Learning Korean Language Using Multimedia

by

Ilya Syarah bt. Abdul Aziz

Dissertation submitted in partial fulfilment of
the requirements for the
BACHELOR OF TECHNOLOGY (Hons)
(BUSINESS INFORMATION SYSTEM)

MAY 2011

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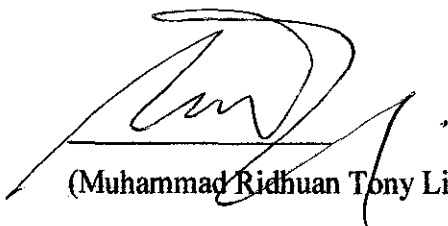
CERTIFICATION OF APPROVAL

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A project dissertation submitted to the
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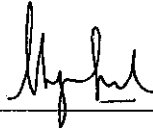
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UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK
MAY 2011

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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(ILYA SYARAH BT ABDUL AZIZ)

ABSTRACT

This project purpose is to introduce an application for Korean language learning through Malay and English language specifically targeted for Malaysian users particularly using multimedia which will includes materials such as videos from dramas and movies including songs and lyrics. This project is also initiated from the abundance and popularity of Korean dramas and songs among Malaysian nowadays, which resulted to the increasing interest for Malaysian to learn Korean language. This project focuses on learning Korean language using entertainment materials and as a complement to the current language learning platform. For language learning, this project uses communicative informative language teaching and learning and rapid application development for its system development methodology. This project is developed in the hope of introducing a systematic application that includes integrated multimedia materials to benefit the users or the language learners.

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I would like to express thousands of appreciations, highest gratitude and sincere thanks to my supervisor, Mr. Muhammad Ridhuan Tony Lim Abdullah for all the valuable guidance, positive and constructive critics and advice that have been given to me upon completing this project.

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INTRODUCTION

1.1   BACKGROUND OF STUDY

Language is accepted as the centre of human life and being used to express love, hatred, achieve goals, further careers, and gain artistic satisfaction or simple pleasure. Through language lives can be planned, past can be remembered, ideas and experiences can be shared, and social and individual identities can be formed. Some people are able to do some or all of this in one or more than one language (Cook 2001). Nowadays the mastery of two foreign language seems to be a necessity where studies indicated that this dual language ability can lead to higher competency levels, confer long-term cognitive advantages and academic achievement. (Griva, Semoglou, Geladari, 2010).

This research is focusing more on language acquisition which could be defined as:

"...a subconscious process of acquiring language where the learners are unaware of grammatical rules. This is similar to the way they acquire their first language. They get a feel for what is and what isn't correct. In order to acquire language, the learner needs a source of natural communication. The emphasis is on the text of the communication and not on the form." (EverythingESL)

There is an important distinction made by linguists between language acquisition and language learning:

"Language learning, on the other hand, is not communicative. It is the result of direct instruction in the rules of language. In language learning, students have conscious knowledge of the new language and can talk about that knowledge. They can fill in the blanks on a grammar page. Research has shown, however, that knowing grammar rules does not necessarily result in good speaking or writing." (EverythingESL)

In addition, this research uses three terms of language which are L1, L2 and FL. The acronym "L1" is shorthand for referring to someone's native language. This is generally used in contrast to "L2", which is the language a person knows, is learning or is acquiring in addition to their native language (Glossary of TEFL Acronyms) "FL" or foreign language is defined as a language indigenous to another country and not a language spoken in the native country of the person referred to (Wikipedia).

This research is conducted for the acquisition of a foreign language which is the Korean Language within the context of Malaysian language learner. Due to that, this language acquisition is categorized as the Second Language Acquisition, and apparently this 'second' is not intended to contrast L2 acquisition with FL acquisition as defined by Ellis (2003) as:
"...any language that is learned subsequent to the mother tongue. Thus, it can refer to the learning of a third or fourth language. Also, 'second' is not intended to contrast with 'foreign'. Whether you are learning a language naturally as a result of living in a country where it is spoken, or learning it in a classroom through instruction, it is customary to speak generically of 'second' language acquisition." With this, the second language acquisition is widely used within this research context.

Last but not least, the focus of this research is for second language acquisition through L1 using multimedia application. Below are the definitions for multimedia from various sources:

"...media and content that uses a combination of different content forms. ... The term is used in contrast to media which only use traditional forms of printed or hand-produced material. Multimedia includes a combination of text, audio, still images, animation, video and interactivity content forms." (Wikipedia)

"More than one media, for example, combined audio and visual components. ... a number of interactive presentations, shockwave & flash predominantly, only contain one media but are generally accepted as multimedia components..." (U.S. Environmental Protection Agency)

"Term used for media products and services which are saved, transmitted and depicted electronically. ... include the combination of static (text and image) and dynamic (audio, animation and video) elements and the interactivity of its content." (Heidelberg)

More or less, all the definitions can conclude multimedia as a combination of media elements with interactive content.

Advantages of Learning Foreign Language

There are several reasons on why Malaysians should learn foreign language, namely Korean language, below are the several reasons introduced by Vistawide:

1. To increase global understanding

In a world where nations and peoples are dependent on another to supply goods and services, solve political disputes, and ensure international security,

understanding other cultures is paramount. Lack of intercultural sensitivity can lead to mistrust and misunderstandings, to an inability to cooperate, negotiate, and compromise, and perhaps even to military confrontation. A person competent in other languages can bridge the gap between cultures, contribute to international diplomacy, promote national security and world peace, and successfully engage in international trade.

In Malaysia particularly, Malaysia - South Korea relationship is improving as it is expected bilateral trade between Malaysia and and South Korea is expected to double within five years from the current US$16 billion. The prime minister of Malaysia also said both countries had agreed to look into the possibility of having a separate Malaysia and South Korea Free Trade Agreement (FTA), to complement the Asean-South Korea FTA. (The New Straits Time)

2. To improve employment potential

If businesses are to effectively compete in a global economy, they must learn to deal with other cultures on their own terms. Companies that plan to do business abroad therefore have a dire need for bilingual or multilingual employees. Businesses that intend to compete internationally need employees who can competently communicate in the locales where they do business. Employees who speak one language can communicate only with people who speak that same language.

Business is not the only area of employment where language competencies are needed, however. Multiple government agencies, the travel industry, engineering, communications, the field of education, international law, economics, public policy, publishing, advertising, entertainment, scientific research, and a broad array of service sectors all have needs for people with foreign language skills.

Learning new language can improve one's employment marketability, and learning Korean is one opportunity to work with South Korea as a developed country and Asia's 4th largest economy, with the addition of good relationship between both Malaysia and South Korea.

3. To increase native language ability

Research shows that knowledge of other languages boosts students' understanding of languages in general and enables students to use their native language more effectively. This applies to specific language skills as well as overall linguistic abilities. Higher reading achievement in the native language as well as enhanced listening skills and memory has been shown to correlate with extended foreign language study.

4. To sharpen cognitive and life skills

Because learning a language involves a variety of learning skills, studying a foreign language can enhance one's ability to learn and function in several other areas. People who have learned foreign languages show greater cognitive development in areas such as mental flexibility, creativity, and higher order thinking skills, such as problem-solving, conceptualizing, and reasoning. In addition to cognitive benefits, the study of foreign languages leads to the acquisition of some important life skills. Because language learners learn to deal with unfamiliar cultural ideas, they are much better equipped to adapt and cope in a fast-changing world.

5. To improve chances of entry into college or graduate school

The Korean government constantly willing to invest in scholarships and exchange programs as they highly values our relations with Malaysia. In 2008, the government of the Republic of Korea recently awarded scholarships totaling

RM8mil to 41 Malaysians to pursue graduate studies in Korea.(The Star) This Korean Government Scholarship Program is also being continued in 2009 and 2010. From author's observation, this scholarship do provide Korean language classes but the duration is only for 1 year, this is why for students interested in studying in Korea should learn Korean language earlier to be familiar with the language before actually joining a formal language class.

6. To appreciate international literature, music, and film

A translation of a text can never be fully true to the intent, beauty, style, and uniqueness of its original. A translation is always to a large degree subject to the interpretation of the translator, not least because some elements of languages simply don't have translations in other languages. Word plays, metaphors, innuendoes, cultural references and culturally loaded vocabulary words, and formulations unique to the original language often get lost in translation. To be able to fully appreciate literature, theater, music, and film in other languages, one must be able to access them in their original form.

With this project, Korean language learner can learn and at the same time appreciate Korean music, films and dramas.

7. To make travel more feasible and enjoyable

When there is a lack of the ability to communicate in the native language, one cannot fully participate in day-to-day life, understand the culture, or communicate with the people. The language barrier can be anywhere from frustrating to downright dangerous. When one know the language, they will have the comfort of being able to successfully navigate all sorts of situations, like order meals in restaurants, ask for and understand directions, find accommodations and perhaps negotiate cheaper prices, and meet and talk with natives, to name only a few. In most countries, people will appreciate attempts to use their language. In Korea

specifically, tourists with no Korean language knowledge may have a hard time in communicating since English is not widely use their in everyday lives.

1.2   PROBLEM STATEMENT

Currently there is also no an integrated application that uses various types of media materials namely song lyrics, videos (drama and movie clips and music videos) and comic books, combined in one platform to facilitate language learning. By using these media materials, learners not only can learn language but they will also be indirectly exposed to the real culture environment from dramas and movies.

The current approach in learning languages using the developed computer software is slowly being stereotyped to using the same activities. Below is a list provided by Nunan (1999) where a group of advanced second language learners were asked to nominate the things that helped them the most and least in learning foreign language.

Things that helped most:	Things that helped least:
1. Conversation with learned language speaker's/in groups	1. Learning grammar / drills
2. Finding opportunities to practice outside class	2. Lack of opportunity to use learned language outside class
3. Accessing media: radio, TV, newspapers	3. Poor teaching
4. Formal classes / learning with a teacher	4. Being criticized / punished
5. Motivation	5. Practicing with L2 speakers / poor L1 speakers

Figure 1: Most and less effective language learning techniques.

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This proved that, this research concludes that learning grammar and drillings which both are widely used in language learning software, is the activity that helped learners the least and accessing media also being proven that it is a wise decision to use the media materials for language learning as it is among the activities that helped the language learners the most.

1.3 OBJECTIVES

2. To identify the suitable use of multimedia elements to be integrated in developing learning modules for elementary learning of Korean language.
3. To determine the design requirements in order to develop a prototype for the modules identified.
4. To develop the prototype of the learning modules application for learning Korean language.
5. To evaluate the prototype developed using functional testing, usability testing, user experience testing, and user acceptance testing.

1.4 SCOPE OF STUDY

This research covers only on learning Korean language in Malaysia, and it will focus on the second language acquisition through L1 which is learning Korean language through Bahasa Malaysia. Due to the multiple language used and culture being applied in Malaysia, the developed project will also include learning in English which is the second language in Malaysia, especially for non-native speaker of Bahasa Malaysia, but the focus of this research will not be covering learning though English language as it is already being widely used throughout the world. The purpose to include English alongside of Bahasa Malaysia is to ensure the project can be used universally in Malaysia.

This research also only focusing on creating modules for elementary or basic Korean language as the current focus will be on the application concept itself instead of the content. Further explained as, for this current research, author only covers on creating the modules prototype, not the learning content, but the Korean language content for this research is sufficient enough for user to experience the concept of this application.

To evaluate user's performance after each module, this application provides quiz modules, where the user will be asked simple question based from the content used in every modules.
The multimedia elements used to be integrated in this application is entertainment videos from Korean movies, drama and music videos with subtitles; Korean songs with translated lyrics; and translated digital comic books.

An important note for this research and project is, the final outcome of this research as in the form of language learning application, will not be replacing other learning platform such as the internet, books and classes, but instead will complement these platforms to benefit the users and the use of this application with other learning platform is highly encourage if the user's target is to be highly fluent in Korean language as this application contents are limited for this prototype.

CHAPTER 2

LITERATURE REVIEW

This literature review has been conducted based on several themes, namely;

A. **On the second language learning approach, with the focus on analyzing the previous research's approach used and selecting the most suitable approach to be applied in this research.**

"Our greatest challenge now is not to throw out well-established practices, as so often happened in the past, but to incorporated new ways of doing things into existing practices." (Nunan, 1999)

As mentioned above, several learning and teaching style has been identified from several experts in this field:

Cook (1999) classified these as L2 learning and teaching styles and the selected styles consists of:

1. The academic style.

   Typical teaching techniques: Grammatical explanation, translation, etc.

   Goals: Directly, individual learning of the second language as an academic subject. Indirectly, ability to use language.

   Type of student: Academically gifted, not young children.

The core aspects are the use of texts, of traditional grammar and of translation. Conscious understanding of grammar and awareness of the links between the first and second language are seen as vital to learning and because of this reason, this style is sometimes known as the grammar-translation method.

2. The audiolingual style.
   Type of student: Non-analytical, non-academic.

   Its emphasis is on teaching the spoken language through dialogues (usually a short constructed piece of conversation used as a model of language and to introduce new words or structures) and drills (a form of mechanical practice in which words or phrases are substituted within a frame and practiced till they become automatic). The goal of this style is to get students to 'behave' in common L2 situations and it's about learning language for the actual use.

3. The communicative style and task based learning.
   This style meant redefining what the student had to learn in terms of communicative competence rather than linguistic competence. The crucial goal was the ability to use the language appropriately rather than the grammatical knowledge or the 'habits' of the first two styles. The communicative behavior of native speakers was used as the basis for syllabuses. At least, three variants of the communicative style emerged:

- Social communicative: Emphasizes the joint functioning of two people in a situation.
- Informative communicative: Stresses the exchange of information, of ideas and meanings, rather than the relationships between people.
- Task-based learning: Emphasizes the collective solution through classroom tasks with definite outcomes.

4. The mainstream EFL style.

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5. Other styles: Community language learning (CLL), Suggestopedia, confluent language teaching, and self-directed learning.

To know the origin of second-language teaching, Nunan (1999) explore the educational and philosophical bases for second language teaching and learning, by listing these concepts:

1. The humanistic tradition and experiential learning

Experiential learning is where the learners are the center of the learning process, and that learning is a process of self-discovery, also the learner's immediate personal experience are taken as the point of departure for deciding how to organize the learning process.

Humanistic psychology attempts to make sense of experience at the point where sociology and psychology intersect. It captures the fact that humans are simultaneously looking inwards and operating outwards, and that any attempt to understand what motivates behavior must necessarily capture the individual in relation to the group.

2. Communicative language teaching

... it was not necessary to attempt to learn everything, that a language was not an external body of knowledge into which the learner had to be 'initiated'... this new view of language also had an important effect. If the aim of language teaching is to help learners develop skills for expressing different communicative meanings, then surely these ought to be reflected in classroom tasks and activities.

3. Learner-centered education

... key decisions about what will be taught, how it will be taught, when it will be taught, and how it will be assessed will be made with reference to the learners, and, where feasible, from learners, will be used to answer the key questions of what, how, when and how well.

A learning-centered classroom is designed to enable the learner to make critical pedagogical decisions by systematically training them in the skills they need to make such decisions.

4. Negotiated curricula

... the views of the learners as well as the pedagogical agenda of the teacher are satisfied through a process of give-and-take. In a classroom where the content and process are negotiated, neither the learners nor teacher have it all their own way. As the label suggests, what gets taught, and how it is learned, are arrived at through discussion and compromise.

5. Task-based language teaching

Is an approach to the design of language courses in which the point of departure is not an ordered list of linguistic items, but a collection of tasks. It draws on and reflects the experiential and humanistic traditions described above, as well as reflecting the changing conceptions of language itself.

From the learning and teaching style mentioned above, author decided to adopt the communicative language learning and specifically the informative communicative style. This is due to the nature of this style that focusing on the learning a language to communicate and not emphasizing on the grammar or the structure of the language. As this project will be extracting materials that being published in Korea, the materials will be original in terms of the culture and the language style used, which is on the everyday lives language and not the academic language. From this communicative language learning and teaching style, author found this as the most suitable style to design this project's learning modules. To explain more on the communicative language teaching and learning is suitable for this project, below are some of the details gathered from various sources:

Communicative Language Teaching (by Shengxi and Lei)

"Language is used for communication. For this reason, CLT makes use of communication to teach languages. CLT emphasizes real-life situations and communication in context. While grammar is still important in the CLT classroom, the emphasis is on communicating a message.

CLT also stresses social and situational contexts of communication. In CLT, students learn about language in social contexts, such as the difference between speaking with an elder and a peer.

Multimedia is an ideal way to teach language using CLT as the theory. It allows for realistic simulations of communicative situations. Many such programs are games, such as "A la rencontre de Philipe" or "Who is Oscar Lake?". They place the learner in a situation in which understanding basic communication, and social and cultural contexts are vital to advancing in the game. "

Cook (2001) introduced a more focused style under the communicative language teaching which is the:

Informative Communicative Teaching

"Overall it emphasizes the information that is transferred rather than the social interaction between the participants ... the point is understanding the information and on the listening first approach; and listening is the crucial key to extracting information from what you hear. Example lesson by Gary and Gary (1981): From their listening-based materials "More English Now!, which are designed for hotel staff in Egypt. The lesson starts with a 'Preview' section in which the language content of the lesson is explained and in which 'important words' such as 'last week' and 'checked out' are translated into Arabic. In the next section, 'Let's Listen', students hear a tape giving the bookings for a hotel for next week and carry out a task-listening exercise, first filling in a form with the guests' names and details and then

answering questions such as 'Who was in room 104?' in writing. Finally a 'Let's Read' section gives them the same tasks with a written text. Such listening-first teaching requires the students to listen actively but not to produce sentences until they are ready. The point here is the information transfer.

The concentration is on the information to be obtained from language, not on the social relationship between listener and speaker. Working out information is the key factor and this style is compatible with a large range of teaching techniques. The listening based style caters for classes of any size and a broad range of students, provided they do not mind having to listen rather than speak in the classroom.

This style implies that there is information to communicate and the most important factor is the choice of information. It is possible to use 'real' content based on actual information about the 'real' world. 'Real' content makes the language lesson have a point. Different types of real information that might be conveyed include: Language: information about the language they are studying. Literature: Capable of bringing depth of emotion and art to the classroom that material written by course-writers can never do. Culture: Discussing the cultural differences between languages. Interesting Facts: After the lesson, students can say they learnt something. Eg. How to use chopsticks, how to make coffee, etc."

With this variant introduced, author has decided that this research and project should apply this style as the learner using this project will not have any communication with people. With that, the project will be focusing on the content and applied the communicative informative language teaching and learning.

2. To analyze previous studies on second language acquisition through L1 by listing the effectiveness.

According to Nation (2003):

Second language use in the foreign language classroom needs to be maximized wherever possible ... However, research shows that the first language has a small but important role to play in communicating meaning and content. This role is important across all four strands of a course, but here the only related content is only from two strands, which are:

I.   Meaning focused input (learning through listening and reading) and output (learning through speaking and writing)

Meaning focused tasks can carry a heavy cognitive load. Not only do learners have to focus on what to say os what is being said, they also have to focus on how to say it or how it is being said. A research done by Lameta-Tufuga (1994) on the effects of learners discussing a task in their first language ... with that, they had the opportunity to fully understand the content before they conducted the written task. The features of the first language discussion of the task are, the learners were all very actively involved and it also helped learners to gain control of relevant L2 vocabulary in a very supportive L1 context.

Another research was done by Knight (1996) that resulted in the learners who did the prepatory L1 discussion in groups did much better on the L2 written task than others who did their discussion using the same language as the assigned task. L1 do have a useful role in helping learners gain the knowledge needed to reach a higher level of L2 performance.

II. Language focused learning (learning through deliberate attention to language features) and first language use

There are numerous ways of conveying the meaning of an unknown word that include a definition in the second language, a demonstration, a picture or a diagram, a real object, L2 context clues or an L1 translation. In terms of the accuracy, none of these ways is better than the others. However, studies on the comparison in terms of the effectiveness always resulted that an L1 translation is the most effective (lado, Baldwin and Lobo 1967; Mishima 1967; Laufer and Shmueli 1997). This is maybe due to L1 translations are usually clear, short and familiar, qualities which are very important in effective definitions (McKeown 1993). ... learners have a very effective strategy for speeding up vocabulary growth (Nation 2001: 296-316).

There are criticism raised of learning L1-L2 word pairs, but these criticisms are not supported by research, in fact the research shows the opposite as a very effective method of learning.

Furthermore, Tagashira, Kida and Hoshino (2010) implies that the more learners are familiar with the L1 corresponding meaning, which serves as a response item in a paired-association learning, the stronger the association between the new L2 word form and L1 translation; therefore, stronger correspondence and association enhance learning. Which is why this project will proceed to approach the Malaysian learners using both Bahasa Malaysia and English language, as Bahasa Malaysia is the most widely use in Malaysian's daily life since it is the national language and also in English where it is the second language used in Malaysia as a language for higher education level, business and economics and various other purposes.

3. Based on previous studies, to identify the most effective age range to learn foreign language.

Nunan (1999) stated that:

The effect of age on acquisition has been extensively documented, the issue being whether younger learners acquire a second language more efficiently and effectively than older learners. Until now there is still no research that settled the issue (Scovel 1988) due to from a research perspective, the issue is more complex than it might seem at first.

Ellis (1985) points out that age does not alter the route of acquisition (whether the same target language items are acquired in the same order for different learners), it does affect the rate (how rapidly the learners acquire the language) and ultimate success (how proficient they end up being). ... in terms of rate. adults appear to do better than children (6 to 10 years), while teenagers (12 to 15 years) appear to outperform both adults and children.

Cook (2001) also stated that:

Undoubtedly children are popularly believed to be better at learning second languages than adults. ... But evidence of the superiority of young children has proved surprisingly hard to find. ... from previous research, if children and adults are compared who are learning a second language in exactly the same way, ... adults are better. ... Age itself is not so important as the different interactions that learners of different ages have with the situation and with other people. ... Other research shows that when teaching situation is the same, older children are better than younger children even at pronunciation.

With the above opinions by these two authors that conclude there is no specific age that a learner will effectively learn a language, this research and project will

focus on teaching language for the group of older teenagers to young adult (15 to 30 years). This is because the materials used such as songs and videos are very suitable to this age group which is from the generation y (born between 1980s and 1990s) that is famous for technological savvy which is why they have access to the latest media namely songs, films and dramas.

4. Identify previous studies on teaching second/foreign language using computer-based application with multimedia and its effectiveness compared to using other medium.

In this section, numerous sources found and almost all of the literatures were in favor of teaching and learning using computers and multimedia. Below are some of the extracts from some of the sources found:

A large body of the research has focused on software and task design in CALL suggesting that computer technology has brought convenience for teaching and learning language skills such as pronunciation, grammatical structures, lexical items, reading comprehension, listening, communication skills, and culture. Moreover, Barker and Torgeson claimed that making use of various types of software programs, computer assisted instruction, and integrated learning systems provides students with more influential reading instruction and improves their phonological awareness. (Rahimi and Yadollahi 2010)

Liu, Moore, Graham, and Lee conducted a literature review on research from 1990 – 2000, and some on the extracts are:

Dunkel (1990), for example, asserted that the possibilities of computer technology as a tool could include increasing language learners' (1) self esteem, (2) vocational preparedness, (3) language proficiency and (4) overall academic skills. Educators were particularly interested in technology's interactive capabilities, such as providing immediate feedback and increasing learner autonomy, in addition to the

capability of simulating real-world situations via audio, video, and graphics (Chun & Brandl, 1992; Hoffman, 1995/1996; Jones, 1991, Legenhausen & Wolff, 1990).

Kramsch and Andersen (1999) argued that multimedia technology could provide authentic cultural contexts that are important for language learning. Three studies focused on the development of listening. Brett (1997) examined the usefulness of multimedia technology over simple audio and video equipment in promoting listening skills and concluded that multimedia could appeal to different modalities and hence may more effectively deal with different learning styles.

Research from 1990-2000 provided some evidence on the effectiveness of computer technology in second language learning. Findings from numerous studies suggested that the use of visual media supported vocabulary acquisition and reading comprehension, and helped increase achievement scores.

CHAPTER 3

METHODOLOGY

3.1   RESEARCH METHODOLOGY

For identifying the suitable use of multimedia elements to be integrated in the application, author conducted an extensive literature review to gather data and analyze the current approach used and what is the most suitable approach should be used in this research. Data will also be gathered using the survey method for the target user group. After collecting the research data, will then continue to collect the data for developing the project which is the most suitable media materials based on the survey and data collected to arrange the materials into logical modules to be integrated into the project.

For determining the design requirements in order to develop a prototype for the modules identified, author will conduct a research on the most suitable software development methodology from various sources namely software development books, journal on previous study on the most suitable methodology to develop a language learning application to be applied in developing the project.

For developing the prototype of the learning modules application for learning Korean language, author will develop the project/application stage by stage based on the decided flow and modules of the application using the most suitable features from Macromedia Flash as the main tool in developing this project.

For evaluating the prototype developed, author will conduct a testing session where selected potential users will be given the privilege to test the developed prototype based on the provided guidelines. The testing session will consist of functional testing, usability testing and user experience testing. These testing sessions, will allow the user to directly give feedback on the prototype, thus changes will be made accordingly to further improve the prototype development.

3.2   SYSTEM DEVELOPMENT METHODOLOGY

A system development methodology refers to the framework that is used to structure, plan, and control the process of developing an information system. A wide variety of frameworks have evolved over the years, each with its own recognized strengths and weaknesses. One system development methodology is not necessarily suitable to be used by all projects. Below is the selected development methodology defined by Office of Information Service (2008) that will be applied in developing this language learning application:

Rapid Application Development (RAD)

Basic Principles:

1. Key objective is for fast development and delivery of a high quality system at a relatively low investment cost.
2. Attempts to reduce inherent project risk by breaking a project into smaller segments and providing more ease-of-change during the development process.
3. Aims to produce high quality systems quickly, primarily through the use of iterative Prototyping (at any stage of development), active user involvement, and computerized development tools.
4. Key emphasis is on fulfilling the business need, while technological or engineering excellence is of lesser importance.

5. Project control involves prioritizing development and defining delivery deadlines. If the project starts to slip, emphasis is on reducing requirements to fit the timebox, not in increasing the deadlines.

6. Generally includes Joint Application Development (JAD), where users are intensely involved in system design, either through consensus building in structured workshops, or through electronically facilitated interaction.

7. Active user involvement is imperative.

8. Iteratively produces production software, as opposed to a throwaway prototype.

9. Produces documentation necessary to facilitate future development and maintenance.

10. Standard systems analysis and design techniques can be fitted into this framework.

Strengths:

1. The operational version of an application is available much earlier than with other frameworks, namely waterfall, incremental, or spiral.

2. Tends to produce systems at a lower cost because RAD produces systems more quickly and to a business focus.

3. Engenders a greater level of commitment from stakeholders, both business and technical. Users are seen as gaining more satisfaction from producing successful systems quickly.

4. Concentrates on essential system elements from user viewpoint.

5. Provides the ability to rapidly change system design as demanded by users.

6. Produces a tighter fit between user requirements and system specifications.

7. Generally produces a dramatic savings in time, money, and human effort.

Weaknesses:

1. More speed and lower cost may lead to lower overall system quality.

2. Danger of misalignment of developed system with the business due to missing information.

3. Project may end up with more requirements than needed.

4. Potential for feature creep where more and more features are added to the system over the course of development.

5. Potential for inconsistent designs within and across systems.

6. Potential for violation of programming standards related to inconsistent naming conventions and inconsistent documentation.

7. Difficulty with module reuse for future systems.

8. Potential for designed system to lack scalability.

9. Potential for lack of attention to later system administration needs built into system.

10. High cost of commitment on the part of key user personnel.

11. Formal reviews and audits are more difficult to implement than for a complete system.

12. Tendency for difficult problems to be pushed to the future to demonstrate early success to management.

13. Since some modules will be completed much earlier than others, well-defined interfaces are required.

Situation where most appropriate:

1. Project is of small-to-medium scale and of short duration (no more than 6 man-years of development effort).

2. Project scope is focused, such that the business objectives are well defined and narrow.

3. Application is highly interactive, has a clearly defined user group, and is not computationally complex.

4. Functionality of the system is clearly visible at the user interface.

5. Users possess detailed knowledge of the application area.

6. Senior management commitment exists to ensure end-user involvement.

7. Requirements of the system are unknown or uncertain.

8. It is not possible to define requirements accurately ahead of time because the situation is new or the system being employed is highly innovative.

9. Team members are skilled both socially and in terms of business.

10. Team composition is stable; continuity of core development team can be maintained.

11. Effective project control is definitely available.

12. Developers are skilled in the use of advanced tools.

13. Data for the project already exists (completely or in part), and the project largely comprises analysis or reporting of the data.

14. Technical architecture is clearly defined.

15. Key technical components are in place and tested.

16. Technical requirements (e.g., response time reasonable and well within the capabilitie performance should be less than 70% of the publish

17. Development team is empowered to make design decisions on a day-to-day basis without the need for consultation with their superiors, and decisions can be made by a small number of people who are available and preferably co-located.

Situations where least appropriate:

1. Very large, infrastructure projects; particularly large, distributed information systems such as corporate-wide databases.

2. Real-time or safety-critical systems.

3. Computationally complex systems, where complex and voluminous data must be analyzed, designed, and created within the scope of the project.

4. Project scope is broad and the business objectives are obscure.

5. Applications in which the functional requirements have to be fully specified before any programs are written.

6. Many people must be involved in the decisions on the project, and the decision makers are not available on a timely basis or they are geographically dispersed.

7. The project team is large or there are multiple teams whose work needs to be coordinated.

8. When user resource and/or commitment is lacking.

9. There is no project champion at the required level to make things happen.

10. Many new technologies are to be introduced within the scope of the project, or the technical architecture is unclear and much of the technology will be used for the first time within the project.

11. Technical requirements are tight for the equipment that is to be used.

Based on these principles, strengths, weaknesses, appropriate and least appropriate situations, author concludes that this is the most suitable system development methodologies, where the concepts applied consistent with this project's application attributes. Thus, further analysis and design of this application will be based on this methodology in line with using the strengths to minimize the weaknesses of using this methodology in this project.

3.3   FUNDAMENTAL PROJECT DESIGN

Below are the fundamental designs of this application. It includes activity diagram; that describe the flow of control of the target system, such as the exploring complex business rules and operations, and use case diagram; that describes the behavior of the target system from an external point of view.
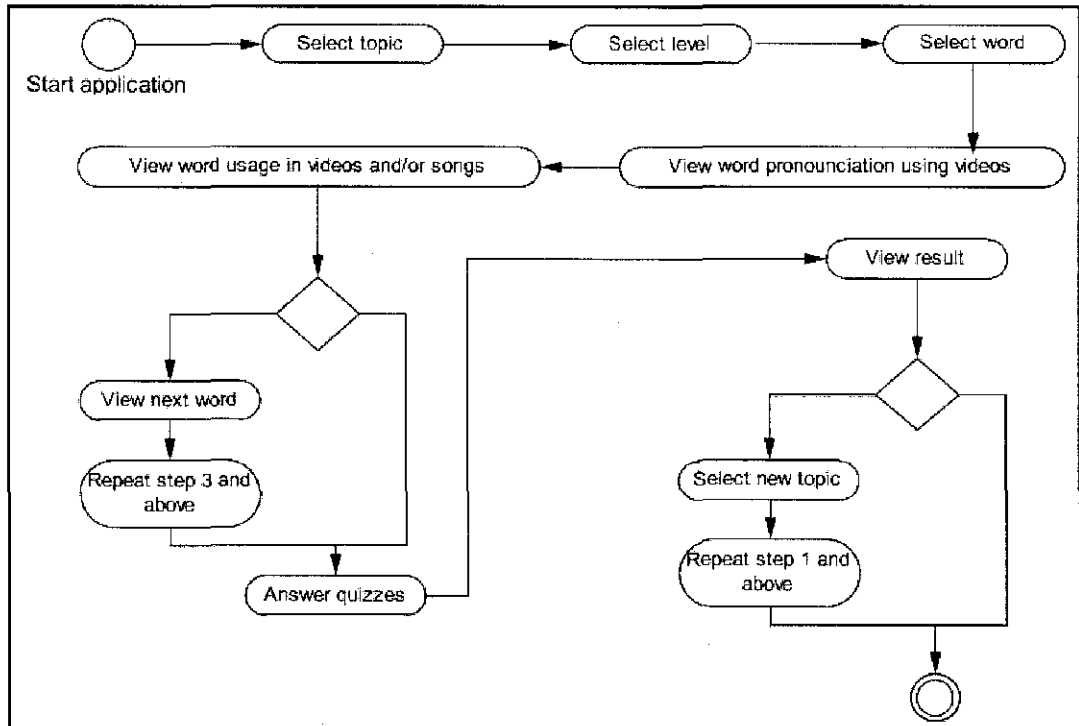
Activity Diagram

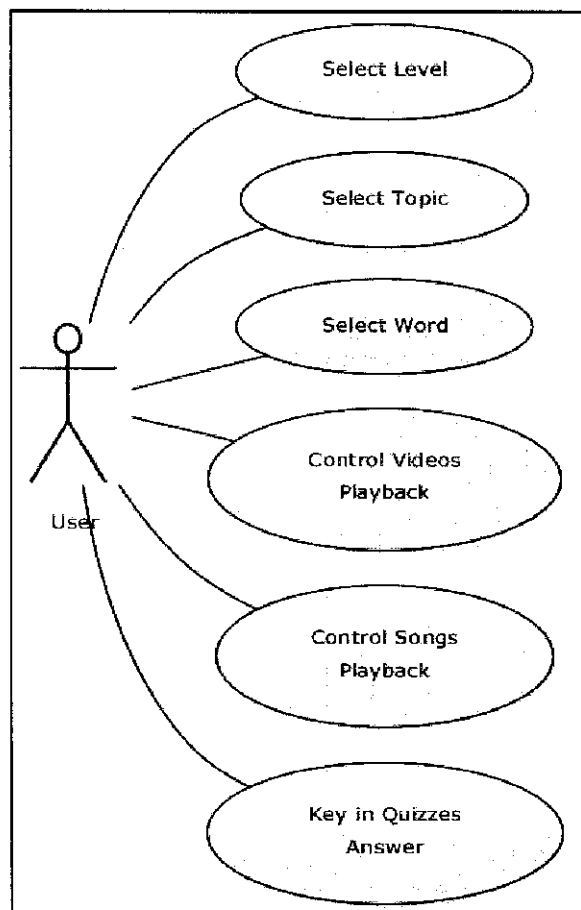**Figure 2: Activity Diagram**

Use Case Diagram

Figure 3: Use Case Diagram

3.4   PROJECT ACTIVITIES

1. Formulating the Research Problem to identify and decide on the research area.
2. Extensive Literature Review regarding the chosen research area.
3. Developing the objectives for both the research and application development.
4. Preparing the Research Design
5. Collecting the Data needed for the research
6. Analysis of Data
7. Generalization and Interpretation
8. Preparing the Software development design
9. Collect and analysis data based on the research result to be used in the application
10. Development of the application
11. Application evaluation
12. Preparation of the Report or Presentation of Results-Formal write ups of conclusions reached and application developed based on the conclusions.

3.5   TOOLS REQUIRED

This application is developed using mainly Macromedia Flash CS5 due to its features that are suitable with the elements of this application. Macromedia Flash is a program developed by Macromedia, Inc. and is a rich media application development power house. With Flash CS5 developers can create interactive experiences that feature rich media and the integration of dynamic, database-driven application.

3.6   GANTT CHART AND KEY MILESTONES

Please refer the attached chart on the next page.

No.	Detail/ Week	1	2	3	4	5	6	7		8	9	10	11	12	13	14
1	Project Work Continue	■	■	■												
2	Submission of Progress Report 1				●											
3	Project Work Continue				■	■	■	■								
4	Submission of Progress Report 2								Mid-Semester Break	●						
5	Seminar (compulsory)										■	■	■			
5	Project work continue									■	■	■	■			
6	Poster Exhibition											●				
7	Submission of Dissertation (soft bound)													●		
8	Oral Presentation														●	
9	Submission of Project Dissertation (Hard Bound)															●

● Suggested milestone
■ Process

CHAPTER 4

RESULTS AND DISCUSSION

This section will first discuss on the existing Korean language learning application, which will be taken into consideration in developing this project. These applications are being analyzed in terms of its effectiveness, flaws and advantages which will then be compiled to be applied in this project. Below, are the applications chosen due to its similarity to this project and its interesting features which can be considered to be in this project.

The first application is an online language learning site, which is a home of various languages around the world. This page can be viewed here: http://www.digitaldialects.com and it is free. The concept of this application is, to learn the chosen language with word lists, pronunciations, and play games related to the chosen module. The interesting features of this web application are it is fun, which includes the usage of colorful background, cute pictures, clear instructions, and easy to access.

Although this application is clearly very interesting and attracted many users, unfortunately there is some aspect that is not very impressive. The most noticeable is on its content which is very minimum and not effectively organized. It is understandable because the application provides many languages which will eventually result to less attention to its content. This application is more suitable for

kids and teenagers to use because of its interesting interface, but definitely not an option for a serious language learner.

Because of that, this project will not focusing on to develop games for the users but to actually provide users with promising content as it is targeted not for kids and teenagers usage. But, in terms of the flash design of this application, there are some of them that can be considered to be applied in this project. The next pages provide some of the screenshot of the web application discussed above.
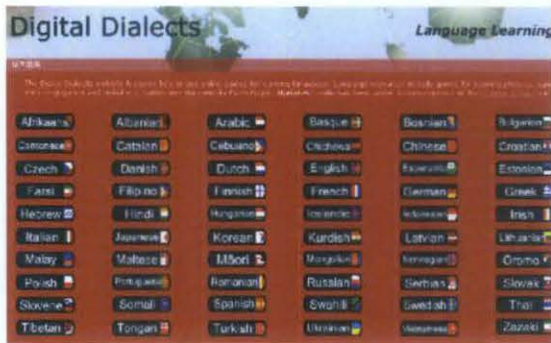
Figure 4: Digital Dialects - 1
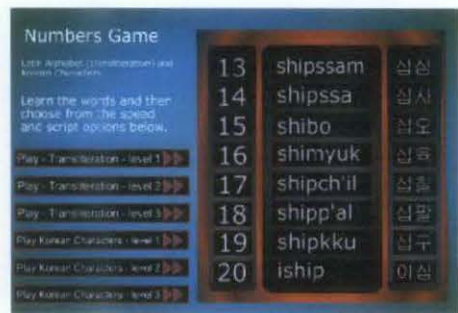
Figure 6: Digital Dialects - 3
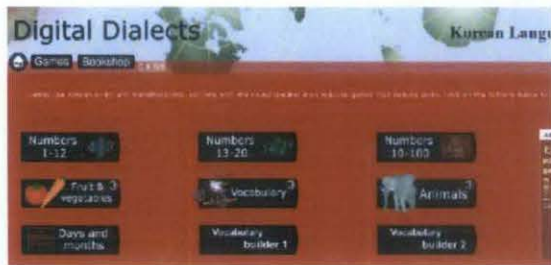
Figure 5: Digital Dialects - 2

Figure 7: Digital Dialects - 4
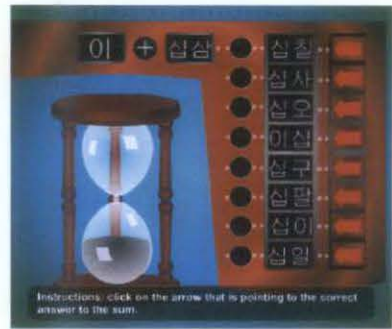
40
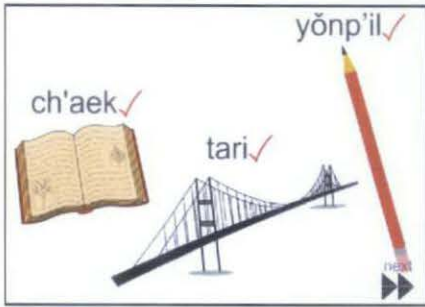
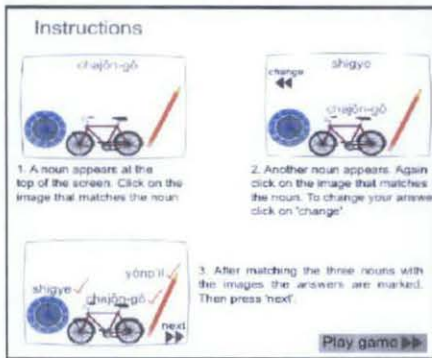Figure 8: Digital Dialects - 5

Figure 10: Digital Dialects - 7

Figure 9: Digital Dialects - 6

The second application chosen is Byki 4 Express from Transparent Language, Inc. It is similar with this project in terms of its platform which is computer-based software. It can be downloaded and installed for free from www.byki.com.

The concept of language learning in this software is learning with flash cards, except compared to traditional flash cards, this software includes more sophisticated and interactive designs such as the use of pictures, voices for every word, direct interactions where user can key in the answer whether in English or Korean. The most impressive feature is the user's activity is recorded so that user doesn't have to repeat the previously learned words. User can also view their performance chart and can also download other user's flash card to be imported into this software. The default content is definitely better than the first application in terms of its amount and usability in everyday conversations. It is certainly recommended for serious language learners.

Despite its strong points, the weak point of this software is that, user tends to be easily bored since the only technique used is the flash card and the repetition of the words before finishing a module is too much whereby user will not be using this for a long time. Another weakness is the type in answer features where user will need to type in the word exactly as the answer, which is worse with the uppercase, lowercase and symbols.

By that, language learner software is better to be as a software as it will be easier to record the user activities and various techniques should be used in developing the software to keep the user from being bored. This project will be focusing more on the content which is to provide interesting contents and less on the software sophistication, which means the development will not contains charts or graphs, statistics, import and export because the most important features for a language learning software is the content not the analyzing part. The next page includes some screenshot of the Byki 4 Express.
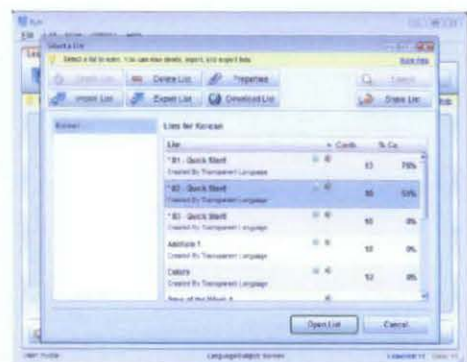
Figure 11: Byki - 1

Figure 13: Byki - 3
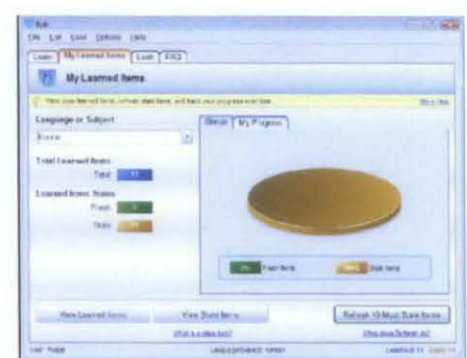

Figure 12: Byki - 2

Figure 14: Byki - 4

4.1 PROJECT DEVELOPMENT: PROTOTYPE (BETA VERSION)

This project is developed using Adobe Flash Professional CS5 and the first starting screen is as in Figure 15 below:
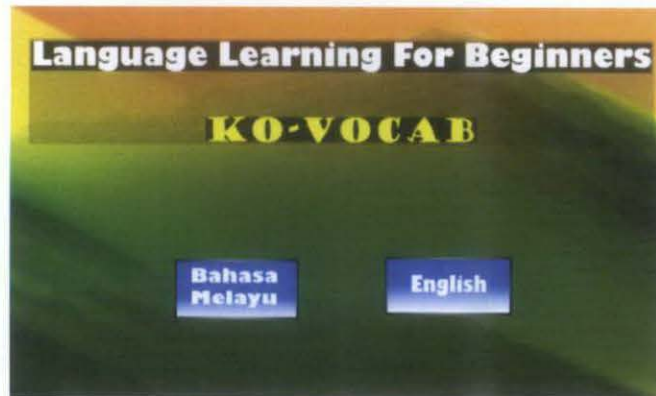

Figure 15: Prototype Alpha – Main Page

This is the starting page of this application where users need to choose the language they want to study with. They can choose the 'Bahasa Melayu' version or the English version. Both of the version will have the same contents accept the language used in the interface and translation.
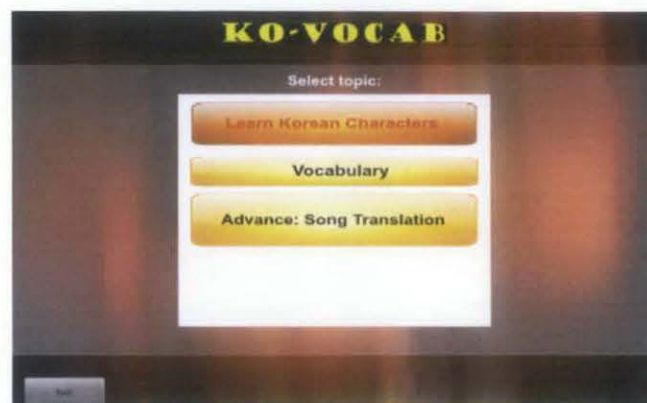

Figure 16: Prototype Alpha - Topic Page

This is the page where user has to choose the module's topic. They can choose one of the available topics or can start with learning the Korean characters first. It is recommended to learn the character first to help the user on the pronunciation. The

above content also include the topics of Vocabulary and Song Translation for advance level.

Figure 17: Prototype Alpha - Learn Korean Characters

Figure 18: Prototype Alpha - Quiz for Memorization of Korean Characters

This is the page for Learn Korean Character topic, where there is a list of all the Korean characters, its example in Korean word, its romanization and pronunciation in English. For better understanding and memorization, user can also hear the audio of its pronunciation. Finally, to evaluate their memorization, user can take the simple quiz provided. In the quiz, user need to match the characters with its number within the time allocated and click Finish to end the quiz and see the result.

Figure 19: Prototype Alpha - Vocabulary

In this Vocabulary page, Korean words or phrase is displayed along with its pronunciation and how its written in Hangul (the Korean characters). By clicking the word/phrase, user can view the usage in the media player in addition to have the ability to control the video displayed.
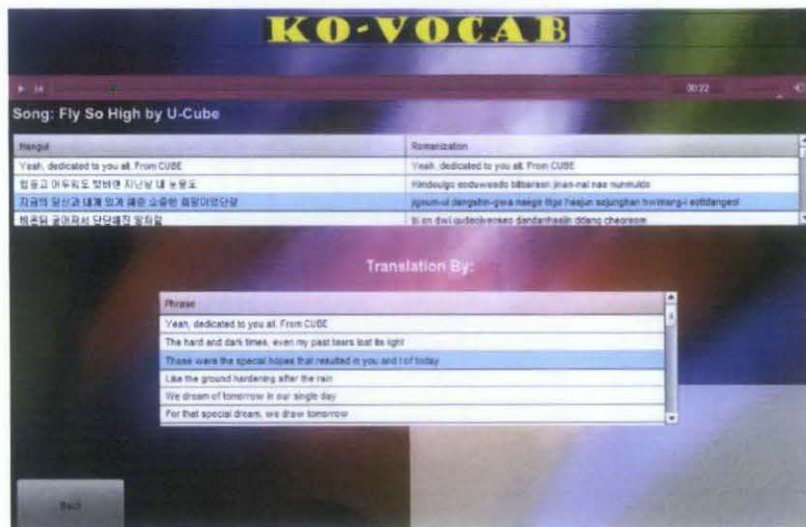

Figure 20: Prototype Alpha – Song Translation

In this page, user will be able to listen to a Korean song and the translation will be available by phrase translations. While the song is playing, focus of words in the translation will move along with the song which provides real-time view of the song's pronunciation and translation.

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4.2   PROTOTYPE TESTING AND EVALUATION

A testing session is conducted to test the alpha version of this prototype. There are 5 respondents or testers selected to test this project and they consists of people similar to the target user, age range between 20 to 21 years old and a Malaysian citizen. The testing process includes accessing all the features of the prototype in both English and in 'Bahasa Melayu'.

The results of the usability scale are as follows:
- 3/5 strongly agree that they would like to use this system frequently
- 5/5 strongly disagree that they found the system unnecessarily complex
- 4/5 strongly agree and 1/5 agree that the system was easy to use
- 5/5 strongly disagree that they would need support of a technical person to be able to use this system
- 4/5 strongly agree and 1/5 neutral that the various function in this system were well integrated
- 5/5 strongly disagree that there was too much inconsistency in this system
- 5/5 strongly agree and 1/5 agree that they would imagine most people would learn to use this system very quickly
- 5/5 strongly disagree that the system is very cumbersome to use
- 3/5 agree and 2/5 strongly agree that they felt very confident in using the system
- 5/5 disagree that they needed to learn a lot of things before they could get going with this system

The results show that most of the respondents accept the usability aspects of this prototype. Feedback gained from this testing session will be used and applied in modifying the prototype in the future.

The results from the generic use interface questionnaire show that most of the respondents gave positive reactions to the overall reactions to the software and on

the learning aspect of the prototype. Same result gained for the screen and system capabilities but with few comments on how some of the related features could have been better represented. Again, all of these feedbacks will surely be applied in the next release of the prototype.

4.3   SUGGESTED FUTURE WORK FOR EXPANSION AND CONTINUATION

This project features an application for learning Korean language through Malay and English language and comprises of integrated media materials such as videos and songs to provide learners with better user experience. As stated before, the base of this application is not to replace the current language learning platform such as classes, and books, but this application is for user to learn language informally along with appreciating Korean cultures through their dramas, movies and songs. This project certainly have the potentials to be expanded and enhanced but due to time constraints within this final year project period, currently this project will only be developed with its basic or main functions only. Below are the possible enhancements for this prototype application for future and later works:

Other languages
Currently, only learning Korean language is available, for future works, this concept can also be used to learn other languages such as Mandarin, French, etc. as every culture produces their own literature, music and films.

New platform
Another enhancement is to use the same concept but made in available online, since currently this application is only available as software in CD-Rom, in the future this software may be uploaded online and user can download it. Another method is to develop new online application so the user don't need to download instead they can just use it online.
Add features

Potential new features that will enhance the user experience in learning are, build in dictionary, build in translator, create and online forums for the user to communicate, that includes request thread, where user can request what materials to be used in the application and the application will be updated accordingly.

User Experience

Currently, this application will only give user basic user experience, in terms of the design, and its usability. In the future, this application can be enhance with optimum user experience and will follow the usability guidance accordingly.

CHAPTER 5

CONCLUSION

In conclusion, this report states the introduction of this project that includes, the background of study by introducing the phrases that is being widely mentioned in this report, a number of advantages of learning foreign language, the problem statement of this project and the scope of study where author explain the project's scope and boundaries within a reasonable timeline.

Consequently, author also includes the literature review regarding the related topics on this project, which is on the language theory to be applied in developing this language learning application. The next included section is the methodology where author emphasizes on the technical aspect of the project that include, the research methodology, the system development methodology where author decided to use the Rapid Application Development methodology, the fundamental project design that consists of the basic design of the application including activity diagram and use case diagram. The methodology section also includes the project activities, which is the activities that will be conducted in developing this project, the required tools, gantt chart and milestones.

Last but not least, author includes the analysis on the current similar application. The applications are in www.digitaldialects.com and a computer-based application from Transparent Language, Inc. The discussion includes its advantages, disadvantages and what can be taken into consideration in developing this project. Also included is

the screenshot of the prototype in alpha version along with its explanation for each screenshot. This report also discusses the suggested future work for expansion and continuation.

To conclude this report, this project is developed with the thought of introducing a new and entertaining ways of learning languages that not only for learning languages but the learners can also be exposed with the language's origin country cultures. The author hopes that this project can be well benefitted to all the users in providing the language learning experience to be more enjoyable.

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APPENDICES

Appendix 1: Usability Test survey questions.

	Strongly disagree				Strongly agree

1. I think that I would like to use this system frequently

1	2	3	4	5

2. I found the system unnecessarily complex

1	2	3	4	5

3. I thought the system was easy to use

1	2	3	4	5

4. I think that I would need the support of a technical person to be able to use this system

1	2	3	4	5

5. I found the various functions in this system were well integrated

1	2	3	4	5

6. I thought there was too much inconsistency in this system

1	2	3	4	5

7. I would imagine that most people would learn to use this system very quickly

1	2	3	4	5

8. I found the system very cumbersome to use

1	2	3	4	5

9. I felt very confident using the system

1	2	3	4	5

10. I needed to learn a lot of things before I could get going with this system

1	2	3	4	5

QUIS Generic Use Interface Questionnaire

OVERALL REACTIONS TO THE SOFTWARE	
terrible wonderful 0 1 2 3 4 5	inadequate power adequate power 0 1 2 3 4 5
difficult easy 0 1 2 3 4 5	dull stimulating 0 1 2 3 4 5
frustrating satisfying 0 1 2 3 4 5	rigid flexible 0 1 2 3 4 5

SCREEN	
Characters on the computer screen hard to read easy to read 0 1 2 3 4 5	Sequence of screens confusing very clear 0 1 2 3 4 5
Highlighting on the screen simplifies task not at all very much 0 1 2 3 4 5	Organization of information on screen confusing very clear 0 1 2 3 4 5

LEARNING	
Learning to operate the system difficult easy 0 1 2 3 4 5	Tasks can be performed in a straight-forward manner never always 0 1 2 3 4 5
Exploring new features by trial and error difficult easy 0 1 2 3 4 5	Remembering navigation / use of commands difficult easy 0 1 2 3 4 5

SYSTEM CAPABILITIES	
System speed slow fast enough 0 1 2 3 4 5	Correcting your mistakes difficult easy 0 1 2 3 4 5
System reliability unreliable reliable 0 1 2 3 4 5	Experienced and inexperienced users' needs are taken into consideration never always 0 1 2 3 4 5