TRANSLATOR OF MALAY TEXT TO KOD TANGAN BAHASA MELAYU

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To everyone who involve in i-KOD development, thanks for your full support.

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ABSTRACT

Communication is very important to human being. Even for the Deaf and Mute community. They were using sign language to communicate between them, also with normal people. Sign language is a language of hand shapes, facial expressions and movement used as a form of communication. However, current learning method cannot make them interesting to learn and understand the sign language. Because of that, Vivid Splendour takes this opportunity to develop software that will help hearing impaired to learn Manually Coded Malay. This software is developed for primary school students for special education. This dictionary contains over 800 entries in Manually Coded Malay. i-KOD was develop by using Waterfall with prototyping methodology. The software is fully developed using Visual Basic combined with other multimedia authoring tools, such as Sony Vegas (video and sound editor) and Adobe Photoshop (image editor). From a recent survey done on 74 students of the hearing-impaired it was found that 86.5% who use i-KOD pass the test that was given. This shows the usefulness of using multimedia elements in learning and education process at special school for hearing-impaired students.

ABSTRAK

Komunikasi adalah sangat penting dalam kehidupan seharian manusia yang normal. Begitu juga bagi mereka yang pekak dan bisu. Mereka menggunakan bahasa isyarat untuk berkomunikasi antara satu sama lain dan juga manusia normal lain. Bahasa isyarat adalah satu sistem komunikasi yang berorientasikan visual dan pergerakan tangan. Walaubagaimanapun, kaedah pembelajaran masa kini, agak membosankan dan tidak dapat menarik minat pelajar ini untuk belajar menggunakan bahasa isyarat serta memahaminya. Oleh itu, Vivid Splendour telah mengambil inisiatif untuk membangunkan satu perisian yang dapat membantu mereka ini untuk mempelajari Kod Tangan Bahasa Melayu. Perisian ini fokus kepada para pelajar sekolah rendah yang bersekolah di sekolah pendidikan khas. Perisian ini seumpama kamus yang mengandungi lebih daripada 800 kata dasar Kod Tangan Bahasa Melayu. Perisian ini dibangunkan sepenuhnya dengan menggunakan Visual Basic, dengan bantuan beberapa perisian multimedia *authoring tool* lain seperti Sony Vegas (perisian penyuntingan video dan audio) dan Adobe Photoshop (perisian penyuntingan imej). 86.5 peratus daripada 74 pelajar yang menggunakan i-KOD dalam pembelajaran melepasi ujian yang telah diberikan. Ini membuktikan kebekesanan pengunaan elemen multimedia dalam pengajaran dan pembelajaran di sekolah pendidikan khas, bagi kanak-kanak bermasalah pendengaran.

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LIST OF ACRONYM

ASL	:	American Sign Language
BIM	:	Bahasa Isyarat Malaysia
CD	:	Compact Disk
DBP	:	Dewan Bahasa Dan Pustaka
ERD	:	Entity Relationship Diagram
GUI	:	Graphical User Interface
KTBM	:	Kod Tangan Bahasa Melayu
MFD	:	Malaysian Foundation Of Deaf
MYF	:	Majudiri Y Foundation For The Deaf
OKU	:	Orang Kurang Upaya (Disabilities Person)
PIBG	:	Persatuan Ibu Bapa dan Guru
RAD	:	Rapid Application Development
SE	:	Signed English
UML	:	Unified Modeling Language
VB	:	Visual Basic

CHAPTER 1

PROJECT OVERVIEW

1.0 Introduction

Communication is the important means that people in a society use in their correspondence to convey or exchange messages, news and information, thoughts and feelings. Information and knowledge are expanding in quantity and accessibility.

Communication is not everything. It is the only thing. However, people with functional limitations, such as deaf people, often experience wide communication gaps even though most of them have normal intellectual capacity. Due to the hearing limitation, deaf people have developed their own culture and methods for communicating among them as well as with hearing groups by rely on signing.

A sign language is a language which uses manual communication instead of sound to convey meaning - simultaneously combining hand shapes, orientation and movement of the hands, arms or body, and facial expressions to express fluidly a speaker's thoughts (Wikipedia, 2006).

Sign languages commonly develop in deaf communities, which can include interpreters and friends and families of deaf people as well as people who are deaf or hard of hearing themselves. When people using different signed languages meet, communication is significantly easier than when people of different spoken languages meet. Sign language, in this respect, gives access to an international deaf community.

A signed language is a language which uses manual communication instead of sound to convey meaning - simultaneously combining hand shapes, orientation, and movement of the hands, arms, or body and facial expressions to express fluidly a speaker thought (Wikipedia, 2006). Communication between people using different sign languages is easier than communication when people of different spoken languages meet. Sign language provides access to an international deaf community (Bellis, 2004).

However sign language is not universal. Sign language develops in communities where deaf people exist, but like spoken languages, they vary from region to region (Klima, 1979). Sign language of a certain region is not based on the spoken language of that region; in fact their complex spatial grammars are considerably different. Some sign languages have received recognition and are well known throughout the world while some have received no acknowledgment at all.

Like spoken languages, sign languages emerge naturally in communities and change through time. The following list is grouped into three sections (Wikipedia, 2006):

i. Deaf sign languages, which are the preferred languages of deaf communities around the world;
ii. Signed modes of spoken languages, also known as Kod Tangan Bahasa Melayu;

iii. Auxiliary sign systems, which are not native languages but are signed systems of varying complexity used in addition to native languages.

1.1 Background of Problem

Researcher discovered that Deaf students were not making the connection between what they signed in sign language, either Bahasa Isyarat Malaysia or Kod Tangan Bahasa Melayu and what was written in Malay. They did not recognize everyday words such as *school* and *class*.

Sign language differs from spoken languages in that it is visual rather than auditory and is composed of precise hand shapes, facial expressions and movements (Wikipedia, 2006). The book on Bahasa Isyarat Malaysia is in a clearly defined format for deaf children and their families.

"This handy and user-friendly book is to encourage children, even from a very young age, to communicate meaningfully with their parents and siblings"
(Malaysian Federation of the Deaf, 2000)

The book has over 1000 common signs or words ideal for children of all ages and divided into the following topics: sports, foods, pronouns, conjunctions, auxiliary verb, verb, adjectives, transportation, clothing, animals, colors and education. It also includes Bahasa Isyarat Malaysia number signs and Bahasa Isyarat Malaysia manual alphabet for handy reference.

Sign Language classes have, for many years, been the only way to learn Sign Language. Books do not really help because they cannot show movement. Videos are slightly better, but a pain when you want to quickly look up a specific sign, replay one sign or test yourself. The problem with Sign Language classes is that you have to stick to it. Attending regularly - especially after hours - quickly becomes a real chore. i-KOD solves the problem. You can learn

i. As much as you want,
ii. when you want to,
iii. at your own pace,
iv. in your own home,

Sign language is not written language but rather a set of visual descriptors. Therefore while using sign language think in pictures instead of words. When using sign language there are various ways to express yourself by hand forms, arm movements, head movements, facial expressions and also body language (Wikipedia,2006).

The system database act as resource centre would not only benefit the deaf community but also the public as those interested in learning more about communicating in sign language. It would also help the deaf and hard-of-hearing become more gainfully employed and self-reliant in future.

1.2 Problem Statement

How to improve education and learning process and makes it more effective and interesting and to overcome the communication barrier between Deaf student?

i-KOD suite was developed to enable user to learn Kod Tangan Bahasa Melayu in a fast, interactive and convenient way. After completing a module, user is able to return to the previous module, learn, and can improve on previous module. The best results are often achieved by picking a category, working through it and then study it regularly. User can repeat the process until they mastered. By working through constantly, user are able to memorize clearly. The users are advice to do not try to learn all the categories at once. As with anything else in life, *practice makes perfect*.

1.3 Project Objectives

Here are the project objectives.

i. To study about Kod Tangan Bahasa Melayu,
ii. To make a data collection about Kod Tangan Bahasa Melayu,
iii. To develop a centralized database about Kod Tangan Bahasa Melayu,
iv. To develop a prototype of product,
v. To have a user testing on product to make sure the product match with user requirement.

1.4 Project Scope

i. Kod Tangan Bahasa Melayu

i-KOD is focus on Kod Tangan Bahasa Melayu. Contents for i-KOD is taken from the book *Komunikasi Seluruh Bahasa Malaysia Kod Tangan*, published by Dewan Bahasa dan Pustaka in 1987. Nowadays, Dewan Bahasa dan Pustaka already documented over 1000 words on printed material.

ii. Use Malay language

For this time-being, researcher develops the software by using Malay language as a medium. This is because of the end user is primary school student (special education) and their age group between 5 to 12 years old. Therefore, purpose of this project is to develop a learning aid method for hearing-impaired with more interactive and interesting way.

iii. Features

i-KOD have features such as

a. User are able to search word by type the word in input box or
b. User also able to choose from categories list from pull down menu and
c. i-KOD provide a movie that show on how to move their hand, fingers and face impression. Besides, i-KOD also include a picture as an additional feature. Therefore, user will be more understand on lesson that they learn if they can see the picture and movie together
d. Each time after they have finished their lesson, they can take a game to ensure they understand what they have learnt. i-KOD have three types of game
e. i-KOD also have sound function

1.5 Importance of Project

"I think Sign language will continue to gain popularity because now there are many people who are interested to learn the language and in South Africa it is an official language. I think as Sign language users we must teach those who think sign language is universal to understand that every language is unique so as sign language."

(B. Jamie, 2005)

The project main objectives are to develop a database of Kod Tangan Bahasa Melayu in digital format; this is because sign language keeps on expanding and changes through time.

By develop this system; researcher believe can provide a learning aid tools and enable the hearing-impaired student to learn Kod Tangan Bahasa Melayu with fast and interesting ways. Therefore it helps the education sectors to prepare a method of education and learning by using multimedia element in the presentation. The researcher also committed to assisting the parents who have those that are either deaf or hard of hearing child to study on Kod Tangan Bahasa Melayu to enable them to communicate thus ensuring that there are no barriers and no confusion among them.

1.6 Chapter Summary

The prototype is to create a new and dynamic database for Kod Tangan Bahasa Melayu. It uses to be education and learning method for teachers at special primary schools. It also helps the parents who have hearing-impaired child to learn sign language effectively by using multimedia elements such as video and graphics. Hopefully this prototype can be one of the popular interactive dictionaries of Kod Tangan Bahasa Melayu in the market.