LEARN BASIC MANDARIN LANGUAGE BY MOBILE GAME

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This report is submitted in partial fulfillment of the requirements for the
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DECLARATION

I hereby declare that this project report entitled

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

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The knowledge skills acquired during the research, the assessment can be carried out during the lectures hours to identify the current level of knowledge gained from the university. Further than that, with the persistent researches during the project development will improve the soft skills either by reports or social relationship among colleagues in an organization.

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ABSTRACT

This project is about the development of mobile games to learn the basic of Mandarin language. Players do not need to rely on access to computers will be involved in activities related more closely to their current environment. With the mobile game, players can learn Mandarin Chinese, wherever they want. This is a potential for significant changes in teaching and learning. Taking the broader field of mobile learning as the setting within which developments in mobile-assisted language learning may be understood, an emphasis on mobility can lead to new perspectives and practices. Besides, mobile is a phone as well as a place where progress in learning the language. The mobile game is matching game, which the player can spend the free time play the game and learn the basic of Mandarin Language. 'Mobile learning' is not a stable concept; therefore its current interpretations need to be made explicit. Examples of current projects and practices show an affinity between mobile and games-based learning and can further illuminate what is distinctive and worthwhile about mobile learning.

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ABSTRAK

Projek ini adalah tentang pembangunan permainan telefon mudah alih untuk mempelajari asas bahasa Mandarin. Pemain tidak perlu bergantung pada akses kepada komputer tetap dapat terlibat dalam kegiatan-kegiatan yang berkaitan lebih dekat dengan persekitaran mereka sekarang. Dengan adanya permainan telefon mudah alih, pemain dapat belajar bahasa Mandarin di mana sahaja mereka suka. Hal ini menjadikan potensi perubahan yang signifikan dalam mengajar dan belajar. Telefon mudah alih memainkan peranan yang penting dalam bidang pembelajaran. Selain itu, telefon bimbit juga sebagai tempat di mana perkembangan dalam belajar bahasa. Penekanan pada mobiliti boleh menyebabkan perspektif baru dan amalan. Permainan telefon mudah alih juga membolehkan pemain mengisi masa lapang dengan bermain dan dalam masa yang sama mempelajari asas Bahasa Mandarin. Contoh projek yang sedang berjalan dan amalan menunjukkan afiniti di antara mobil dan permainan berasaskan pembelajaran dapat menjelaskan kepentingan *m-learning*.

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LIST OF ABBREVIATIONS

CPU	-	Central Processing Unit
CD	-	Compact Disc
DVD	-	Digital Versatile Disc/ Digital Video Disc
FTMK	-	Faculty of Information and Communication Technology
HCI	-	Human Computer Interaction
ICT	-	Information and Communication Technology
IP	-	Internet Protocol
LBML	-	Learn Basic Mandarin Language
LSDA	-	Learning and Skills Development Agency
MDA	-	Model Driven Architecture
OS	-	Operating System
PC	-	Personal Computer
RAM	-	Random Access Memory
SJK	-	Sekolah Jenis Kebangsaan
SMS	-	Short Message Service
UTeM	-	Universiti Teknikal Malaysia Melaka
WWW	-	World Wide Web

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CHAPTER I

INTRODUCTION

1.1 Project Background

Nowadays, mobile usage is increasing year by year. Many applications has been developed which can use in mobile phone. This project was developed based on the user requirement. This project came out with the mobile educational game because most of the people are having mobile phone including the primary school students.

It is not easy to memorize Chinese word, meaning, stroke order and Pinyin as well. In fact, it is quite boring and frustrating.

It is the initiation to develop the game that could help learn language in a more active, effective and funny way. Illustrative interface, sound effect, animation and interactivity will make the learning ever interesting. It is a simple matching game, the player can learn the language and can play the games. Learn Basic Mandarin in mobile game applications that will help the player know the meaning of the words when play the game.

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1.2 Problem Statement

Nowadays most of the people owned mobile phone. Malaysia consist of different races, with the concept one Malaysia that was introduced by current Prime Minister. We as a citizen must know more languages to communicate with other people. The problem that faces is less learning Mandarin language using mobile application. Nowadays, people very busy with work and not have time go for tuition Language class. There is less mobile application based on learning language. The games that teach the language no have lesson, so when user play the games, it will not make the player understand the meaning of the game.

Thus, an approach of a teaching method that didn't seem like a teaching lessons need to be developed for the children, so that they can learn while they didn't feel like they are actually taking lessons like in class. The problem that faces is less learning Mandarin language using mobile games. The language matching games not have lesson content, player not understand the meaning of the word.

1.3 Objective

The objectives of this project are:

i. To develop a mobile game for user to learn the basic Mandarin Language.
ii. To design a mobile game that will assist users in learning language skill.

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iii. To assess effectiveness of mobile games developed.

1.4 Scope

The scopes of this project are:

i. The game contains of three levels which are
   - Level easy- contains picture image
   - Level intermediate- contains word image
   - Level difficult- contains both picture and word image.

ii. Three categories of lesson which are animals, fruit, and color. It contains learning content. The user can learn first before play the game.

iii. The lesson contains of other two languages which are English and *Bahasa Malaysia* to let the user understand the meaning.

iv. The target user is for who are no basic in mandarin language and age between 7-12 years old.

v. Deliver by Nokia mobile phones that support Flash Lite 2.0.

1.5 Project Significance

This research is very important to help people that have initiation to learn Mandarin language in the easy way. It will become a new way in learning skills especially in Mandarin language by using mobile technologies. The advantages using Flash Lite by the developer site will save more budgets.

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In addition, the users can use the Flash platform easily with no needs addition installation and can ready play it. With more creation based on mobile application, it will range up the usage of mobile technologies in the market.

Mobile game is reaching a new kind of user through convenience. It can be accessible from anywhere to view the content. Besides, it is also engaging and fun. The combination of game and learning lesson will make the game more entertain with effective experience.

1.6 Conclusion

As a conclusion, this project will make the user easier to learn Mandarin language with more attractive way. The mobile phone can bring anywhere and anywhere to ensure the user easier to learn Mandarin Language. It can be played by mobile phone with Symbian operating system and Flash Lite technology. The idea of combine the game with education in hand phone, is better for the user without waste the time. The next chapter will be about the literature review and methodology to develop the project.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter will briefly discuss the specific factors and research which has been done to get useful information for develops this project. Beside that, a research also has been done to get information on how to develop an interactive game. All the information's are from various resources include book and internet. Literature review used as summaries about important information from the resources.

The methodology to develop this game is using Instructional Design which is ADDIE model. In this chapter also will be a list of software and hardware requirements that will be used for this project.

2.2 Domain

Mobile game is categorized under ICT in mobile application. The games will develop in flash platform. Player will be learning the basic of Mandarin language. The word 'game' that is defined by Elliot Avedon and Brian Sutton-Smith stated that games are an exercise of voluntary control systems, in which there is a contest between powers, confined by rules in order to produce a disequilibria

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outcome [1]. That definition is simplified by Jesse Schell in his book entitled 'The Art of Game Design'. He stated that the games are entered willfully, have goals, conflicts, rules and can be won and lost. All of these games elements are differ according to their genre. There are many genre of game as such, action game, educational game, role playing game, sport game and etc. The domain of this project is educational game using mobile application. This game will help people that want to learn basic Mandarin Language that contain three categories. The use of games in education is already existed long time ago. 'There is evidence that the use of games as instructional tools dates back to 3000 B.C. in China' (Dempsey, Lucassen, Haynes, & Casey, 1998). From this statement we can know that ancient people also have seen game as a great potential in education. But for that time, they might use the game to teach their children about surviving knowledge, which still intended to teach. As for today, in this new modern era where education is very important, various techniques have been produced to educate children in interesting ways. One of the techniques is educating through games.

When developing a product for education, it must relate to learning theory. Until today, a lot of learning theory existed. Based on www.learning-theories.com, these learning theories can be divided into few groups which are Behaviorist theories, Cognitive Theories, Constructivist, and Social and situational Theories, Motivational and Humanist Theories, Design Theories and Model, descriptive and Meta Theories, Identity Theories and Miscellaneous Learning Theories and Models.

"Beside that the history of Mandarin Language is there are 70,000 Chinese characters and phonetic sounds. An average person has to know about 3,000 characters to be able to read the newspaper. In secondary schools the number of characters taught is 5,000. This is a discussion of the language of the Chinese, or Han, people, the majority ethnic group of China, including both the People's Republic of China and Taiwan. Of China's more than 1 billion people,

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approximately 95 percent speak Chinese, as opposed to the non-Chinese languages such as Tibetan, Mongolian, Lolo, Miao, and Tai spoken by minorities. Chinese is also spoken by large emigrant communities in Southeast Asia, North and South America, and in the Hawaiian Islands. More people, in fact, speak Chinese than any other language in the world; English ranks second in number of speakers and Spanish third. As the dominant language of East Asia, Chinese has greatly influenced the writing systems and vocabularies of neighboring languages not related to it by origin, such as Japanese, Korean, and Vietnamese. It has been estimated that until the 18th century more than half of the world's printed books were Chinese." (Retrieved from http://www.paulnoll.com/China/Culture/language-history.html)

2.2.1 Introduction mobile gaming

The Mobile Games 2010 study (MG2010) was initiated by Nokia Research Center (NRC) at the end of year 2005 to get insight on how the mobile games and gaming will be like within a few years time. (MG2010) started the study by organizing a professional workshop with 13 game experts in Nokia. With the data that was gathered in the workshop, (MG2010) created an interview structure and interview 20 mobile game developers, publishers, operators and other researchers. The interviews were done either in face-to-face situation (majority) or via phone, and email [8]. The interviews were semi-structured.

There are no huge differentiation between develop game for mobile phone and PC. Although the coding is same, it must be distress that navigation within mobile phone and PC are different. Mobile phone is using keypad or soft key while PC is using keyboard or mouse to move or select the object. It means not all the code for PC games can be used in mobile phone game. Besides, the screen resolution for mobile and PC is different. It is more comfortable seeing objects

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using big screen rather than from mobile phone screen. Developing PC games can use Java, action script, C++, C#, Python, and so on. Using Java language, there will be no problem since most mobile phones are support this language. Using action script, built using Adobe Flash, it needs Flash Lite when playing the game inside mobile phone. Not all mobile phone support Flash Lite and support the same Flash Lite version since there are versions of Flash Lite available. The table 2.1 is the summary of the difference between PC games and mobile game.

Table 2.1: Differentiation between PC and Mobile Phone

Difference	PC Game	Mobile game
Programming	Python, C++, Java, action script	J2ME, flash lite
Size	Not limited	Limited Application Size
Sound and color support	High	Limited
Screen resolution	High	Low
Latency	High	High
Memory	Big	Limited
Function	Can apply any function that support by the software	Limited

2.3 Existing System

There is less learning language based on mobile games. Most of the learning Language are based on interactive CD which can be found in some learn Mandarin Language Book that need to pay money to buy it or by e-learning. Beside that, some tuition class for learning language need to take time and pay more.

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