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Multi - featured personal phone monitoring system / Nurul
Elmi Muhd. Redzuan.

MULTI-FEATURED PERSONAL PHONE MONITORING SYSTEM

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**This report is submitted in partial fulfillment of the requirements for the Bachelor
of Information and Communications Technology (Software Engineering).**

**FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA**

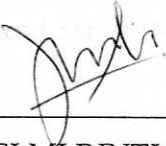
2006

DECLARATION

I hereby declare that this project report entitled

MULTI-FEATURED PERSONAL PHONE MONITORING SYSTEM

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

STUDENT :  _____ Date: 28/4/06
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SUPERVISOR : _____ Date: _____
(CIK ZERATUL IZZAH BT.MD YUSOH)

DEDICATION

To my beloved family

Abah & Umi

(Muhd. Redzuan Bin Abdullah & Mahfuzah Bt Johari)

Ezzati, Eizaaz and Baby

Thank you for the blessing and support given

To all the appreciated lecturers

To my beloved friend Sarjeet Kaur for the encouragement given

Thank you for the encouragement and fully support given throughout my PSM I

ACKNOWLEDGEMENTS

In the name of Allah, the Most Gracious and the Most Merciful. Alhamdulillah, He has given me the strength to complete this Projek Sarjana Muda II (PSM II) despite the ups and downs while completing the preparation of carrying out this particular project.

I would like to thank my supervisor, Miss Zeratul Izzah Bt Mohd. Yusoh for supporting and assisting me during my preparation for this project. With her assistance, I managed to get through this project smoothly.

I would also like to thank my beloved family for their fully support and motivation while finishing my PSM II. Apart from them, thank you to all my friends who shares all the moments together and also for all who involves in the preparation of this project.

ABSTRACT

This project involves the development of a proposed system called Multi-featured Personal Phone Monitoring System which implements Microsoft Visual Basic 6.0 software and Microsoft Office Access 2003 database. The purpose of this system development is to give user the ability to monitor the charges for each call made from the graphical user interface (GUI) anytime the user pleased. The development is focused mainly to change current received phone bills, from a text-based bills every month from Syarikat Telekom Malaysia Berhad to a computer base system that allows calculation be made instantly after each call and then stored and displayed whenever the user insisted to do so. Furthermore, the system convenient users to check or observe the bills record for every calls made and also prevent the records from missing. This system also allows user to make calls from their personal computer. In addition, this system has several additional functions for instance phone book where it is for the users' convenience in making calls. Users do not have to memorize or find the phone numbers from a phone book. Therefore, the approach to develop a Multi-featured Personal Phone Monitoring System is essential to simplify users for knowing the phone bills. Other than that, users able to manage and supervise the phone bill and in term of calling activity, it can be done systematically besides an interactive interface for users' ease of use.

ABSTRAK

Projek ini melibatkan pembangunan suatu sistem iaitu Sistem Pemantauan Telefon Persendirian Pelbagai Ciri dimana mengimplementasikan perisian Microsoft Visual Basic 6.0 dan Microsoft Office Access 2003. Matlamat pembangunan sistem ini adalah untuk membolehkan pengguna mengetahui jumlah bayaran bagi setiap panggilan yang dibuat melalui paparan antaramuka sistem. Pembangunan sistem bertujuan membawa perubahan dari segi penerimaan maklumat sedia ada yang berasaskan teks kepada sistem berasaskan komputer. Selain itu juga, ia dapat memudahkan pengguna membuat semakan atau pemerhatian ke atas rekod bayaran bagi panggilan yang telah dibuat dan mengelakkan rekod dari hilang. Pengguna menggunakan komputer sebagai antaramuka bagi membuat panggilan dan fungsi tambahan seperti buku telefon akan memudahkan pengguna. Oleh itu, pembangunan sistem adalah bertepatan dan diperlukan pada masa ini bagi memudahkan pengguna mengetahui jumlah bayaran panggilan. Selain itu, pengurusan dan kawalan ke atas pembayaran bil telefon dapat dilakukan oleh pengguna sendiri serta aktiviti menelefon dapat dilaksanakan dengan lebih sistematik di samping antaramuka sistem yang menarik untuk kemudahan pengguna.

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This proposed system called Multi-Featured Personal Phone Monitoring System which implements Microsoft Visual Basic 5.0 software and Microsoft Office Access 2000 database. Telephone is one of the most important elements any one person should have and owing to this reason, Syarikat Telekom Malaysia Berhad is playing its role in giving the maximum telecommunication services through in Malaysia. Pursuant to this, this bill is a way of clarifying the users on the total amount they need to pay monthly according to the duration and place the call is made. Although the charge imposed is different each call made, there are possibilities that there could be irregularities in the amount that imposed on the bill.

The purpose of this system development is to give users the ability to monitor the charge for each call made from the graphical user interface (GUI) anytime the user pleases. The development is focused mainly to change current phone bill from a monthly bill based bill from Telekom to a computer base system that allows calculation to be made instantly after each call. Furthermore, the system facilitates users to check or alter the billing record for each call from their personal computer. In addition, this system adds several additional functions for instance, phonebook function to convenient when making calls which they don't have to memorize or find it from a phone book. Therefore, the approach to develop a Multi-Featured Personal Phone Monitoring System is essential to simplify users to know their phone bills. Other than that, the users can

CHAPTER 1

INTRODUCTION

1.1 Project Background

This proposed system called Multi-Featured Personal Phone Monitoring System which implements Microsoft Visual Basic 6.0 software and Microsoft Office Access 2003 database. Telephone is one of the most important elements any one person should have and owing to this reason, Syarikat Telekom Malaysia Berhad is playing its role in giving the maximum telecommunication services throughout Malaysia. Pursuant to this, phone bill is a way of clarifying the users on the total amount they need to pay monthly according to the duration and place the call is made. Although the charge imposed is based on each call made, there are possibilities that there could be irregularities in the total amount imposed on the bill.

The purpose of this system development is to give users the ability to monitor the charges for each call made from the graphical user interface (GUI) anytime the user pleased. The development is focused mainly to change current phone bill from a monthly text-based bill from Telekom to a computer base system that allows calculation to be made instantly after each call. Furthermore, the system facilitates users to check or observe the billing record for each call from their personal computer. In addition, this system adds several additional functions for instance, phonebook function to convenient users making calls which they don't have to memorize or find it from a phone book. Therefore, the approach to develop a Multi-Featured Personal Phone Monitoring System is essential to simplify users to know their phone bills. Other than that, the users can

manage and supervise the bills and the calling activity itself can be done systematically besides an interactive interface for better and easier management.

1.2 Problem Statements

The existing phone billing system encounters many difficulties to users. The notice of payment will only be distributed to users once a month and definitely users will never get to know their personal phone bills until they get them monthly. With greater enhancement of the used in this communication system, there should be tools and additional software which able to increase the interactive features together with the security installation in the communication system. Due to this, there are better enhancements will be made in the previous system which will be known as Multi-featured Personal Phone Monitoring System.

With the previous system, users often face problems and that caused users dissatisfaction with the provided services. The main problem that often occurs is errors in the calculation of the total phone bills. Moreover, at times there are some other difficulties arise such as:

i. Long Duration

The duration printed in phone bill is much longer compared to the actual duration. (for example: caller makes call for only 10 minutes but the duration printed in the bill is 3 hours).

ii. Switching

The billing of the phone call continues despite the caller/receiver had put down the handle or terminates the call.

iii. Double Count

The calculation of the same call status is count repeatedly.

Although the above problems can be settled by making complaints to the staffs concerned in Syarikat Telekom Malaysia Berhad, but there is time where no strong evidences to prove that errors have been made in the billing system.

For security purposes, Syarikat Telekom Malaysia Berhad has formed a system to detect illegal phone calls or high charge standard. However, telephone line intrude still can be made when the caller or intruder makes a short duration call or due to late trace and arrestment operation.

Based on the above problems stated, an idea has been well thought-out of developing a system which allows users to know the total charge for each call based on the duration and state code. The calculation of charge imposed is based on rate estimation that has been declared by Syarikat Telekom Malaysia Berhad. Furthermore, this system indirectly traces errors in monthly phone bill and intrude the use of telephone line through data stored after comparisons made in the actual monthly phone bill. Users can also make calls using computer where calls out can be done. Moreover, users can control the duration according to the time set by them.

1.3 Project Objectives

This upcoming Multi-featured Personal Phone Monitoring System consists of some specific objectives such as:

- i. To develop an effective personal phone management system through computer base.
- ii. To upgrade the functionality of a normal telephone to a telephone that contains more functions aided by computer such as phonebook.
- iii. To facilitate the management of phone billing account.
- iv. To organize an easy and attractive system interface.

1.4 Project Scope

The scopes uses for guidance to this project are as follows:

- i. This system is a stand alone system which will be operated through Windows platform, for instance Windows 98, Windows XP and etc.
- ii. The interface programming will be done using Microsoft Visual Basic 6.0 supported by the Microsoft Office Access 2003 database.
- iii. User uses modem and telephone cable as the communication media.
- iv. To provide a facility for users to get details of person, phonebook, phone calls and missed calls.

1.5 Project Significance

Based on the problems stated, a system has to be developed to fulfill the needs of telephone users. This said system requires users to know the total charged for each call made. With the existence of this system, users can provide his strong evidence to prove to the Syarikat Telekom Malaysia Berhad that there are errors in the monthly phone bill received. Through this, it will increase the burden of users in term of payment of monthly phone billing.

Users can supervise themselves in controlling the total of their phone bill by setting the time required for each call. Further, with this approach, users know how to save from paying unnecessarily for the monthly phone bill. This system also provides phone address which able to keep phone numbers and records of each phone call made. In addition, this system has an easy and attractive interface in a way to make it effective for users.

1.6 Conclusion

This Multi-featured Personal Phone Monitoring System is mainly developed due to problems occur in the previous system. This upcoming system has better features compare to the earlier system which may interact users in all ways. The main function of this system is to help users in exactly knowing their total charge for monthly phone bill. This said system provides phone address for users' convenience. They do not have to memorize and find the particular number manually. As the conclusion, this system definitely able to provide the maximum use for users through the above functions stated.

CHAPTER 2

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In the process of accomplishing this project, studies related to this current system have been done. It is on Phone Dialer Plus 3.24. Phone Dialer Plus 3.24 was declared on 29th August 2001 and developed by the Arch Technologies in a way to have an organized and systematic telecommunication system. According to Douglas Bell (2000), Paul-Robert Archibald has created the code for this program. Phone Dialer Plus 3.24 is a small user friendly program that enhances Windows Phone Dialer. There is no more limit on the number of people to be added to phone book. The website available for this software is www.download.com. Users need to have telephone line, computer as the interface, server and also modem as the device between phone line and computer.

The upcoming Multi-featured Personal Phone Monitoring System is a system which is use to settle some problems occur in the Phone Dialer Plus 3.24 system. Errors often arise in the phone billing process and sometimes it may due to long duration, switching and double count. Furthermore, intrude of telephone line may also be a cause to high charged. By the creation of this system, users able to know the total bill of their phone calls and compare it with the monthly phone bill received.

2.2 Facts and Findings

Currently, the billing systems that have been identified in market are very few. Software that exists at present is known as Phone Dialer Plus 3.24. However, most of the software created is for the purpose of counting Internet bills and very few in phones billing system.

An interview with the Telekom Malaysia was held on 6th July 2005. Based on the information gained, Telekom do not allow system developers from outside to follow their billing rate. This is because of the fear if suppose people will query on the rate which is the same between Telekom Malaysia and developers. Next, the rating should not be the same due to time difference between Telekom's exchange and developers because Telekom's exchange is not controlled by the Telekom. Thus, the Telekom itself does not know the exchange time exactly.

Furthermore, the Telekom do not allow doing for any discounts. Based on the statement quoted, the discounts can be divided into two parts. First is for the public's observation as what published in the Telekom Malaysia's website. Second is the confidential discounts and they are not revealed in the website. According to them, the discounts rates which are confidential cannot be bring up to outsider. The suggestion is to do only for the standard rating.

According to the Telekom Malaysia, there are two types of calls that are National call and International call. As for National call, they have local call and STD which stands for Subscriber Trunk Dialing. While for International call is International Direct Dial (IDD). According to the facts given by the Telekom Malaysia, system developer who is not apart from Telekom Malaysia is not suggested to create a system for local call due to the time controlled by Telekom's exchange.

This upcoming system definitely will benefit users in a way which users can access the system to a maximum use where the system will be a multi-featured system. The enhancement of this system consists of interactive functionality.

2.2.1 Case Study : Phone Dialer Plus 3.24

According to Travis Russell (2000), Phone Dialer Plus 3.24 is a phone billing system used since it was declared on 29th August 2001. It is the only system available at the moment as developers usually concentrated on Internet billing system. For this system, users need to have telephone line, computer as the interface, server and also modem as the device between phone line and computer. The function for this software is to help users to know the charge for phone calls made. This Phone Dialer Plus 3.24 System can only be operated if users do not access internet.

The advantages for using Phone Dialer Plus 3.24 System are as follows:

- i. Users have to only refer to name or phone number to make call before click the *Dial* button. They do not have to dial the phone number, memorize or even find it manually in phone book.
- ii. Phone Dialer Plus 3.24 software is small with the size of 4.19 MB and is free download software.
- iii. Users able to estimate and control the cost of phone bill.
- iv. Users only need to have devices such as phone line, modem and computer to operate this system.

The disadvantages of Phone Dialer Plus 3.24 System are:

- i. Users can not access internet while activating this system.
- ii. Functions of telephone can not be normally operated. Users find it difficult if the particular name and phone number needed is not in the Phone Dialer Plus database any longer and this obviously restrain users from making call.
- iii. Computer and modem should be on every time call is made.
- iv. Users find difficult to observe and trace calls record as it is not in table form.

Phone Dialer Plus 3.24. <http://www.download.com/>[Access 17 April 2005]

According to Douglas Bell (2000), Phone Dialer Plus 3.24 is a small user friendly program that enhances Windows Phone Dialer. There is no more limit on the number of people to be added to phone book. The creator for this program is Paul-Robert Archibald. Below shows the interfaces used in Phone Dialer Plus 3.24.

20/08/2001 3:33:16 PM

Name	Number

Name :

Number :

NTL Weekend (Sat-Sun) Mobile COM3

Dial



