none"> - Female have a thicker parietal region of the brain, which hinders the ability to mentally rotate object-an aspect of spatial ability.[6] - Female often report difficulty with spatial tasks, both on tests and in real life.[7] 	<ul style="list-style-type: none"> - Male typically have stronger spatial abilities, or being able to mentally represent a shape and its dynamics.[6] - Male can seeing an object in their mind from different angles.[8]
Verbal Abilities	<ul style="list-style-type: none"> - Female talker earlier, uses more words, and is better at language and verbal skills throughout their live.[8] - Female process language in both hemispheres.[6] 	<ul style="list-style-type: none"> - Male cannot handle so many words.[8] - Male typically only process language in their dominant hemisphere.[6]
Aggression	<ul style="list-style-type: none"> - Female are more aggressive in subtle, interpersonal ways.[8] - For example, girl may fight with gossip, trying to isolate certain girl and make them unpopular.[8] 	<ul style="list-style-type: none"> - Male are generally physical aggressive.[8] - For example, the boy may gang up on each other in a fight.[8]



Activity Levels	- Female are more apt to talk together or do other activities that do not involve lots of continual movement. [8]	- Male are more active than female, engage in more rough and tumble play, and emphasize their large motor skills like riding bicycles and running around the playground. [8]
Interests	- Female as a group are more apt to want to go into fields involving people or helping others like becoming teachers, social workers, or veterinarians. [8]	- Male as a group are have more physical and abstract interests, wanting to become plumbers, engineers, or scientists in fields like computers or physics. [8]

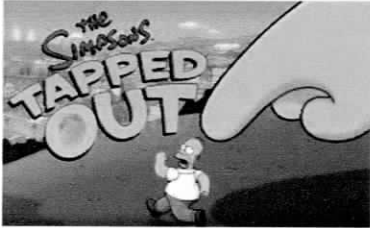

Table 2.1 Differences between female brain and male brain



2.2.3 Type of Mobile Games

Nowadays, game can be separated into several types and sometimes the game can be classified into difference types at the same time. Moreover, mobile game are classified in seven types of games, such as action, action-adventure, adventure, role-playing, simulation, sport and strategy.

Type of mobile game	Definition	Example

<p>Action Game</p>	<p>Action game is the games that offer intensity of action as the primary attraction.[9] Normally, action games included completing challenges such as fighting or shooting and the recognisable character is using on screen by the player. There can be subcategorised into shooting games, 'platform' games (so called because the player's characters move between on-screen platforms) and other types of games that are reaction-based.[10]</p>	 <p>Figure 2.1 - Angry Birds Space</p>
<p>Action-Adventure Game</p>	<p>Action-adventure game is the games that mix the concept of the action game and the adventure game. The action-adventure game is normally involves a background story of the main character same like the adventure game, but the different with the adventure is the way of playing the game is follow the way of action game. In the most of the action-adventure game, the player need complete the mission or objective by using good reflexes and fast paced.</p>	 <p>Figure 2.2 - Resident Evil 4: Lite</p>

<p>Adventure Game</p>	<p>Adventure game is the games that offer exploration and puzzle solving as the main attraction.[9] Normally, the adventure game involved a main character with the background story and the player need to complete a specific rescue mission or objective to reach the end of the adventure. In the most of the adventure game, the player solves a number of logic puzzles (with no time constraints) in order to progress through some described virtual world.[10]</p>	 <p>Figure 2.3 - The Simpsons: Tapped Out</p>
<p>Role-Playing Game</p>	<p>Role-playing game is the games that offer the player an opportunity to immerse themselves in the player character's situation.[9] In the role-playing game, the players assume the characteristics of the main character[10] and make decisions based on the story line of the game. Role-playing games often involve narrative guiding the player through the game world and may the main character on their journey through the game guide by a master (a character in the game).</p>	 <p>Figure 2.4 - Final Fantasy IV</p>

<p>Simulation Game</p>	<p>Simulation game is the primary game play element of a simulation is its ability to match real world situations.[9] Simulation games can often be used to train professional people on how to operate machinery and the player can learn how to control the vehicles. In the simulation game, the player has to succeed within some simplified recreation of a place or situation, example mayor of a city, controlling financial outlay and building works.[10]</p>	 <p>Figure 2.5 - LINE: I Love Coffee</p>
<p>Sport Game</p>	<p>Sport game is the games that offer the player play the real-world sports in the digital world. The sport game normally involves mimicking the actions of real professional sports star and categories key players within the game with different level of skills.[11] The player can control the professional sports star (character in the game) and feel him is in the sport game.</p>	 <p>Figure 2.6 - Real Football 2009</p>
<p>Strategy Game</p>	<p>Strategy game is the games entertain through reasoning and problem solving.[9] The strategy</p>	


	<p>game did not use much storytelling, although more recent game relies heavily on quality narrative. The strategy games such as commanding armies with in recreations of historical battles and wars.[10]</p>	 <p>Figure 2.7 - Command & Conquer: Red Alert 3</p>
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Table 2.2 Types of the game

2.2.4 Elements of Game

Elements of game are the inclusion of game elements in an instructional design provides designer with opportunities to “make use of number of cognitive strategies that enable the learner to elaborate on their own existing knowledge structures (schema), in other words, to construct new knowledge and understanding”. [12] In a standard mobile game, this seven elements of game will be use; there are concentrations, challenges games, player skills, control, clear goals, immersion and social interaction.

Element	Definition	Criteria
Concentration	Games should require concentration and the player should be able to concentration on the game.[12]	<ul style="list-style-type: none"> • Games must provide stimuli that are worth attending and maintain their focus throughout the game. • Games should quickly grab the