BORANG PENGESAHAN STATUS TESIS

JUDUL: <u>BAHASA ISYARAT MALAYSIA</u>

SESI PENGAJIAN: <u>SEMESTER 2007/2008</u>

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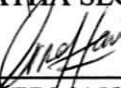
BAHASA ISYARAT MALAYSIA

ANURATHA SEGAR

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

DECLARATION

I hereby declare that this project report entitled

DEVELOPMENT OF A MULTIMEDIA COURSEWARE FOR PARENTS AND SIBLINGS OF THE HEARING IMPAIRED TO LEARN SIGN LANGUAGE

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

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STUDENT   : _____   Date: 12/11/07
(ANURATHA SEGAR)

SUPERVISOR : _____   Date: 12/11/07
(INTAN ERMAHANI A.JALIL)

DEDICATION

On the whole my dedication goes to my father who I admire most and who taught me to survive in this challenging world. To my mother who never has been lack of love and care and to all my friends for their support and courage...

ACKNOWLEDGEMENTS

I would like to express my gratitude to all who gave me the possibility to complete this project.

Please take a few minutes to read the names of the people who have contributed for the completion of my final year degree project 1 and 2 (PSM 1 and PSM2) report – they have earned it, and I am humbly grateful to them all.

I have furthermore to thank my beloved parents, Mr and Mrs.Segar who have been an inspiration to me. They have given me endless support and motivation that without them which I would not be where I am today.

I am deeply indebted to my supervisor Miss Intan Ermahani A.Jalil, who has helped, stimulating suggestions and encourage me all the time. Her advice, insightful criticisms and patient encouragement aided my PSM 1 and PSM 2 research and technical report writing in innumerable ways. Her patient and generosity for assist me are most appreciated.

I am bound to the lovable lady Mrs Janake Suganthiran, former student of *"Sek.Men Cacat Pendengaran Pulau Pinang"* for letting me to observe and learn the essential communication words needed for a normal people to communicate with the hearing impaired. This helped me a lot to convert *"Bahasa Isyarat Malaysia Jilid 2"*into multimedia content and allotting her time for many observations at her daily life and how she communicates with her members of family. Her ideas are very much appreciated.

ABSTRACT

Multimedia is one of the latest medium in the world today to communicate and to give information. In education the uses of this type of medium is called interactive learning. Interactive multimedia can give more benefits to users by making it more interesting. The new environment of learning is the strength of this kind of method. The aims of this interactive multimedia software are to gather information on sign language, to gather information on the process of the development of interactive multimedia software on sign language in *"Bahasa Malaysia"* and English to develop interactive multimedia software that related sign language in the real world. The methods used to develop this software are the collecting information, identifying the need of software that will be used, software designing, software development and test & evaluating. Macromedia Flash was used to develop the interactive multimedia software. As the result interactive multimedia software has been developed for sign language. This bachelor degree project (PSM) report shall explain in detail for the deliverables produced that are described in different chapters in partial fulfillment of the final year project requirements. Chapter I explain the project background, problem statements which initiate the research of the project, objective, scope and project significance. Chapter II describes literature review findings based on published materials for example journals and appropriate project methodology is identified and discussed. Besides, project requirements and project schedule and milestone are drawn for PSM 1 and PSM 2. Chapter III analyzes current system problem(s) and depicts them in flow chart to define scopes for the to-be developed system. In requirement analysis, functional requirements and project objectives are clarified by how multimedia features affect contents and illustrated in tables. Chapter IV specifies the high level design which is categorized into raw data collection for the application, overall system architecture using layering architecture, user interface design (navigation design, input design, and output design) and storyboard design.

ABSTRAK

Multimedia adalah salah satu daripada medium yang baru dalam dunia hari ini untuk tujuan komunikasi dan memberi maklumat. Dalam pembelajaran medium jenis ini dipanggil pembelajaran interaktif. Pembelajaran interaktif dengan menggunakan multimedia dapat menarik perhatian lebih ramai pengguna dengan menjadikan ia lebih menarik. Keadaan persekitaran yang baru adalah kekuatan pendekatan ini. Matlamat perisian pembelajaran interaktif multimedia ialah untuk mengumpul maklumat berkaitan bahasa isyarat, mengumpul maklumat tentang proses pembangunan multimedia dalam Bahasa Malaysia dan Inggeris untuk membangunkan perisian multimedia interaktif yang mengaitkan bahasa isyarat dengan dunia sebenar. Cara yang digunakan untuk membangunkan perisian ini adalah mengumpul maklumat, mengenal pasti kehendak perisian yang akan digunakan, rekabentuk perisian dan pengujian dan penilaian semula. Macromedia Flash digunakan dalam membangunkan perisian multimedia interaktif ini. Sebagai hasilnya sebuah perisian interaktif multimedia telah dibangunkan untuk bahasa isyarat. Laporan Projek Sarjana Muda (PSM) akan menerangkan *deliverable* yang dihasilkan yang diterangkan secara mendalam mengikut bab sebagai memenuhi keperluan projek tahun akhir. Bab I menerangkan latarbelakang projek, pernyataan masalah yang mendorong kepada penyelidikan projek, objektif, skop dan kepentingan projek. Bab II menjelaskan hasil dapatan kajian literatur berdasarkan bahan penerbitan, contohnya rujukan jurnal dan metodologi projek yang bersesuaian dikenalpasti dan dihuraikan. Bab III pula menganalisa masalah atau kekangan yang dihadapi oleh system semasa dan ditunjukkan dalam carta aliran untuk mengenalpasti skop bagi sistem yang akan dibangunkan. Analisa keperluan menjurus kepada keperluan fungsi dan objektif projek akan dijelaskan dengan cara elemen multimedia mempengaruhi kandungan system dan akan diilustrasikan dalam jadual. Bab IV pula, spesifik kepada rekabentuk awalan yang dibahagikan kepada dapatan data mentah sebagai data input, senibina sistem secara keseluruhan yang menggunakan senibina *layering*, rekabentuk antaramuka (rekabentuk navigasi, rekabentuk input dan rekabentuk output) dan rekabentuk *storyboard*.

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LIST OF ABBREVIATION

ABBREVIATION	DESCRIPTION
ASL	American Sign Language
UTEM	Universiti Teknikal Malaysia Malaysia
PSM	Projek Sarjana Muda
BIM	Bahasa Isyarat Malaysia

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CHAPTER I

INTRODUCTION

1.1 Project Background

Deaf Sign Language is the natural language developed by Deaf people and used in everyday life. "*Kod Tangan Bahasa Malaysia (KTBM)*" or Manually Coded Malay, is the only form of sign language recognized by the government in Malaysia as the language of communication for the Deaf.

Malaysian Sign Language (MSL) or "*Bahasa Isyarat Malaysia (BIM)*"is the sign language in every day use in many parts of Malaysia. It is adapted from American_Sign Language, with the addition of some local signs, and grammatical signs representing affixation of nouns and verbs as used in Malay. It is used in Deaf schools for the purpose of teaching the Malay language.

This project is to develop a flash program for the hearing impaired "Malaysian Sign Language". The two hands are the most fundamental means of signing. The human hand with its five flexible fingers, coupled with wrist angles, is a wondrously versatile instrument for this purpose. There are many thousands of signs for objects, actions, ideas and relationships, including special ones for letters and numbers. This program does not exist yet, but there is already a static image instead of animated one. Many efforts have been made to establish the sign language used in individual countries, by trying to standardize the language and spread it among members of the Deaf community and those concerned. Such efforts produced many sign languages, yet with the same sign alphabets,

this shows that sign language has bright future to become an international language as equal to English, where it can be applied worldwide. There are three modules in this project. The first section is the introduction of alphabets, numbers and hand shape orders, these are essential to go further to the next section. The second part consists of the words being used in our daily life such as adjectives, natures and verbs. Lastly the third section contains short sentences to express signs.

1.2 Problem statements

Firstly it involves all in the family because having a deaf child in the household raises a number of issues for a family. Though the effect may be felt quite intensely at first, many of the issues do not go away throughout the child's upbringing. Communication issue becomes outright burdens for parents. There are many additional parenting decisions to be made on behalf of a deaf child. Parents' feelings of competency may be challenged. They may somehow feel that they are not good parents if one child is not functioning as well as they had expected. Additionally, each parent has to deal with the loss of dreams they had for their deaf child. Isolation often sets in. Social circles may shift. Parents may be reluctant to openly share their concerns about their deaf child with parents who wouldn't be able to relate to their situation. There may be a fear that others may pity the parents or the deaf child. Most parents of a deaf child do not want to draw attention to the fact that their child is different. The added pressures can cause parents to become more short-tempered, demanding, tired and less interested in people around them this may including their hearing children. For the hearing siblings, it may feel as if they have lost one or both parents. All this are caused by communication breakdown among family members.

Coping from the sibling's perspective, as difficult as it may be for the parents to deal with a deaf child, it is even more challenging for children. Siblings of deaf children often experience opposing feelings such as anger and guilt, happiness and

embarrassment, protectiveness and resentment, jealousy and sadness. These contrary feelings can be very confusing. Some younger siblings may wet the bed, develop temporary speech problems, tics, use baby talk or regress in other ways. Acting out is common, as is a refusal to talk about their feelings. Older siblings, on the other hand, particularly those in care giving roles, sometimes resist going out with their friends because they don't feel they deserve to have a good time. Teenagers may feel different because they have a deaf sibling, at an age when they desperately want to feel the same as their peers. Some kids begin to talk very fast because they sense that their parents have very little time left over for them.

Hearing siblings often remark that the deaf child receives much more physical and eye contact from the parents than they do and it is probably a well founded claim. Therefore, it is extremely important that parents spend time alone with their hearing children on a regular basis, even if it is only 15-20 minutes a week. Their individuality needs to be acknowledged. The conclusion often drawn by hearing siblings is that their parents love their deaf child more because they spend more time with him or her. Again here it is a burden for the parents to allocate separate times for deaf children and normal children.

1.3 Objectives

- The main purpose of this "Malaysian Sign Language" courseware is to simplify the communication between parents and deaf children. Regardless of the size of the household, whatever feelings siblings may experience – anger, sadness, embarrassment, self-pity, resentment – it is of utmost importance that parents recognize all feelings as legitimate and not judge them as wrong or inappropriate. Most siblings simply want to be understood and have their feelings validated. While it is very important for the siblings to be allowed to share feelings with their parents without fear of judgment, it can also be very helpful for them to share their feelings with other siblings of deaf children.

- Secondly for better understanding among siblings, they may also develop positive qualities as a result of having a deaf sibling after they learn sign language to communicate; it is not uncommon for the hearing teenagers to become more empathetic, altruistic, protective, tolerant, concerned, proud, loving and comforting as a direct result of their relationship with a deaf brother or sister.

- Design a communication tool for the members of the family of special children to learn the sign language to communicate with them efficiently. It is for parents and siblings so that they are able to voice their concerns and their feelings. More often, however, their fears, worries and concerns go unspoken for fear that they may come across as ungrateful or mean-spirited. Expressing anger may be especially difficult. Sometimes siblings might felt guilty when they got angry at his deaf sister or brother. This situation occurred mainly because of miscommunication.

- To create a bond between normal siblings and the deaf siblings for better understanding among siblings, they may also develop positive qualities as a result of having a deaf sibling after they learn sign language to communicate. It also helps them sharing problems and to solve it.

- This is also designed as a guide for hearing people who want to communicate with deaf. Many of the problems that occur are the direct result of people failing to communicate. Faulty communication causes the most problems. It leads to confusion and can cause misunderstanding. For example at public places or among colleagues who have hearing impaired friends. Communication is the exchange and flow of information and ideas from one person to another. It involves a sender transmitting an idea to a receiver.

- The difference between Malaysian Sign Language courseware and books can be explained by the model of picture. That is, the courseware teaches mostly with visual imagery, with sounds of words. Thus, the approach in this to-be application will be based on the picture – thinking model.

- This to-be application will also allow multisensory stimulation by presenting the media in visual, graphical way using animation, video, and audio. The visual and auditory elements reinforce each other for optimal learning.

1.4 Scope

- This program is divided into three sections. First section is the introduction of alphabets, numbers and hand shape orders in finger spelling, where 26 hand shapes represent the letters of the alphabet and messages or individual words are spelled out. Finger spelling may be used in signed conversations to express a proper name or a particular term. The second part consists of the words being used in our daily life such as adjectives, natures and verbs. The third section contains short sentences to express signs.

i) First section:

This divide up teaches how to learn alphabets in animated sign language. It consists of alphabets from A to Z with pronunciation and the letters. As mentioned above this courseware is mainly for the members of the family of the special children, so all the letters are embed with its' pronunciations. Besides that the first section is also consists of numbers from one to ten.

ii) Second section:

This is another divide up to teach essential expressions that we use in our daily life such as adjectives, natures and verbs. Shortly this section would be mainly to learn basic sign language for conversational purpose. For each word there would be animated movement and pronunciation guidance.

iii) Third section:

It is a visual language using a combination of hand movements and hand shapes to represent concepts which are used to express signs in daily conversation. The two other sections are essential to move on the third section, because in this section more words are combined to make sentences. It is cherished for its ease of expressing and receiving concepts.

1.5 Project Significance

This project is a communication device between parents and deaf children. For parents to understand their hearing impaired children better regardless of the size of the household, whatever feelings siblings may experience anger, sadness, embarrassment, self-pity and resentment. It is of utmost importance that parents recognize all feelings as legitimate and not judge them as wrong or inappropriate. Most siblings simply want to be understood and have their feelings validated. While it is very important for the siblings to be allowed to share feelings with their parents without fear of judgment, it can also be very helpful for them to share their feelings with other siblings of deaf children. It is also for better understanding among siblings; they may also develop positive qualities as a result of having a deaf sibling after they learn sign language to communicate. Lastly this is also designed as a basic guide for hearing people who want to communicate with deaf, where some may have deaf friends, office colleagues or may be some might want to learn sign language for extra knowledge.

1.6 Expected Output

The expected output of this project is communication among family members and society becomes much easier. Parents can learn sign language in order to communicate with the deaf children without much trouble, because not many parents are willing to allocate time on professional courses to learn sign language. The same goes to siblings of deaf children where they may find it as a burden to learn extra language but through this program they may learn essential words for daily communication in a fast and simple way where children with deaf siblings learn valuable lessons and skills as a result of their interaction with a deaf loved one. These interactions can help them become emotionally stronger as they age, and more well-rounded and sensitive adults.

Larger families tend to have an easier time with sibling integration as there are more varied expectations, the children are used to sharing and pitching in, and hearing siblings can share their concerns and worries with someone closer to their age. In small families, siblings should be encouraged to develop relationships with other family members or adult friends, such as aunts and uncles, grandparents, neighbors and teachers.

Hearing impairment is among the most prevalent chronic disabilities. This form of importance given to sign language shows that we are concern about the deaf and they are not left out. Many hearing people do not know what to do when talking to a deaf. Many hearing people feel awkward or frustrated trying to communicate with deaf people, especially when no interpreter is available.

This program is an improvement to reduce the awkwardness and frustration. As for public knowing what to do when they meet a deaf person can be especially important in emergency situations, therefore this "Malaysian Sign Language" courseware should be able to overcome all this problems or reduce the communication problems faced by parents, siblings and public who are involved with the hearing impaired.

1.7 Conclusion

Basically in this chapter, a brief description about my project has been explained and overall explanation regarding the general tasks which that is going to develop. The main purpose of this courseware is for communication purpose, where my focus is on sign language, overall details about the problems faced by parents and siblings of the deaf and also the society. Therefore the output of the project will be focused to the family and friends of the hearing impaired and provide a better

understanding among family members of the concerned. The next chapter describes about literature review and project methodology.