

## TESIS\* APPROVAL STATUS FORM

JUDUL: ONLINE CALL ACCOUNTING SYSTEM

SESI PENGAJIAN: 1/2004-2005

Saya: NOR FARAHIDA BINTI IDRIS

(HURUF BESAR)

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## **Online Call Accounting System**

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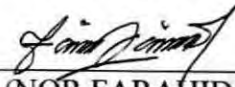
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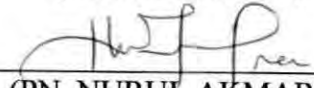
**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
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## **DEDICATION**

I owe this project and my true happiness I feel today to my beloved parent. Since the day I started going to this college until today, they are very caring and supporting for me. Also to my love, Zulkifli thanks for your support. I love you Ayah....Mak..!!!

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## ABSTRACT

Calculating the telephone cost of a large numbers of employees requires a great amount of time and effort. The purpose of this project is to create an Online Call Accounting System that will helps FLEXTRONICS management to more tightly manage the telecommunications costs. This project was conducted for eight months with the following timetable on a month-base and with the corresponding tasks in charge of the developer. All the functions in the project are fully develops using ASP language. There are five functions includes in this system; report, database maintenance, e-mail scheduled, records finder and graph view. Based on the telephone system records, OCASH will generate calls information in a detail or summarize report by individual station, department, or project showing calls information. With this system, user can access the calls account report via internet by using internet explorer. At the end of the project, developer hope this system may run successfully and full fill the user need.

## ABSTRAK

Pengiraan jumlah penggunaan telefon bagi jumlah pekerja yang besar memerlukan masa dan banyak tenaga. Tujuan projek ini di laksanakan adalah untuk membina sebuah sistem yang berkonsepkan online. Sistem ini di bangukan khas untuk FLEXTRONICS Technology Malaysia, dengan harapan dapat membantu pihak pengurusan dalam menguruskan dan membuat akaun jumlah penggunaan telefon. Projek ini dilaksanakan selama lapan bulan berpandukan jadual yang telah dibina. Projek ini di bina menggunakan sepenuhnya bahasa pengaturcaraan ASP dan ia mengandungi 5 fungsi utama iaitu penjanaan report, penyelenggaraan pangkalan data, menjadualkan penghantaran e-mail , pencarian data dan paparan graf. Berdasarkan maklumat yang di jana oleh sistem telefon syarikat, OCASH akan menjana laporan terperinci atau ringkasan bil telefon mengikut stesen, bahagian atau projek. Dengan terciptanya sistem ini, pengguna boleh mendapatkan laporan bil telefon mereka melalui internet. Sebagai kesimpulan, diharapkan sistem ini dapat berfungsi dengan baik dan memenuhi kehendak pengguna.

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**LIST OF ACRONYMS**

<b>[A]</b> <b>ASP</b>	Active Server Page
<b>[C]</b> <b>CAS</b> <b>CGI</b>	Call Accounting System Common Gateway Interface
<b>[D]</b> <b>DFD</b>	Data Flow Diagram
<b>[E]</b> <b>ERD</b>	Entity Relationship Diagram
<b>[F]</b> <b>FRD</b>	Functional Requirement Document
<b>[H]</b> <b>HR</b> <b>HTML</b>	Human Resource Hypertext Markup Language
<b>[I]</b> <b>IIS</b> <b>IT</b> <b>ITG</b>	Internet Information Services Information Technology Independent Test Group
<b>[K]</b> <b>KUTKM</b>	Kolej Universiti Teknikal Kebangsaan Malaysia
<b>[O]</b> <b>OCASH</b>	Online Call Accounting System
<b>[P]</b> <b>PSM</b>	Project Sarjana Muda
<b>[R]</b> <b>RAD</b>	Rapid Application Development
<b>[V]</b> <b>VB</b>	Visual Basic
<b>[W]</b> <b>WBS</b>	Work Breakdown Structure



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# CHAPTER I

## INTRODUCTION

### 1.1 Preamble/Overview

Telecommunications generally represent the second or third largest monthly expense in an organization; telephone calls typically account for 75% of this amount. The proposed project, Online Call Accounting System (OCASH) is specially designed for Information Technology (IT) and Human Resource (HR) Department of FLEXTRONICS SENAI. The proposed system was developed to replace the existing system, which is use a filling system. This approach is quite complete and spent a lot of times to manage call accounting reports.

The primary purpose of this project is to produce the best telephone call accounting solution that allows management to track individual activity and department activity. Call Accounting System (OCASH) is similar with other telephone system that designed to manage telephone transaction. The difference of OCASH with the other call accounting systems is, it is online application and all the report can be viewed via internet with web browser.

OCASH is an on-site call accounting system using Intranet technology. Call accounting and traffic reports are accessed via intranet, Internet or extranet using a standard Web browser. There are 5 functions was produce by OCASH in order to

help management in analyzing departments and individuals bills. The functions are report, e-mail scheduled, database maintenance, generate graph and record finder.

This application will capture, record, analyze and organize information about telephone calls from the Station Message Detail Reporting (SMDR) port, and then insert the data into database. The captured information typically includes which extension originated a call, the number dialed (local or long distance), time of call started, call duration and account code.

Based on the data, OCASH may generate calls information in a detail or summarize report by individual station, department, or project showing calls information. The records can include Date of call, Duration of call, Extension number, Number dialed, Trunk group used, most frequently dialed numbers, longest duration calls, highest cost calls and more. User also can browse reports, and drill down from summary to detail reports, or identifies the staff that made a specific call immediately via web page linking. No more search from large quantity papers.

Only administrator can create a user account, based on the telephone line stock. All the data about the account requestor are stored in the database via account registration interface. The friendly database enables user to manage user account. This function also allows administrator to update and delete the unused account.

OCASH is easy to use and automatically logs all telephone transactions including incoming, outgoing, local and long distance calls. Call costs are calculated in seconds and if applicable, surcharges are added. There are many options for multi-site data collection and delivery. This process can be manually maintained or calls can be automatically delivered for processing.

In order to accomplish this project, one approach of project methodology has been selected to solve all the problems. The approach is rapid application development (RAD). The details explanation about this approach will be discuss later in the Chapter 3.

## **1.2 Problem Statement**

In Human Resource (HR) Department, all the records of call accounting are recorded manually without a proper system. Currently all the data that related telephone system is manage by IT Department. In order to complete their job, HR staffs need to through the IT department procedure before can get the data. This procedure actually gave a lot of problem to Hr Department in analyzing telephone charge for the company. Thus, the problems of the filling system can be stated as follows:

The current system is difficult to manage, not easily searchable, hard to maintain, and the information is spread across multiple sources. This is because the calls accounting reports is assigned manually using a paper. It is hard to search for the employee and departments call accounting record.

By using the manual system, the record is kept in a file and has a greater risk for the record to lose easily. The lost of the record may be caused by burglary, fire, flood and some other natural disaster.

The current system also causes the administrator to take more time to retrieve information when the information of employee or department is not accurate. The accuracy of the call accounting data may lose if HR Staff makes a mistake in calculating the total of the telephone usage.

### 1.3 Objectives

Several objectives have been set to solve the problems that have been identified. The objectives are:

1. Provide an effective system to manage telecommunications costs.
2. Minimize the paper usage for report printing and request form.
3. Allow users to access the system from their workspace.
4. Shows the current status of each line to track employees' activity.
5. Provide a variety of call accounting reports, besides detail and summary.

### 1.4 Scope

This project is especially proposed for Human Resource (HR) and Information Technology (IT) Department. This project will be conducted for eight months due to schedule. Within the project release, a more structured Rapid Application Development (RAD) has been followed. The RAD is a methodology that has been constructed to ensure that systems are designed and implemented in a methodical, logical and step-by-step approach.

Developing this system is quite complicated to develop because it involves the phone system technology. The target of system is to produce a best call

accounting solution that allows management manages their telephone cost in effective way. Using the online technology, the proposed system allows user to manage the telecommunication bills from their workspace via intranet. There are around 2,000 staff used this system and it can be divided into 3 categories of user, which is administrator, management and employees.

### **1. Administrator**

HR staff can be categorized as administrator. This group can access all the records that related to call accounting data.

### **2. Manager**

Department head can be categorized as Manager. This group can access all the accounting data that related to their department.

### **3. Employees**

For staffs, they can only view and analyze their own bill. Beside that they also allow to set e-mail schedule in receiving the personal call report automatically.

There are 3 modules included in this system. The modules are summarized as follows:

### **1. Personal Module**

This module only provides a function for personal activity. There are 3 functions include in this module.

- *Reporting*

Involves the process generating personal call accounting reports based on user selection. The calls information can be viewed in a detail or summarize reports.

- *E-mail Scheduled*

Involves the process setting the call accounting report to e-mail automatically on a daily, weekly, monthly or any recurring schedule.

- *Records Finder*

Involves the process of searching a specific personal calls record identified by user.

- *Graph View*

Involves the process of analyzing personal calls expenses and produce it using graph method.

## **2. Departmental Module**

This module only provides a function for department activity. There are 4 functions include in this module.

- *Reporting*

Involves the process generating department call accounting reports based on manager selection. The calls information can be viewed in variety type of reports.

- *E-mail Scheduled*

Involves the process setting the department call accounting report to e-mail automatically on a daily, weekly, monthly or any recurring schedule.

- *Records Finder*

Involves the process of searching a report based on extension or dialed number.

- *Graph View*

Involves the process of analyzing calls expenses and produce it using graph method.

### 3. Administrator Module

This module only provides a function administrator activity. There are 3 functions include in this module.

- *Reporting*

Involves the process generating all call accounting reports based on user selection. The reports can be viewed in variety type of reports.

- *Database Maintenance*

Involves the process of manipulating call accounting records. The friendly interface enables user to update and update in easy ways.

- *Records Finder*

Involves the process of searching a specific calls record identified by user. This function can perform data searching in an easier way instead of search data in the database. To find a specific record, user has to insert the specific key word and the related data will display in a few minute.

- *Graph View*

Involves the process of analyzing company calls expenses and produce it using graph method.

### 1.5 Contribution

Due to the objectives of the project, it enables FLEXTRONICS management to control all the employees' telephone transaction and allocate telephone cost among departments and division. Following are the project contribution.

1. With the technology of the system, user able to call accounting reports from their via intranet using web browser.