

**Malay-English-Malay Interactive Dictionary
(MEMID)**

by

Ahmad Syazwan Ahmad Morly

Dissertation submitted in partial fulfillment of
the requirement for the
BACHELOR OF TECHNOLOGY (Hons)
(INFORMATION TECHNOLOGY)

JUNE 2004

Universiti Teknologi PETRONAS
Bandar Seri Iskandar
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CERTIFICATION OF APPROVAL

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Information Technology Programme
Universiti Teknologi PETRONAS
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Approved by,

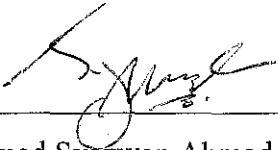
Eliza

(Ms Eliza Mazmee Mazlan)

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK
JUNE 2004

CERTIFICATION OF ORIGINALITY

This is 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 acknowledgement, and that the original work contained herein have not been undertaken or done unspecified sources or persons.



(Ahmad Syazwan Ahmad Morly)

ABSTRACT

This report is written as preliminary information on the Information Technology Final Year Project. The project selected for this purpose is **Malay- English- Malay Interactive Dictionary (MEMID)**. MEMID is going to be developed due to the lack of understanding grammar which is common problem to students. This problem happened because students have to search the meaning manually of unfamiliar words in conventional dictionary. When students seek from a meaning to another meaning, this will definitely time consuming thus reflected to a bored study environment.

This project aims to develop a web base Interactive Dictionary to improve the English awareness among student in primary school and secondary school. Beside, it will help students to improve their grammar in contributing an excellence to their English subject. MEMID will try to attract user's intention and keep student interest when using the system.

There are several tools that have been planned in developing MEMID. The software's needed are PHP, MySQL, Adobe Photoshop 7, Macromedia Dreamweaver, and Cool Edit 2000. Meanwhile, desktop PC, microphone and speaker are compulsory for hardware.

ACKNOWLEDGEMENT

First of all, I would like to express my greatest thanks to Allah for everything. For the air that I breathe, for the five senses given, with which I can see His greatness through His creation. Above all for the honor of being born as a muslim and for the honor of having faith in Him. Alhamdu'lillah.

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Beside that, I would like to express my sincere gratitude to Miss Nur Rabizah Ahmad, English teacher at Sek Keb Padang Terap for her willingness to be interviewed and also for the respondents who are able to give feedback answering my questionnaires. Not to forget to my colleagues especially for Ida Sazliana Mohd Mukhtar and Mohd Akbar Ikhlas for their opinion and support during the development of the project.

Finally, thank you to everyone who involved directly or indirectly with this project. Thank you for your help and kindness. May Allah bless you.

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CHAPTER 1

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Dictionary is an important tool used to search the meaning of unfamiliar word. Most students from primary until secondary school use dictionary to search meaning either in Malay or English. Students need interest to seek the meaning manually from page to page in conventional dictionary. Although dictionary provides pronunciation of word, most students cannot adapt to pronounce certain words correctly. This can lead to a bored study environment thus make student unmotivated to improve their English.

Malay- English- Malay Interactive Dictionary (MEMID) is actually a web base dictionary which enables users to search meaning either in Malay or English. What makes it interactive is that the ability MEMID to pronounce the word requested by the user. MEMID is going to be developed in dynamic web base to ensure the interactivity of the system.

MEMID enables the interaction between users and the web base itself. The dictionary enables **search functions** that help users to request any word either in Malay or English. The computer will search the meaning automatically from the database. If the user wishes to hear the exact pronunciation of the word, he/ she can click on the icon provided. Then, MEMID will speak the desired word correctly.

The web site will integrate multimedia elements that will increase the system friendliness, which is the essential factor in attracting users to use MEMID.

1.2 Problem Statement

Nowadays, English is used as a common language all around the world. English become so important for people to read, write and communicate. This language can integrate any people even though they come from different countries or tribes because this language is accepted globally. If we cannot gain control over English, we will left behind because challenges among each other is become so competitive.

English is being taught as a compulsory subject in school. If students fail this subject, they will face a major problem when applying to enter secondary school as well as for university. English is a must in an interview and for students who can communicate well in English, this could be an advantage for them when applying job.

Generally, learning English start from primary school. It is not enough when students become too dependent on teacher in class because to learn English is an ongoing process. Students can improve English through listening, reading and speaking in their daily life. This same goes for other language.

In this learning process, we cannot deny the importance of dictionary in helping students to learn English. Unfamiliar word will be identified by referring to dictionary in order to understand the meaning.

Although conventional dictionary is being used widely, there still have few problems which will lead students to be unmotivated in learning English. Searching meaning in conventional dictionary usually will take quite some times. Normally, students will not straightly get the meaning in a short time. They have to spend a little time to get the meaning. Beside, there are certain dictionaries which are heavy and bulky. So, certain small size students would probably not comfort to carry or hold the dictionaries. This can contribute to the bored study styles thus will not encourage students to use dictionary.

1.3 Objectives

The objective of this project is to develop an application with the following characteristics:

1.3.1 To keep student interest in learning English subject

Most of student have the mind set of thinking English subject is difficult because it is a foreign language. This situation becomes worse when the students who have the difficulties in understanding word in English do not rely on dictionary to search the meaning. .When there exist interactive dictionary, student will get attracted to explore more detail thus keep their interest in learning English subject.

1.3.2 To reduce the time searching the meaning in dictionary

By using the word search provided in MEMID, student can simply enter any word in English to be translated in Malay. The system will identify the word key in by student and compared it with the word in database. When the word match to each other, the meaning of the word will displayed immediately.

1.3.3 To provide the exact pronunciation for every word

Apart from displaying the meaning of word, this system also provide pronunciation of an English word searched by the user. So, the user can preview the pronunciation of desired word in respect with the meaning together.

1.4 Scope of Study

The scope of studies throughout the project includes:

This system is to be developed within four month period of time. It will cover several phases of analysis, design and development. Second, it will cover data gathering based on the questionnaires that had been given to the respondents as well as interview.

According to the study, MEMID is developed under a standalone platform. A computer is set to be local host and then it can be access by other computers within the Local Area Network (LAN).

In the research element, I have done observation throughout the existing system of Interactive Dictionaries. Then, the element from the observation which is thought necessary is being included in MEMID.

MEMID can accommodate many words which same as any conventional dictionary. For the prototype design, I have done testing on a few words just to ensure that the system is functional.

CHAPTER 2

LITERATURE REVIEW AND THEORY

CHAPTER 2

LITERATURE REVIEW AND THEORY

2.1 Literature Review

2.1.1 Books

In this section, any published studies as they are related to Interactive Dictionary will be discussed. In recent studies (Vivi Lachs, 2000) in the book titled *Making Multimedia in the Classroom* compared interactive multimedia and linear narrative and found that the interactive multimedia 'does not exist meaningfully without the interactions of the learner (p. 92). The term 'interactive' used in relation to computer programs is generally thought to mean what the user needs to physically do in order to use the program or sometimes described as 'user control'. In other words, computer programs cannot be run without user control or the game cannot be played without a player. This physical activity may include clicking on navigation buttons, typing words in search function or clicking on button in order to hear pronunciation. All these possibilities involved the user in thought, choice and action. Meanwhile, linear narrative is the opposite of interactive multimedia which is normally used today. Linear means something flat which the information is conveyed repetitively in the same way. The examples are conventional dictionary or static websites.

Squires (1996) argues that the level of control that students have in their interaction with software when they are using a multimedia or hypertext program will help them feel that they are 'instrumental in determining the pattern and progress of the learning experience' which will give students the 'confidence and awareness to reflect on the learning process' (p. 13). As he is talking here about *using* multimedia, how much more appropriate is this statement if we consider students *making* the interactive multimedia themselves.

Pat Maier and Adam Warren (2000) pointed that there are many disciplines in which a sound clip can be a useful teaching aid. The advantages of the digital audio are the sound clip can be carefully selected and edited so it only contains the material required. Beside, the sound clip can easily be replayed if required and it can be made available on the Web for further study and revision by the students.

Perhaps the best way to view the Web is an integrating medium for learning and teaching. Ackermann & Hartman (1997) and Harris (1996) agree that using the Web and its various technologies, we can deliver traditional software methodologies such as drill or simulation can foster learning through person to person communication and collaborative work. Beside, it can provide learners with a vast library of textual, visual and auditory material for their own self-directed research and learning activities. We can use the Web to deliver material, manage learning environments and provide assessment of learning. Furthermore, all of those things can be done regardless of where learners reside and what computer equipment they have access to. For these reason, we have little doubt that the usage of the Web will continue to revolutionize how people learn and teach.

2.1.2 Online resources

This article proves that the interactive dictionary can speed up word searching in a second by its powerful search engine compared to conventional dictionary.

“Interactive Dictionary BE is a digital dictionary which gives you more suitability and reliance than printed dictionary give and gives you the ability to find out any word in a second. Interactive Dictionary BE designed for all kind of user.”

<http://www.bangaliana.com/be/>

This article shows that teaching English subject for student is a challenge for teachers nowadays. A teacher should try to use easy-to-understand manner. The MEMID will contribute to a better English study style for students.

“Teaching vocabulary in foreign language classes has always been a challenge, even for brilliant teachers. In her book Techniques in Teaching Vocabulary, Virginia French Allen explores a variety of practical techniques that have been used to teach vocabulary. Although the author focuses on the teaching of vocabulary in ESL (English as a Second Language) classes, the methods she describes are easily adapted to almost any foreign language classroom. The suggestions laid out in this book are most useful for any language instructor who wishes to bring creative new teaching methods to what is commonly seen as a tedious, routine part of a language class.”

Allen, Virginia French.
Techniques in Teaching Vocabulary. New York: Oxford UP, 1983.

Review by Jeremy King
<http://www.spanport.ucsb.edu/projects/llcf/Eral/Reviews/Jeremyk/Review1.html>

The article states the existing dictionary translation is developed in various languages. After many observation and research have been made, the author found that Interactive Dictionary for Malay - English – Malay has not been developed yet.

“A real-time interactive dictionary that lets you translate between English and Hebrew and vice-versa. With WordPoint, you can select words from any Windows application and display their translation in a ToolTip balloon or WordPoint window. You can either click with your mouse or simply hold the cursor over the word to display its translation. You can also enter words manually to be translated. Easy interface for adding your own words to dictionaries. Speaks English words to teach correct pronunciation.

Includes 24 dictionaries with 500,000 word forms in each dictionary.

(An asterisk indicates bi-lingual facility)

Hebrew - English

English - German

*English - Hebrew **

French - German

English – Russian

*German - French **

English – Arabic

*German - English **

Spanish – German

English - Swedish

*German - Spanish **

English - Portuguese

English – French

English - Czech

*French - English **

English - Polish

English – Spanish

English - Turkish

*Spanish - English **

English - Greek

English – Hungarian

English - Italian

English - Dutch

<http://www.solomonstreasurechest.com/WordPointInterDictionary.html>

CHAPTER 3

METHODOLOGY

CHAPTER 3

METHODOLOGY

3.1 Procedure Identification

In general, waterfall model is used as a guideline to complete the methodology of this system.

The project consists of following major tasks:

1. Project Planning
2. Analysis phase
3. Design phase
4. System Testing
5. Project implementation and Project Close-out

Please refer to *Appendix D – MEMID Project Work Plan*, which indicates the tasks/activities involved in every phases and the progress of the project.

3.2 Waterfall Model

3.2.1 Project Planning

Initially, the Malay-English-Malay Interactive Dictionary (MEMID) topic has been proposed to the Final Year Project Committee member. When it is approved, I start to gather and identified the information for research elements. It includes all of the supporting elements which have been used to show the relevancy of developing this system. The entire introduction of the project at the earlier stage is being submitted under the preliminary report document. Under this phase, project work plan is identified by creating the Gantt chart in a Microsoft Project. The purpose is to show the task and activities involved in every phases and the duration estimated to complete each task.

3.2.2 Analysis phase

This phase is focusing on the information gathering as well as observation of external sources. The distribution of questionnaires had been given to 100 respondents vary from primary school, secondary school and universities. Then an interview had been conducted with an English teacher to know the detail of English subject from the view point of a teacher. From here, all the problems had been identified and also suggestion criteria to develop MEMID. After getting the real data from questionnaires and interview, I had collecting other information thorough online research and also from written material such as book and journals. Storyboard has been designed in this phase to show the process flow of the system. Please refer to *figure 4.7*

3.3.3 Design phase

This phase become the most critical phase because it involves technical part of designing and developing the whole system. At the beginning, I have done digital audio recording because it is a simple task and I did not rushing when doing this task. Then I proceed to transform the storyboard into design phase by designing interfaces for MEMID. In between them, I need to submit progress report as supervisor want to know the current tasks of the project. The most crucial part for the system is to write coding in PHP and also develop mySQL for it database.

3.3.4 System testing

The testing procedure is needed because to test the functionality either the system work as expected or not. When there are bug in the system, I had to debug it to ensure the system can run correctly. The testing is start from alpha testing, beta testing and gamma testing accordingly.

3.2.5 Project implementation and Project Close-out

The reason of having this page is to conduct the system roll-out and finalizing final draft documentation After all, the project implementation completed and ready to release to the target user step by step.

3.3 Tools and Equipments Required

3.3.1 Hardware

1. Intel Pentium 4 1.8 GHz (socket 478)
2. MSI 845G Max motherboard
3. Kingston 512MB PC133 DDR RAM
4. Sound Blaster Audigy2 Platinum
5. GeForce4Ti 4600-VTD (128MB DDR)
6. Western Digital 120G 7200 rpm
7. DELL flat screen CRT monitor 17"
8. Casing MEC 318R2/ 2F Extreme 919
9. Altec Lansing Ultimate 621
10. 52X ASUS CD-ROM S520
11. 16x48x Asus DVD ROM E-616
12. 40x12x48x TDK CD-Rewritable Drive
13. Sony 1.44MB Floppy Disk Drive
14. Logitech Multimedia Keyboard
15. Logitech Optical Mouse 2X
16. Microphone + headphone Altec Lansing AHS 30

3.3.2 Softwares

1. Macromedia Dream weaver
2. Adobe Photoshop 7.0
3. Foxserv (consist of PHP,mySQL, and Apache web server)
4. Cool Edit 2000

CHAPTER 4

RESULT AND DISCUSSION

CHAPTER 4

RESULT AND DISCUSSION

4.1 Results of findings

A research had been conducted to find out what are the common problems faced by students using conventional dictionaries. In the Analysis Phase, 100 questionnaires had been distributed to 40 students in primary schools, 40 students in secondary schools and the rest are for university students. For primary and secondary school, the author had choosed two schools for each categories and being classified according to Grade A and Grade B schools as followed:

Primary school	
Grade A	Sek Keb Tunku Abdul Rahman Putra, Kuala Nerang (SKTARP)
Grade B	Sek Keb Padang Terap, Kedah (SKPT)
Secondary School	
Grade A	Sek Men Keb Dato Syed Ahmad, Kuala Nerang (SMDSA)
Grade B	Sek Men Keb Sik (SMKS)
University	University Technology PETRONAS (UTP)

Table 4.1

Data Gathered:

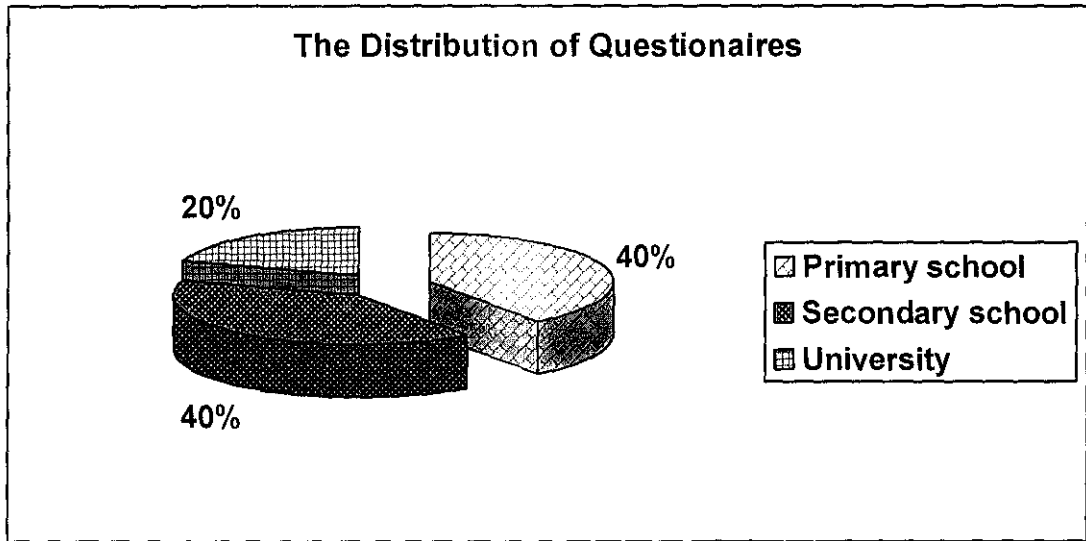


Figure 4.1

Discussion

From table 4.1, each of the respondents from SKTARP, SKPT, SMDSA, SMKS and UTP were given 20 questionnaires concurrently. The question is same for all respondents. The author select the school based on school grade because to ensure the variety of respondents. So, the system will not bias on one party only thus it can be implemented by various users later. For university, the author had chosen the respondents which are mostly from UTP IT final year students. Meanwhile for figure 4.1, it shows the questionnaires percentage for primary school, secondary school as well as for university. There are 80 % questionnaires given to students in school while the rest 20% is for university students.

4.1.1 Information gathered from questionnaires

Data gathered

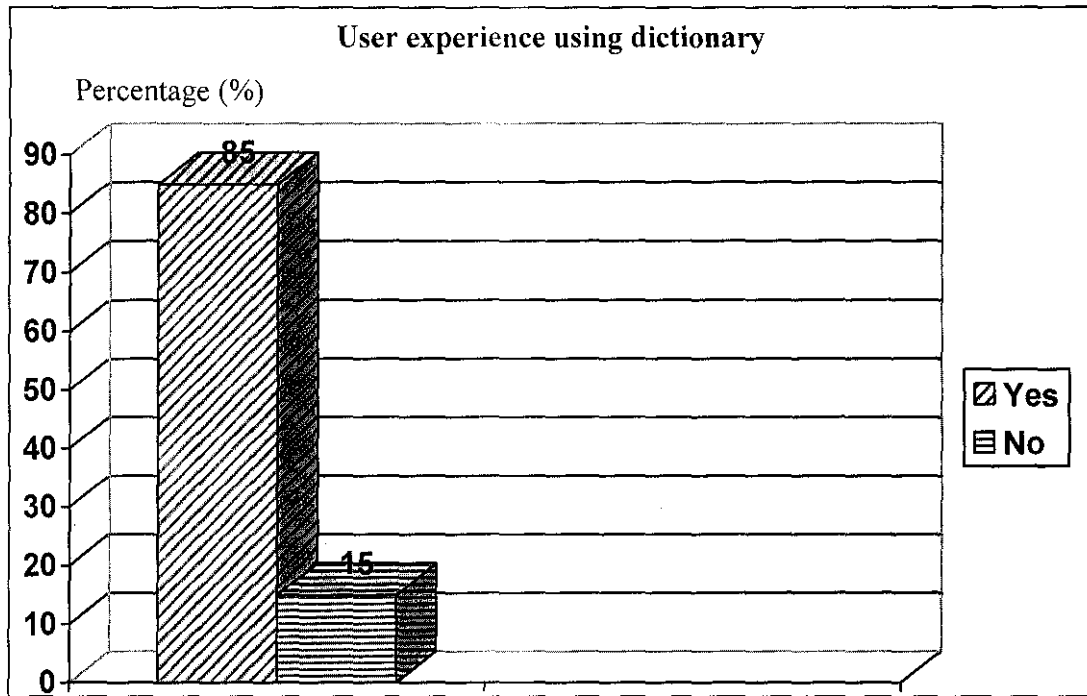


Figure 4.2

Discussion:

Figure 4.2 shows that the survey on the user experience using dictionary. From the bar graph above, 85% of respondents have the experience using dictionaries. Meanwhile, about 15% of respondents do not have experience using dictionaries at all.

Data Rationale:

From the result gained, it can be concluded that majority of students did experience using dictionary. They had been exposed to use dictionary since their early age in primary school. Teachers play a main role to ask and instruct students using dictionary in learning English subject. Parents also should show their commitment in monitoring student at home.

The minority of students who did not experience using dictionary is mainly because they are among the group of students who are not good in academic. This means they do not have the self conscious about the important of acquiring knowledge. Beside, there are several students who are unfortunate in terms of financial hence they can't afford of having a dictionary.

Data gathered

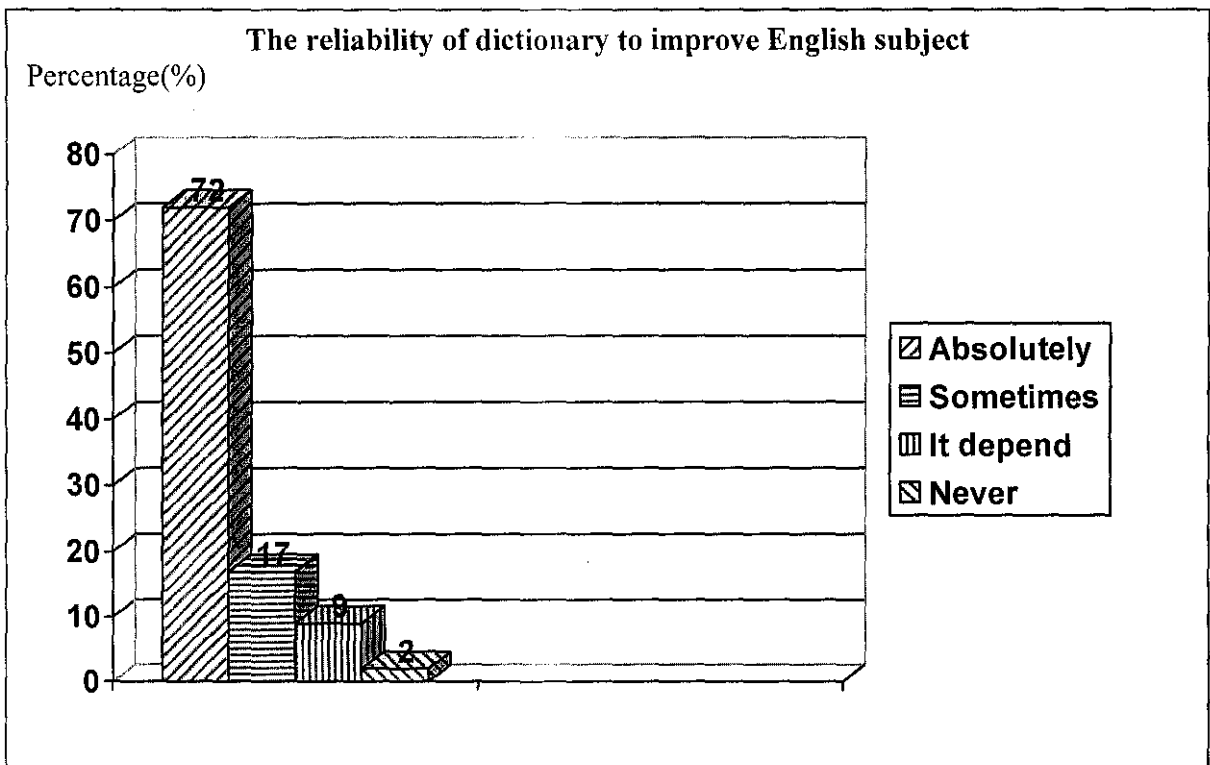


Figure 4.3

Discussion

From the above figure, there are tremendous different between four criteria of the answers. There are 72% of respondent's select 'absolutely' choices therefore reflected that the important of using dictionary in improving English subject. Students realize that dictionary is an important medium which they can rely in order to improve their English. For 'sometime' choices, there are 17% respondents agree with this selection while 9% of respondents choose 'it depend' choices. Lastly, there are 2% respondents who are strongly disagree with student who rely on dictionary. They choose 'never' which means no need to have dictionary in learning English.

Data rationale

From the obtained result, it can be concluded that most respondents do agree with the important of using dictionary in learning English subject. In certain schools, teacher want their student to own dictionary for English subject usage and also for their own references. The rationale of the surveys received such that great response is because students nowadays put together dictionary as important as their text books or reference books. This contributes to the great number of respondents which do agree with 'absolutely' choice in helping them to improve English subject.

Data gathered

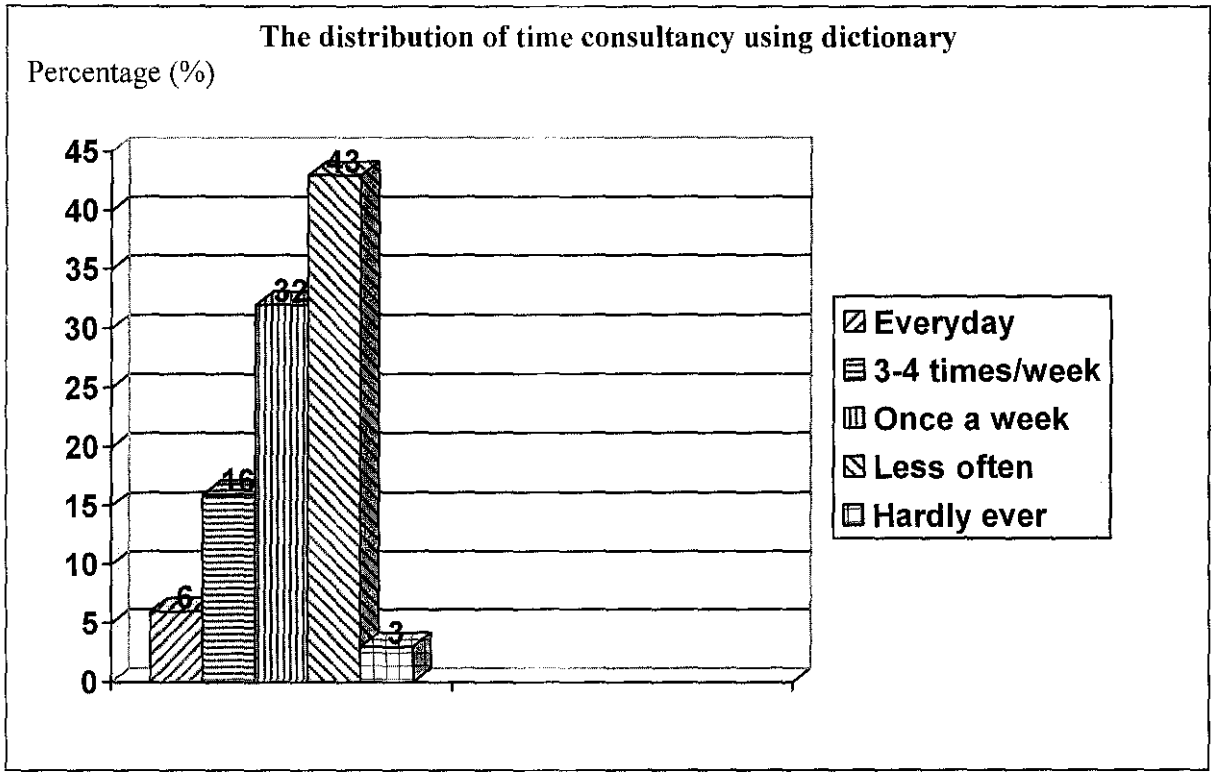


Figure 4.4

Discussion

For the figure 4.4, there is causation why respondents do select such that votes. If compared between the highest and the lowest votes, there is a big gap which is 39%. Between those two, the votes from respondents are likely do not depend on conventional dictionary to learn English. From there, we can conclude that in order to encourage students to use dictionary, there should be a revolution in a way of presenting the dictionary itself.

Data rationale

From figure 4.4, there are various answers from respondents who gave their time consultancy of using dictionary. According to the answer, 6% of respondents do refer to dictionary everyday. The respondents of this category are mostly student from secondary school. Most of students in this category who will sit for Sijil Pelajaran Malaysia (SPM) and amongst them are student from grade A school. For second option, there are 16% respondents do select 3-4 times dictionary usage per week. According to this group, they use dictionary mainly during completing their homework or assignment. Dictionary is use whenever they cannot understand meanings of certain vocabulary or sometimes to find synonym.

There are another option which is once a week that have been selected by 32% of respondents. They vote for it probably because for the usage of reading story books at their leisure time in the weekend. The topmost votes for this question are 42% yet proof that there are not many peoples used to refer meaning in conventional dictionary. The lowest votes for this question are 3% for respondents who hardly ever use dictionary.

Data gathered

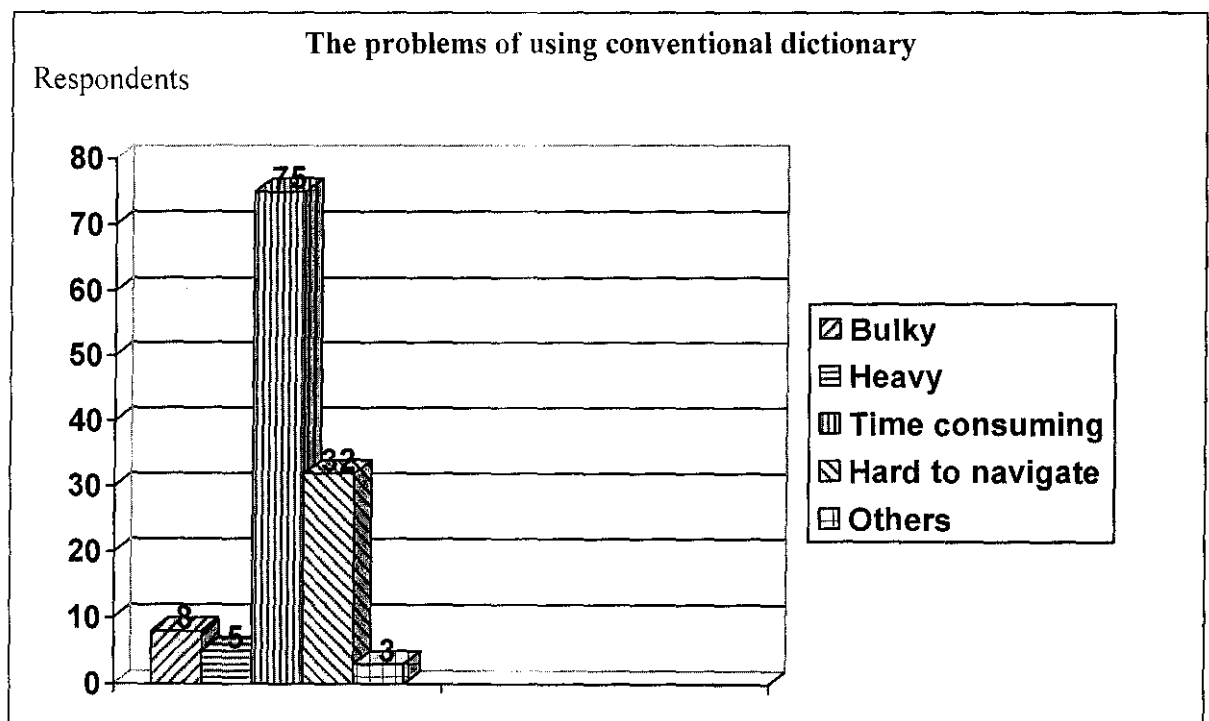


Figure 4.5

Discussion

Based on Figure 4.5, there is a common problem using conventional dictionary which is time consuming. When 75 respondents out of 100 give feedback, they extremely do agree on this problem. The second problem is conventional dictionary is hard to navigate because students have to seek meaning page by page which this action is sometime tedious. It took about 32 respondents to encounter such this problem in their usage of dictionary. The other respondent consent that bulky and heavy dictionary could somehow irritate them searching the meanings of words. There are 9 respondents choose bulky while 5 respondents choose heavy respectively. For the rest 3 respondent, there have different opinion from the answer provided why they dislike using dictionary.

Data rationale

In the discussion for figure 4.5, most respondent do select 'time consuming' as their main problem of using conventional dictionary. This had been proved by 75 respondents and the reason beside this is because human response cannot act as fast as computer. We admit that as a human being, searching from one page to another page is really took quite some time especially for the beginner. The problem of 'hard to navigate' is basically about new exposure to dictionary. When students are not familiar with conventional dictionary content and the arrangement of alphabetical words, they can easily lose the direction. Lastly, they will find difficulties in searching meanings of certain words afterward.

For bulky and heavy reason, they are similarities between them which seem to move parallel. Basically, these problems are inter-related and no wonder the votes for those two problems are slightly close to each other. A few respondents give their own answers why they bump into problem such as the font of certain dictionary is too small thus make them cannot read words clearly. Beside, the quality of dictionary page (paper) is not quality which could simply scratch and damage. But then, the problems are beyond our control and this mainly depends on the publisher itself who publish dictionary based on certain aspect such as price, number of words etc.

Data gathered

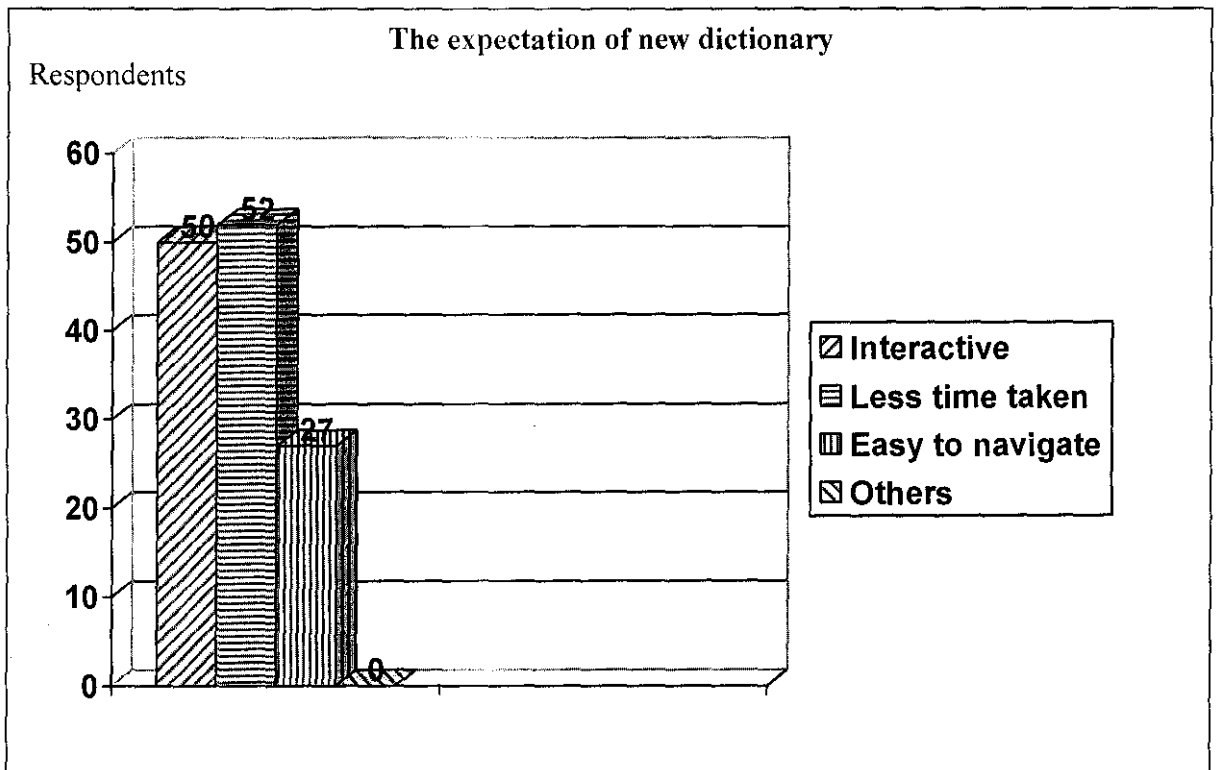


Figure 4.6

Discussion

From the figure 4.6, it shows that many respondents agreed less time taken is their first consideration of the new dictionary instead. This choice reflects from the main problem thus encourage them to suggest the absolute solution for enhancement. There are 52 respondents lead the survey voting for the first choice hope. Meanwhile, there also a high demand on 'interactive' factor which students expect from the new dictionary. There are a slight different between interactive factors compared to less time taken factor which only 2 respondent. The third choice of 'easy to navigate' aspect can attract about 27 respondent which is almost half from the first and second choice. Lastly, nobody's gave their own suggestion on what expectation should to contribute in the new dictionary.

Data rationale

According to Figure 4.6, every respondent are expecting an improving for conventional dictionary to increase the effectiveness on the usage of dictionary. The reasons why most respondents suggest 'less time taken' for new dictionary is because they are getting tedious to open page by page of current dictionary. Then,

Data gathered

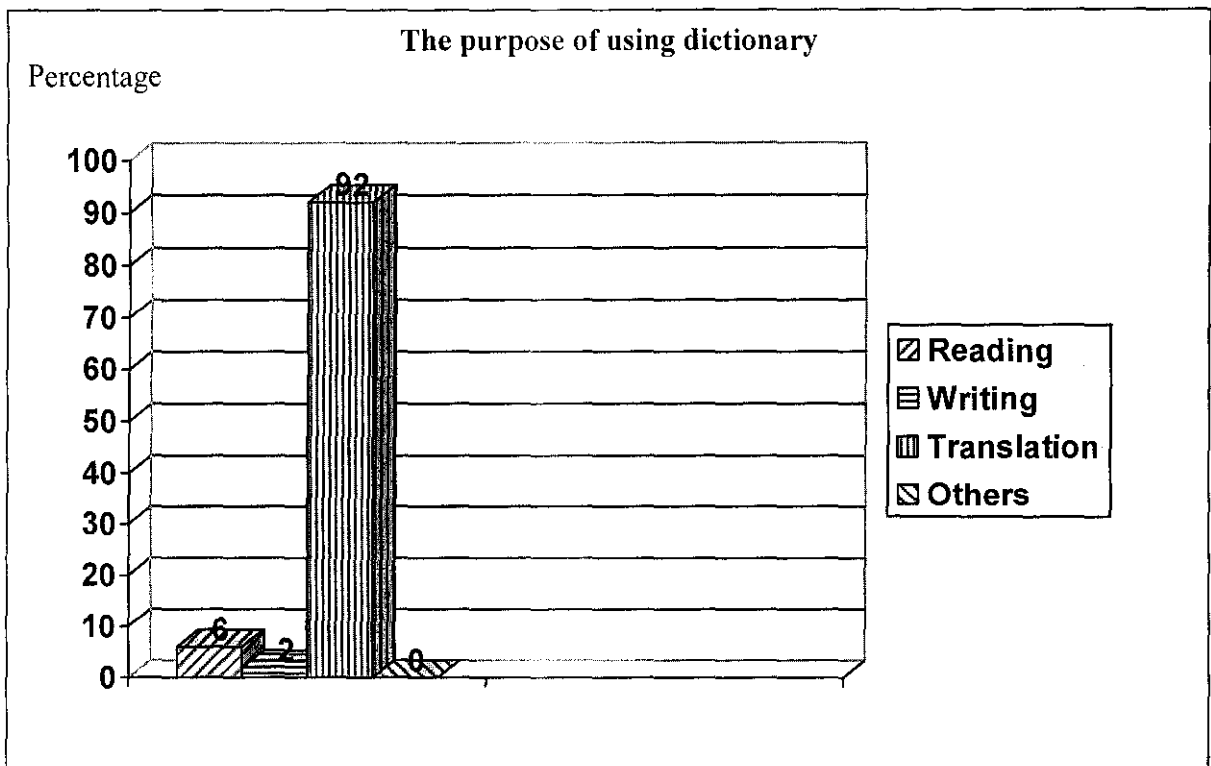


Figure 4.7

Discussion

As we noticed, dictionary is used to find meanings of unfamiliar words most of the time. Hence, translation from one language to another language such as English to Malay is being the main purpose of having dictionary. So then, 92% of respondents select 'translation' on the purpose of the usage of dictionary. Meanwhile, 6% use dictionary for reading and 2% use in writing.

Data rationale

From the result obtained in figure 4.7, it shows the tremendous differences between the highest votes compared to other votes. Majority of respondents use dictionary mainly for the purpose of translation from one language to another language. There are 92 percent of respondents have the same intention for 'translation' reason. This is accepted commonly because as everybody notice, dictionary is used to find meaning as well as for translation. Reading and writing purposes do collect a few votes which each one get 5% and 2% respectively.

4.1.2 Information gathered from an interview

An interview session had been conducted on 9 March 2004 with Miss Nur Rabizah bte Ahmad who is an English teacher in Sekolah Kebangsaan Padang Terap, Kuala Nerang, Kedah.(SKPT). Currently, she teaches year 3 and year 6 students.

After explaining the purpose of the interview, she had given a good co-operation to answer all the questions from the interviewer. Based on her experience teaching students in primary school, students mostly have the difficulties to understand certain vocabulary in one paragraph. In order to overcome this problem, student should have to seek the meaning in conventional dictionary. She always got the complaint from students whereby they have to find a lot of meanings in one time. This really make them tedious thus finally let them remain with the problems of those unfamiliar words.

Beside, students also have the difficulties in pronouncing certain words. According to Miss Nur Rabizah, conventional dictionaries do not really help at all even though the dictionaries provide how to pronounce at the beginning of the page. When they are difficult words that are not used often, it really gave the big problems to pronounce especially for the words which we do not hear before. All teachers want their students to become excellent and so for that, they always wish if they are another supportive approach to learn English.

During the interview, Miss Nur Rabizah has been introduced to the proposed system which called Malay English Malay Interactive Dictionary (MEMID). This system later will encounter current problems of conventional dictionaries. She definitely agrees with the development of MEMID because the system later will benefit student in seeking the meaning of certain words.

Giving her opinion about MEMID, Miss Nur Rabizah suggests that MEMID should enable both Malay and English word in search function. This means that students can enter either Malay or English word to get the meaning of the other language. This will become more meaningful because there are choices to select language and there is no

restriction in one language only. This system will be running under Local Area Network (LAN) basis because it is easy for student to access in any computer as long as there are connected to LAN. Students will get connected either there are at computer lab, library or at faculty room as well. This shows that the proposed system is flexible.

Students usually get attracted to something which is interactive. The way of presenting MEMID will somehow affect the usage of this system. The elements of interactivity, ease of navigation and less time consuming should have to take into consideration in developing MEMID. She added that a student who has the attitude of love to read a lot of books and practice speaking English will someday gain control over English subject.

4.2 Technical design

After analyzing the user requirement, the system work flow has been defined. The purpose of the diagrammatic process flow is to understand and clarify how the system work, system input, and user interaction.

Figure 4.81 shows MEMID Flow chart which illustrates process flow of the Interactive Dictionary:

- 1) When user types the IP address of local host computer, a welcome page will appear as an introduction of the system. User needs to click ENTER button in order to go to the next page.
- 2) For administrator, he/ she have the full access towards the system. The administrator needs to enter the user name and password in order to get all the privileges of the system.
- 3) User then will be move on to the main page. From this menu, user can view all the words according to the alphabets.
- 4) Beside, user also can do word search which enable them to search any words in English or Malay. When the words exist in database, it will display the meaning of the words and the word itself.
- 5) User also can preview the sound of the word searched in English.
- 6) An administrator has the privileges of modifying all the data such as add, delete and also edit for both Malay and English word as well as sounds.

4.3 Front End System Design

In this section, all the procedure taken in using this system will be discussed step by step. Generally, it is a design with the simplest and easiest method for user to navigate and get information from MEMID. So, the tendency of user to in getting lost using this system is very minimal.

4.3.1 Welcome page

First of all, user needs to type the URL of the local host destination. Then, user will be displayed splash screen which show the montage of the system. There are two choices either for normal user or administrator to use the system. Clicking the desired button will bring user to the next page thus enable user to use the system. Please refer to *Figure 4.8 – Welcome page*

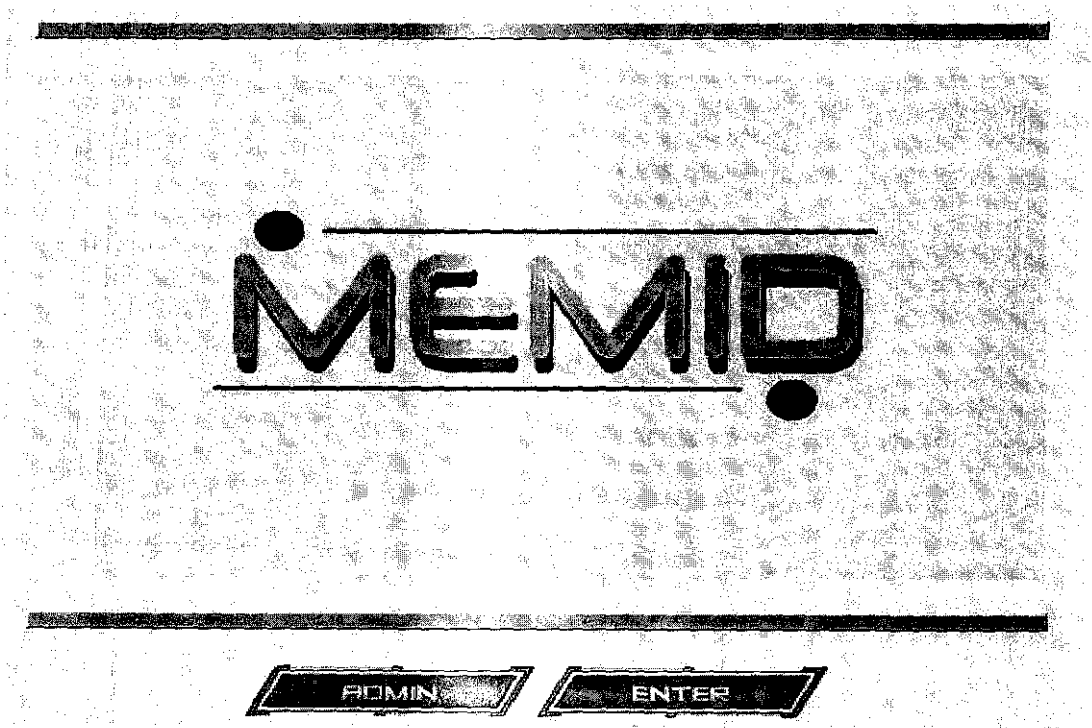


Figure 4.8

4.3.2 Administrator login page

Administrator need to enter the correct user name and password in order for them to get the full access to the system. If administrator fails to enter the correct user name and password, he/ she cannot be have the privilege to view the administrator page. Please refer to *Figure 4.9 – administrator login page*

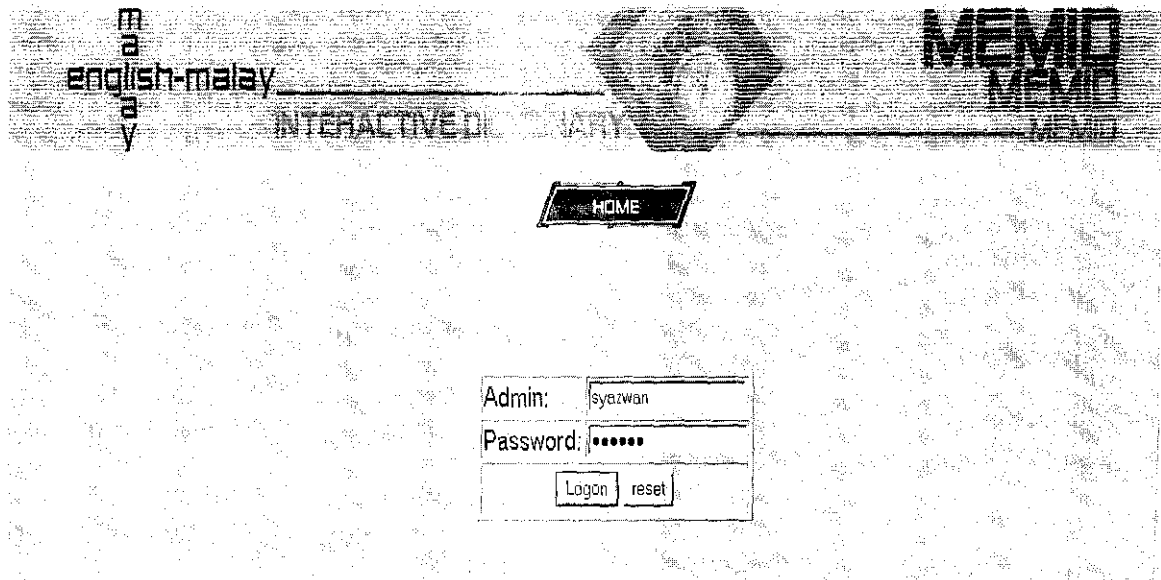


Figure 4.9

4.3.3 Administrator page

After administrator login successfully, they will be bring to the administrator page that have the function *add, edit, delete and search word*. All the words stored will be sort according to the alphabet A to Z. This mean, any word start with alphabet A will be displayed at the top then followed by the other alphabet subsequently. Please refer to *Figure 4.10 – Administrator page*



Malay	English	Pronounce	Edit	Delete
acara	event	Pronounce	Edit	Delete
adil	fair	Pronounce	Edit	Delete
agama	religion	Pronounce	Edit	Delete
awal	early	Pronounce	Edit	Delete
baca	read	Pronounce	Edit	Delete
badan	body	Pronounce	Edit	Delete
bubungan	roof	Pronounce	Edit	Delete
buruh	labour	Pronounce	Edit	Delete
burung	bird	Pronounce	Edit	Delete
cakap	speak	Pronounce	Edit	Delete
cemerlang	excellent	Pronounce	Edit	Delete
cinta	love	Pronounce	Edit	Delete
contoh	example	Pronounce	Edit	Delete
cukup	enough	Pronounce	Edit	Delete

Figure 4.10

4.3.4 Add word feature

Administrator can add new words via this page. Both words in Malay and English should be added with the pronunciation simultaneously. The translation of both Malay and English word should be identified while the pronunciation is taken from the recorded voice. Pronunciation can be retrieved by browsing from hard disk or any storage device such as thumb drive. After all, this information is submitted to be stored in database. Please refer to *Figure 4.11 – Add word*

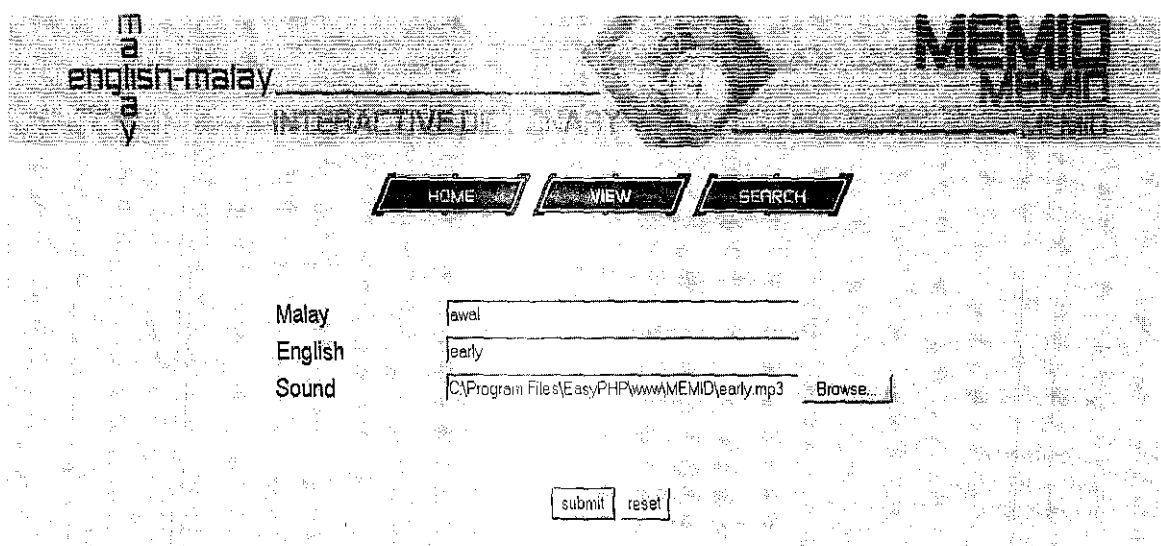


Figure 4.11

4.3.5 Edit word feature

As a human being, the tendency to do mistake is high and this is accepted as a process of life. When admin mistype any words either in Malay or English, he/ she can do modification in order to ensure the accuracy of data. When edit button is clicked, the system will display the Malay and English words in the desired row. From there, admin can do correction of mistype word and then submit it in order to update the correct word in database. Please refer to *Figure 4.12 – Edit word*

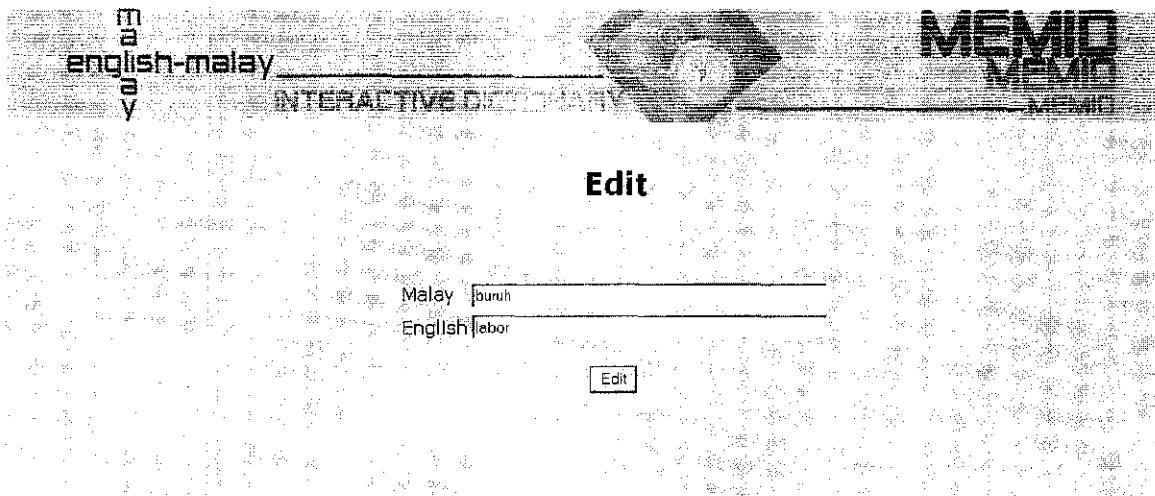


Figure 4.12

After the amendment has been made, MEMID will display the message as shown in *Figure 4.12* to inform user that the information has been updated. Please refer to *Figure 4.13 – Edit word confirmation*

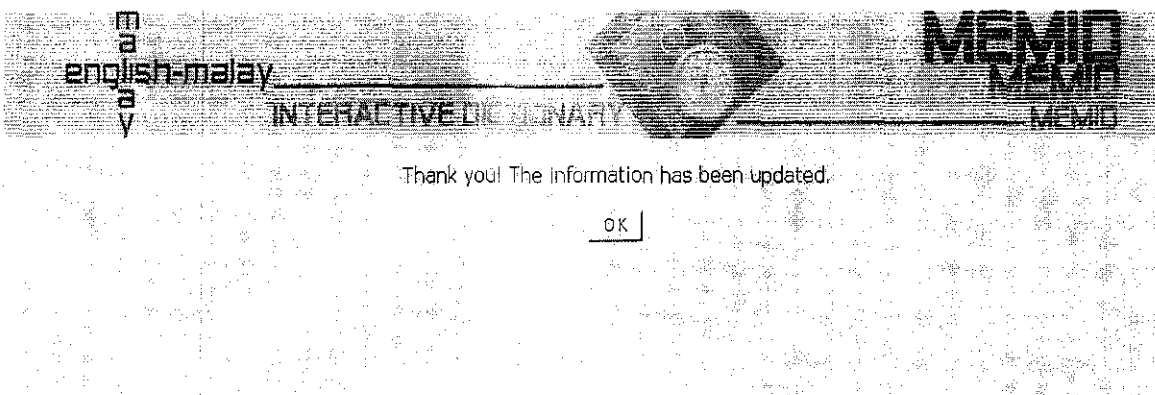


Figure 4.13

4.3.6 Delete word feature

If there is any word which does not confirm its correctness, it is no use to store it in the database because it will waste the space of the database. In order to utilize the database, the garbage data should be removed appropriately. Once the admin clicks the delete button, the system will ask for confirmation either the admin really wants to delete the word or not. Then the word will be deleted permanently. Please refer to *Figure 4.14 – Delete word*

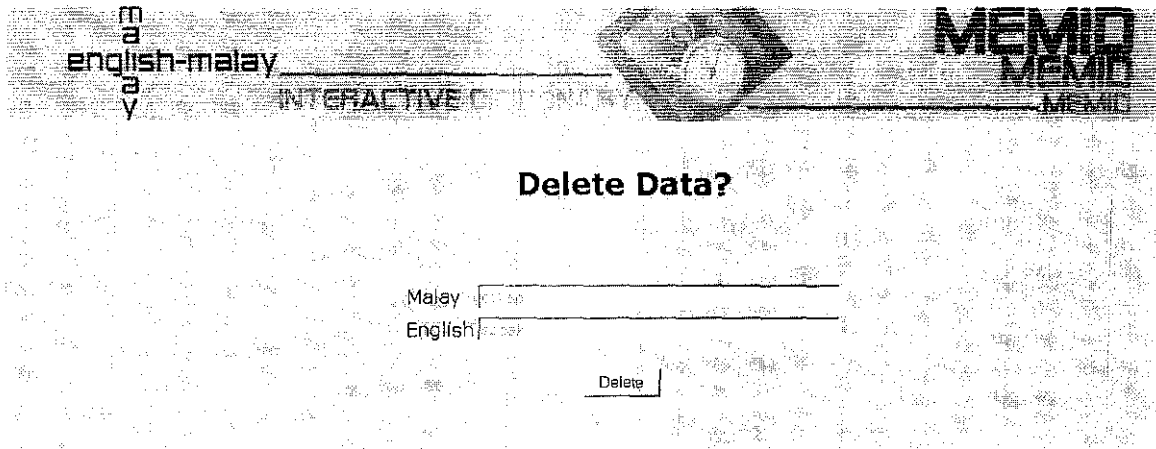


Figure 4.14

After the data has been deleted, MEMID will display the message as shown in *Figure 4.15*. Please refer to *Figure 4.15 – Delete word confirmation*

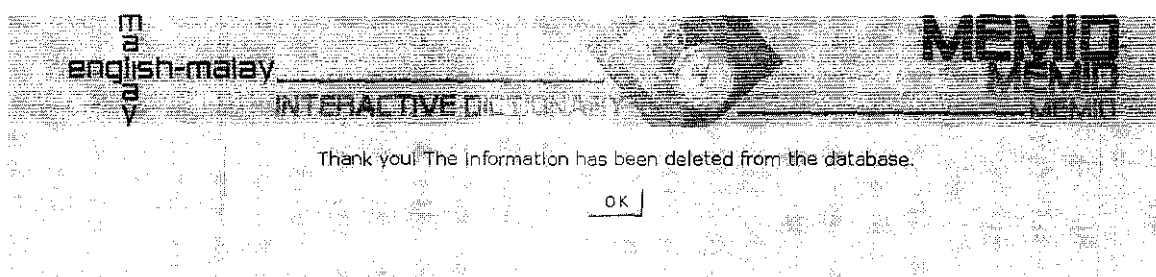


Figure 4.15

After the word 'cakap' and 'speak' has been deleted, both word are no longer displayed in the updated list. The white line indicates that both words suppose at that row before the information is being updated. Please refer to *Figure 4.16 – Updated list*

Malay	English	Pronounce	Edit	Delete
acara	event	Pronounce	Edit	Delete
adil	fair	Pronounce	Edit	Delete
agama	religion	Pronounce	Edit	Delete
awal	early	Pronounce	Edit	Delete
baca	read	Pronounce	Edit	Delete
badan	body	Pronounce	Edit	Delete
bumbung	roof	Pronounce	Edit	Delete
buruh	labor	Pronounce	Edit	Delete
burung	bird	Pronounce	Edit	Delete
cemerlang	excellent	Pronounce	Edit	Delete
cinta	love	Pronounce	Edit	Delete
contoh	example	Pronounce	Edit	Delete
cukup	enough	Pronounce	Edit	Delete

Figure 4.16

4.3.7 User page

For normal user, they would be brought to a page which seem similar to administrator page but user doesn't have add, edit and delete features. In this page, user can view all the words which have been stored in the database, hear the pronunciation and also search the meaning of words either in Malay or English. User can hear the pronunciation of an English word by clicking on the pronunciation hyperlink. The system then will played the sound of an English word in mp3 format. Please refer to *Figure 4.17 – User page*

[HOME](#) [SEARCH](#)

Malay	English	Pronounce
acara	event	Pronounce
adil	fair	Pronounce
agama	religion	Pronounce
awal	early	Pronounce
baca	read	Pronounce
badan	body	Pronounce
bumbung	roof	Pronounce
buruh	labour	Pronounce
burung	bird	Pronounce
cakap	speak	Pronounce
cemerlang	excellent	Pronounce
cinta	love	Pronounce
contoh	example	Pronounce
cukup	enough	Pronounce

Figure 4.17

4.3.8 Search function

If the user searches words according to alphabetical order, it will seem like conventional dictionary because it required quite some time to find the meaning manually from the list of alphabet. So, MEMID provide the most powerful features which enable user to enter any English or Malay word they wish to search the meaning. After user click the button search, the system will provide the choice for user either they want to search the meaning in English or Malay. Please refer to *Figure 4.9 – Word search*

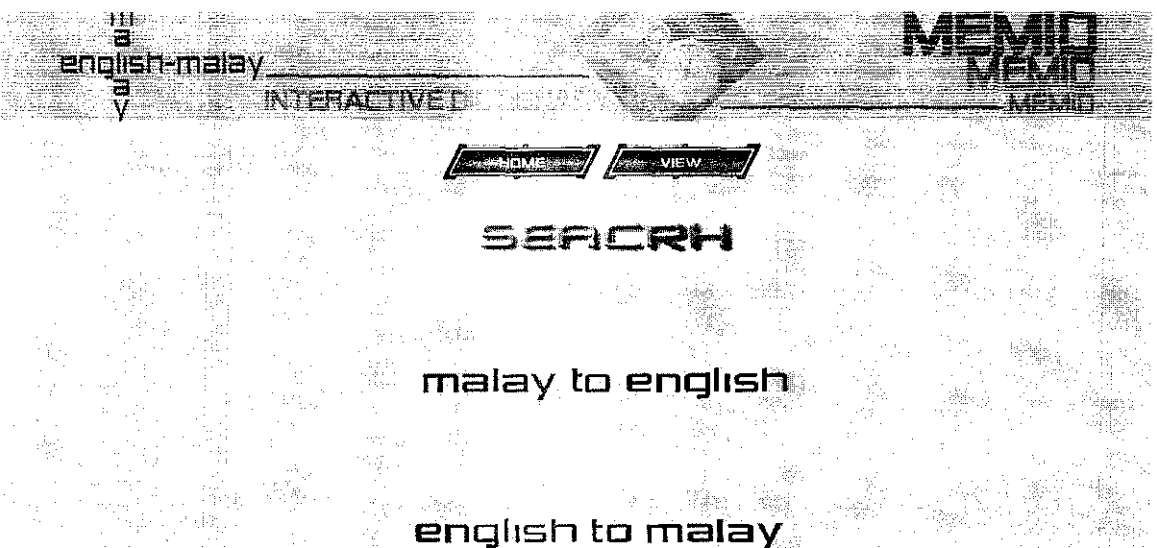


Figure 4.18

4.3.8.1 Malay to English

Let say user want to search the meaning 'agama', he/ she has to type the word in the input box provided. Then, by pressing the translate button, the system will search the meaning automatically and the result will be displayed at the bottom. Please refer to *Figure 4.19 – Word search result (Malay to English)*

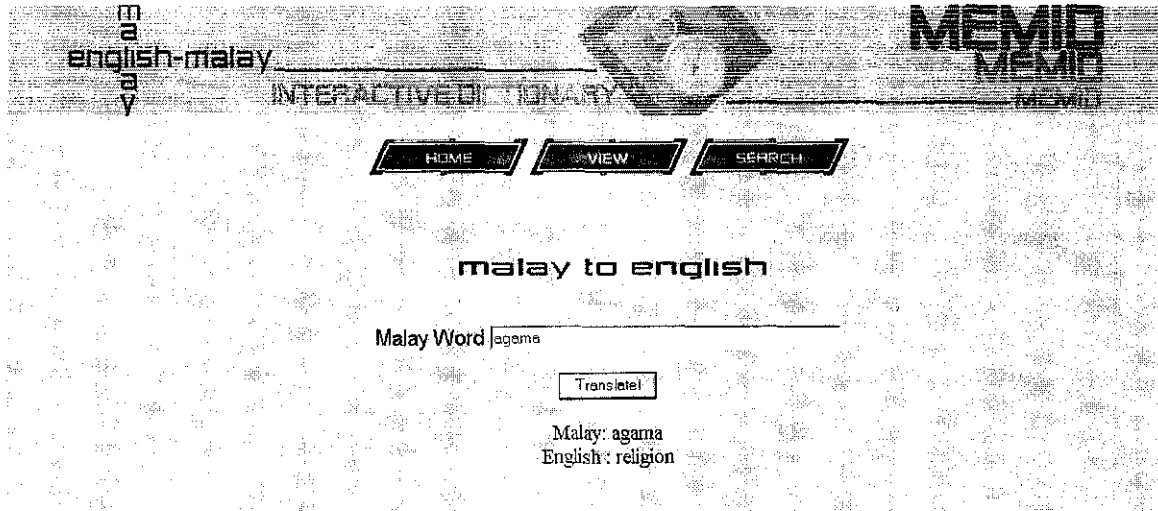


Figure 4.19

4.3.8.2 English to Malay

The procedure to search the meaning from English to Malay is same as the procedure to search the meaning from Malay to English. Please refer to *Figure 4.20 – Word search result (English to Malay)*

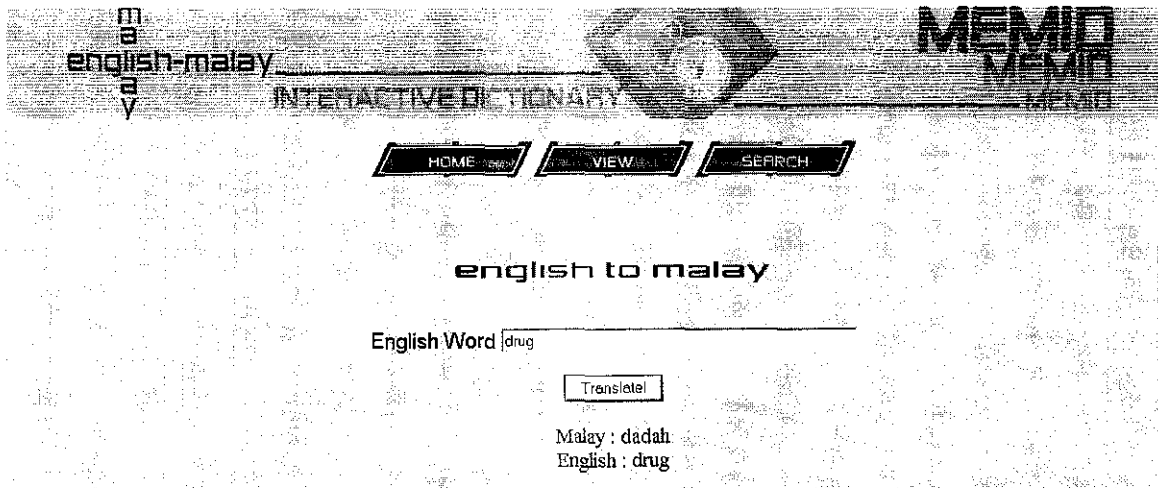


Figure 4.20

If the user enters the word which has not been stored in database, it will not give the result of the word searched. In another situation, if the user does not search the meaning in the correct word search, no result will be displayed even though the word is stored in the database. Let say by using the word search English to Malay, the word 'dadah' could not be identified by the system because the system cannot recognize the Malay word from the English database. Please refer to *Figure 4.21 – Word search result (word not in the database)*

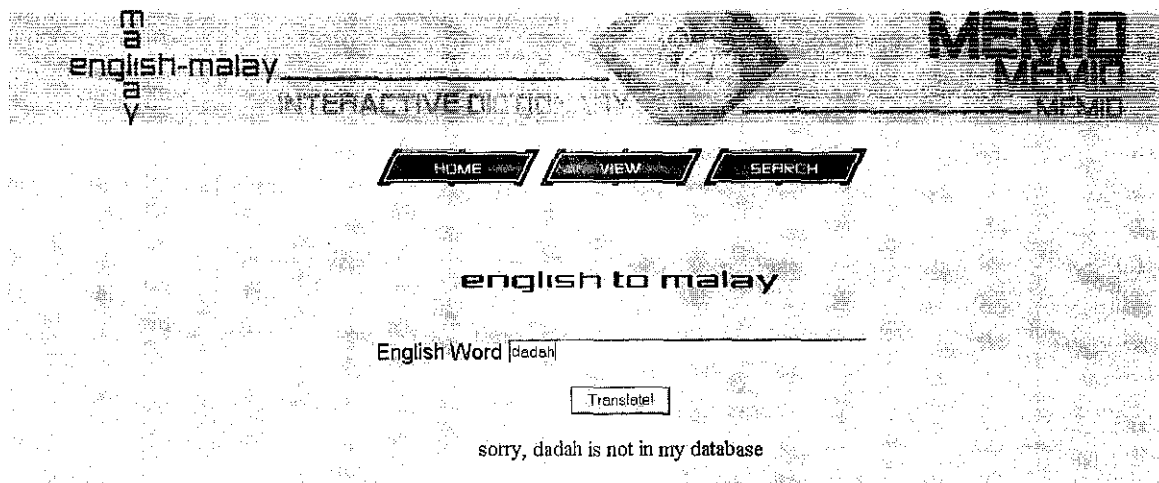


Figure 4.21

4.4 Problem Encounter

In developing this project, I have encountered a lot of problems especially in development phase. Starting with the basic thing of installing and configuring Apache web server, PHP and MySQL manually, there are lots of things to do in order to ensure the entire component run correctly. All of this tasks take plenty time because I have to try and error in doing configuration.

When I finished doing research and exploring the internet, I have found software which gives me a hope to install php, MySQL and Apache web server successfully. The software is called Foxserv which consist of those php, MySQL and Apache web server respectively. Dealing with this software really need patient because once Foxserv had been installed, it did not run as expected. For the first time install, Apache web server cannot start correctly while the other two are functioning. Then, I have to uninstalled the entire package and do reinstallation after I noticed that Apache web server from Foxserv are getting conflict with Apache web server that I had installed before this. The solution is I have to uninstall the previous Apache web server and then reinstall Foxserv once again. For this time, MySQL takes turn fail to operate which need configuration in certain coding. Finally, Foxserv run correctly as it shows the local host and phpmyAdmin in the browser.

After I can solve the problem of installing Foxserv, then I do experience the problem configuring MySQL database. It is because MySQL database in Foxserv have bugs which it cannot integrate with PHP. Even though the table has been created using phpmyAdmin, it cannot connect to the local host and display the error messages at last.

One of the functionality of this system which truly complicated is enabling sound function. Starting from creating uploader to upload sound from hard disk, it required totally different coding from add, edit or delete coding. It is very difficult to find those coding and in reality, sound function is not being discussed at all even though in most of PHP books itself.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

CHAPTER 5

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5.1 CONCLUSION

According to the problem statements findings, the need of interactive dictionary is become important lately towards the technology advancement. This is to encourage student using dictionary frequently in helping them learning English. Beside, the main intention of creating this system is to reduce the time taken to search any unfamiliar words in English. The target user is mainly for students in school which need a system to make learning process become interactive in the conducive learning environment. So, I tried to come put with a solution base on the identified problem statements and questionnaires in order to cater user need and requirement in developing MEMID.

Although MEMID sometimes look simple, it actually benefits most of students because it motivated student to use dictionary more often. The interface which looks catchy will attract student to explore deeper towards the system. Beside, the interactive element which is being presented in this system helps to catch the attention of the students. The information gains from research conducted are used in deciding whether the system is worth to be developed. Furthermore, as this project is a small scope, it is feasible to be completed within three to four month period. As a conclusion, this project is worth to be developed and implemented as many processes become efficient with its implementation.

Although an academic value of a dictionary depends on its content, its usability as an on-line source heavily depends on the way this content was structured and made available for a user. A combination of interface features and modes for the flexibility and adaptability of the information contained in interactive dictionary will makes student comfortable to use MEMID

5.2 RECOMMENDATIONS

In order to make this Malay English Malay Interactive Dictionary (MEMID) project more valuable and beneficial in future, some recommendations have been made to be considered. This will help for future enhancement of the system for other Final Year Project (FYP) to continue the development. The recommendations for future project are as follows:

5.2.1 Stand Alone System

For this current system of MEMID, the system is run on the server platform. The system is relying onto the server to activate the MEMID. However, the reliability will encounter into several problem if the server is not functioned.

Not everyone has server and this give problem to run the MEMID without server. In fact if user install Apache web server, it will required several configuration which need high effort. As for future enhancement, the system is suggested to run on the stand alone application such as .exe. By using this technology, problems with the server can be eliminated.

Stand alone application here means, the system will enable the user to run the MEMID with its own without using server. So, problems such as networked down or server is not start will not affect the MEMID operation. Besides, user can run the system from any location at any time of day without have to rely on the network architecture.

5.2.2 Audio Elements

Navigate with ears is also assist the eyes to search the required words in the MEMID. Audio elements in the application also can help user in order to pronounce the words with correct style. In addition, it provide user with more interesting navigation. The main purpose is to support the text elements in the application by pronouncing sounds for every word that is chosen by using text to speech technology.

As for example, when user enters a word, the translated words will be pronounced by the system. It will recognize the word entered by user and then speak up that word automatically. If this technology can be implemented, the administrator will no longer have to record voice anymore yet save a lot of space in database.

5.2.3 Interactive Design

MEMID project will be more interesting with an interactive design. It will attract user attention as they might enjoy when navigating the system in order to search the translation word. In addition, user will be able to understand the words shown after it has been translated in the system better.

For future enhancement development, perhaps the system is provided with pictures to describe the physical features of the words chosen. The picture will give clearer understanding to the user as they can see the pictures of the words. As for example, when user enters a house, he or she can see a picture of a house. Here, it will help user to remember the words easily even after knowing the words once by pertaining photographic memory.

REFERENCES

REFERENCES

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3. <http://www.spanport.ucsb.edu/projects/llcf/Eral/Reviews/Jeremyk/review1.html>
4. <http://www.solomonstreasurechest.com/WordPointInterDictionary.html>
5. <http://dictionary.bhanot.net/index.html>
6. [http:// sqlzoo.net](http://sqlzoo.net)
6. <http://www.mysql.com/doc/en/Reference.html>
7. <http://thinkhost.com/services/kb/php-mysql-insert.shtml>

APPENDICES

Appendix 1

A Survey on the usage of dictionary

Appendix 2

Interview question with an English teacher

Interview question

Teacher's name :

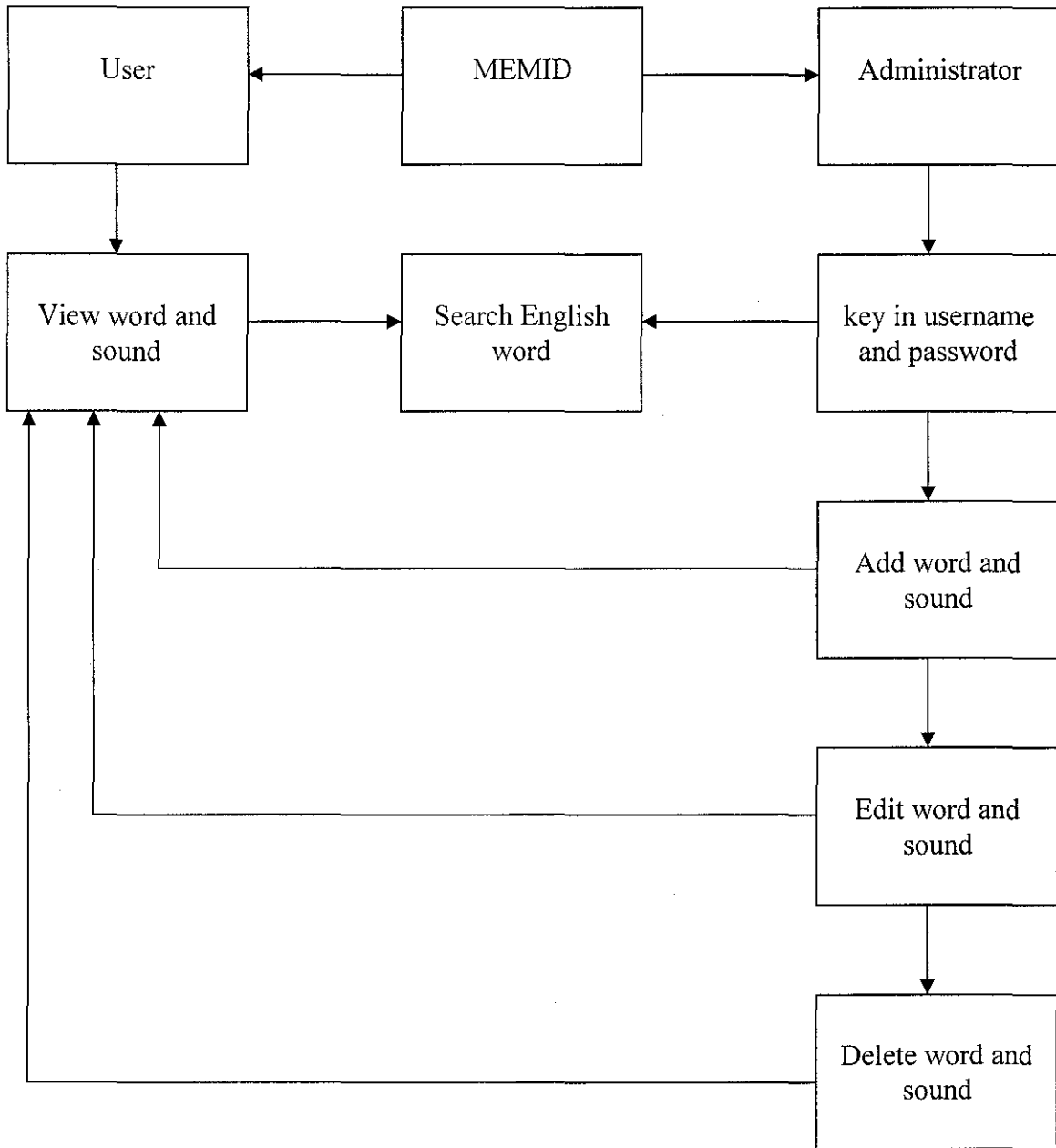
School :

- 1) How many years do you experience being an English teacher?
- 2) What standard / form do you teach currently?
- 3) What are the main problems faced by students to learn English?
- 4) Why did student do not use conventional dictionary as a medium for them to learn English?
- 5) How far dictionary helps student in learning English?
- 6) What are the elements that must be included in MEMID in a way to attract user using that system?
- 7) How did you measure MEMID in future?

Appendix 3

Flow chart of Malay-English-Malay Interactive Dictionary (MEMID)

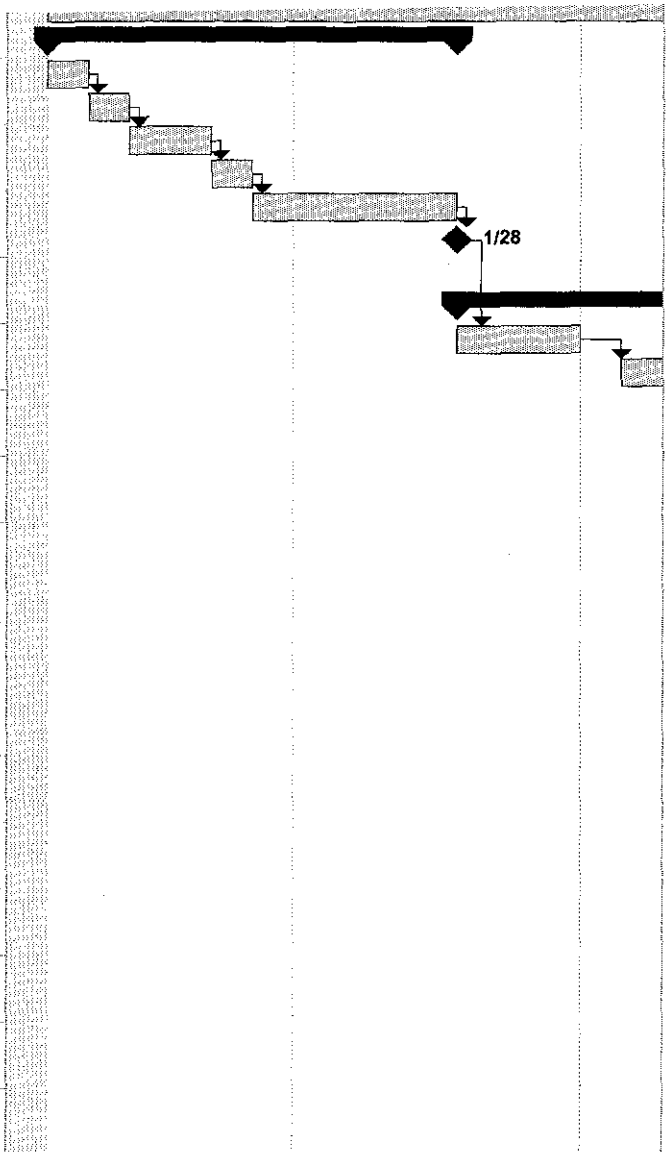
Flow chart of Malay-English-Malay Interactive Dictionary (MEMID)



Appendix 4

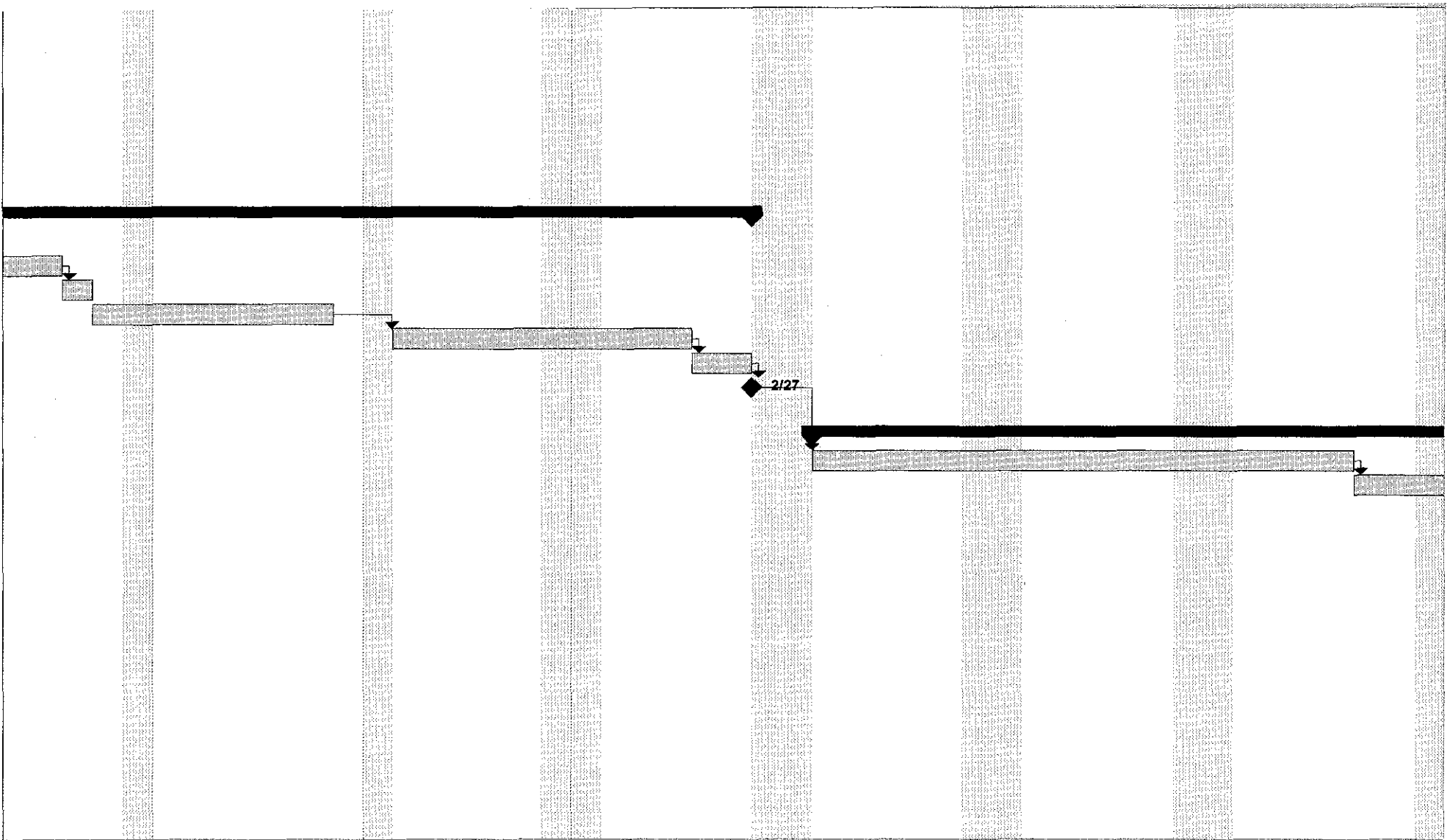
MEMID Project Work Plan

2	Project Planning	10 days	Mon 1/19/04	Wed 1/28/04	
3	Initiate project and proposal	1 day	Mon 1/19/04	Mon 1/19/04	
4	Obtain supervisor' approvals and advisory	1 day	Tue 1/20/04	Tue 1/20/04	3
5	Identify information for research elements	2 days	Wed 1/21/04	Thu 1/22/04	4
6	Preliminary Report submission	1 day	Fri 1/23/04	Fri 1/23/04	5
7	Finalize project workplan	5 days	Sat 1/24/04	Wed 1/28/04	6
8	<i>Project proposal completed</i>	0 days	Wed 1/28/04	Wed 1/28/04	7
9					
10	Analysis phase	26 days	Thu 1/29/04	Fri 2/27/04	
11	Identify user requirements	3 days	Thu 1/29/04	Sat 1/31/04	8
12	Distribute questionnaires to respondents	3 days	Mon 2/2/04	Wed 2/4/04	11
13	Conduct an interview with English teacher	1 day	Thu 2/5/04	Thu 2/5/04	12
14	Research on online informations	7 days	Fri 2/6/04	Fri 2/13/04	
15	Research on written material	8 days	Mon 2/16/04	Wed 2/25/04	14
16	Design the Navigation Map for the system(Storyboard)	2 days	Thu 2/26/04	Fri 2/27/04	15
17	<i>Problem statement completed</i>	0 days	Fri 2/27/04	Fri 2/27/04	16
18					
19	Design phase	42 days?	Mon 3/1/04	Fri 4/16/04	
20	Digital audio recording	14 days	Mon 3/1/04	Thu 3/18/04	17
21	Develop interface for the system	6 days	Fri 3/19/04	Thu 3/25/04	20
22	Progress Report submission	1 day?	Fri 3/26/04	Fri 3/26/04	21
23	Write the coding in PHP	12 days	Sat 3/27/04	Wed 4/7/04	22
24	Design database using mySQL	10 days	Wed 4/7/04	Fri 4/16/04	
25	<i>System development completed</i>	0 days	Fri 4/16/04	Fri 4/16/04	24
26					
27	System Testing	9 days	Mon 4/19/04	Thu 4/29/04	
28	Plan system test	4 days	Mon 4/19/04	Thu 4/22/04	25
29	Conduct system test	5 days	Fri 4/23/04	Thu 4/29/04	28
30	<i>System testing completed</i>	0 days	Thu 4/29/04	Thu 4/29/04	29
31					
32	Project implementation and Project Close-out	6 days	Fri 4/30/04	Fri 5/7/04	
33	Conduct the system roll-out	1 day	Fri 4/30/04	Fri 4/30/04	30
34	Finalize final draft documentation	5 days	Mon 5/3/04	Fri 5/7/04	33
35	<i>Project implementation completed</i>	0 days	Fri 5/7/04	Fri 5/7/04	



Project: HP PROJECT WORK PLAN
Date: 28/1/04

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	



Project: HP PROJECT WORK PLAN
Date: 28/1/04

Task



Milestone



External Tasks



Split



Summary



External Milestone



Progress

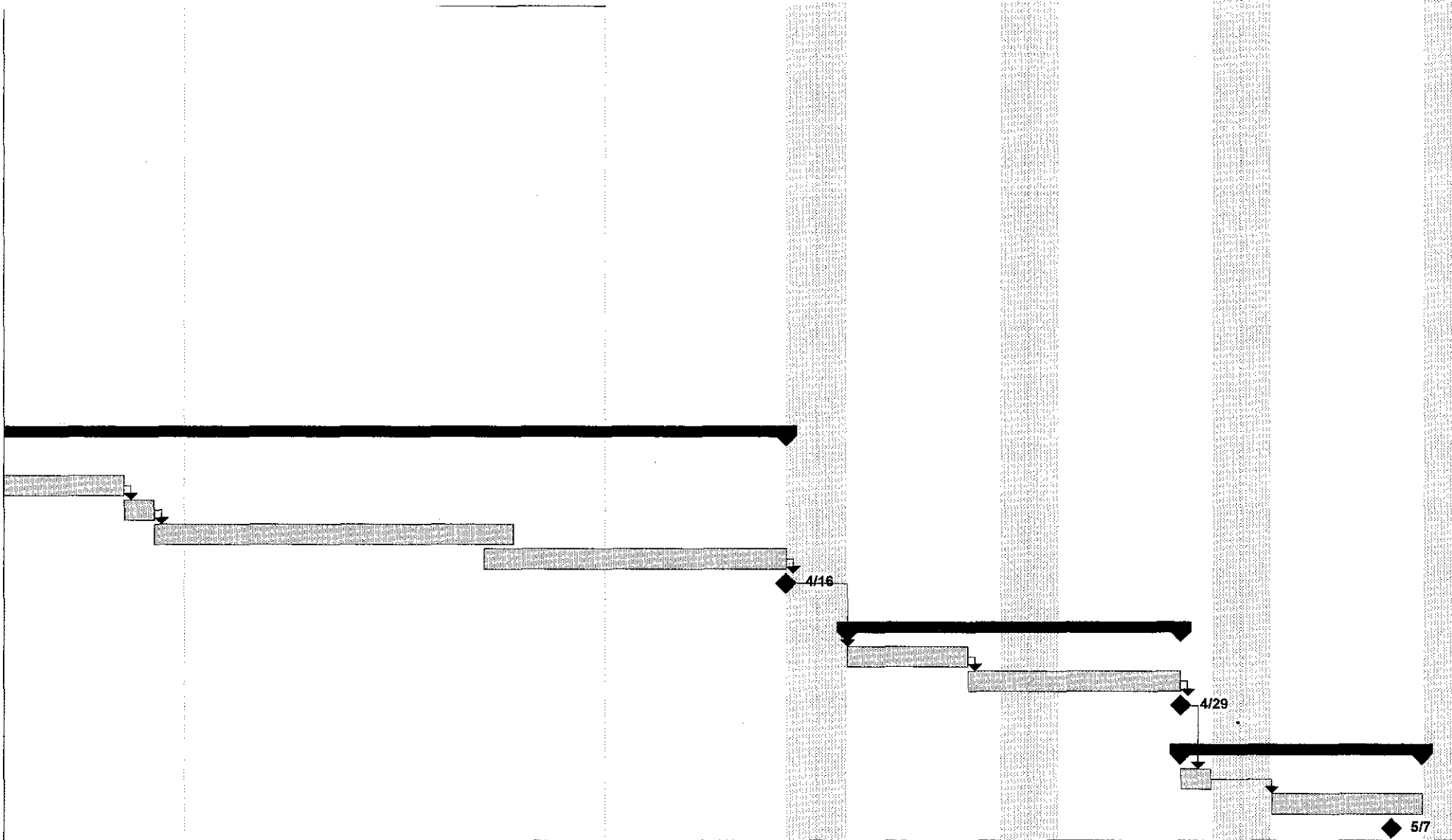


Project Summary



Deadline





Project: HP PROJECT WORK PLAN
Date: 28/1/04

Task



Milestone



External Tasks



Split



Summary



External Milestone

Progress



Project Summary



Deadline