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Date : __________________________
The Development of a Payroll System Prototype

JALAL SHAH

A project report submitted in partial fulfillment of the Requirements for the award of the degree of Master of Software Engineering

Advanced Informatics School
Universiti Teknologi Malaysia

AUGUST 2012
I declare that this thesis entitled “The Development of A Payroll System Prototype” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : ______________________
Name : JALAL SHAH
Date : ______________________
To my beloved mother, father and my family
I am thankful to God for giving me strengths and opportunity to complete my Masters Degree program. First of all, I would like to thank to my supervisors: Dr. Mohd Nazri Kama and Mr. Faizul Azli Abdul Ridzab. Their continuous guidance, support and a friendly environment created by them were always helpful to me. Their critical and intuitive feedback greatly improved my work and quality of writing and presentation.

Secondly, I would like to thank to the head of Software Engineering Department Dr.Suriayati Chuprat and all my respectable teachers who taught me during my Masters.

I would like to extend my heartfelt gratitude to my parents who always prayed for my success. I would also like to thanks my wife for her kind support and motivation.

A great gratitude goes to the Baluchistan University of Engineering and Technology Khuzdar for sponsoring my Master of Software Engineering study.
ABSTRACT

A well established firm has two main aspects, firstly an employment service and a well structured accounting system. Management expects improvement in payment method of the company. The best possible way to handle this problem is to keep a proper track on all the transaction made to staff of a company. Payrolls are mainly offered under extreme care of account's department of major companies. In accounting sector, payroll refers to the amount paid to the employees for service they use to provide during a certain period of time. In this project the author develops a Payroll system that allows the employees to check their weekly and monthly reports and submit their timecards. The administration will be responsible for adding, updating or deleting an employee’s data. The main responsibility of the payroll system is to keep a proper record of overall transaction.
ABSTRAK

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LIST OF ACRONYMS

SRS          Software Requirements Specifications
SDD          Software Design Document
AIS          Advanced Informatics School
UTM          Universiti Teknologi Malaysia
PS           Payroll System
PSP          Payroll System Prototype
IEEE         Institute of Electrical and Electronics Engineering
IPS          INFONETICS Payroll System
eNET PS      eNET Payroll System
PPS          PenSoft Payroll System
AIS UTM PS   AIS UTM Payroll System
URS          User Requirements Specifications
GUI          Graphical User Interface
SDLC         Software Development Lifecycle
RUP          Rational Unified Process
SRM          Software Research Methodology
SDP          Software Development Plan
SPP          Software Project Plan
MVS          Microsoft Visual Studio
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CHAPTER 1

1.1 INTRODUCTION

The payroll system is useful for maintaining employees overall record in a company. It makes easy to retrieve and manipulate the employee’s information and maintains the database for employees. The database payroll system uses are related with employee’s academic as well as personal information. This software helps the employees to easily access their record in order to check their reports and maintain timecard. It uses different authentication level to access and manipulate the information, in this way it also acts as secure software. To maintain the security of database, this software provide different authentication to different users. If a user wants to access the personal information of any other employee, he/she is not provided with this kind of authority. Employees can maintain their timecard, and can check and print their reports.

The proceeding of this chapter comes with the background of the company and background of this project as well. In addition, this chapter also mentions about the problem statement, the objectives of project, the scope of the study, the deliverable items, and the project plan, coherently.

1.2 Company Background

The Universiti Teknologi Malaysia is one of the largest engineering-based Universities in Malaysia offering different educational programs in the field of
engineering science. UTM also offers different full/part-time educational programs in social sciences as well (SPACE, 2012). The Advanced Informatics School (AIS), formerly known as the Centre for Advanced Software Engineering (CASE), is school of excellence in the field Software Engineering & Information Security education.

The AIS was established in collaboration between Universiti Teknologi Malaysia and University Thales (formerly known as Campus Thompson), France in the year 1996 (AIS, 2012).

1.3 Background of the problem

Payroll is an integral part of a company's operations. The federal and state governments require employers to comply with wage and hour standards to ensure that employees are paid accurately and on time. The internal revenue service and the state department of revenue have employment tax requirements that employers must comply with. All of these factors play collective role in giving importance to the payroll system (Grace).

The AIS UTM needs a new system to allow employees to record timecard information electronically and automatically generate pay checks based on the number of hours worked in the company. This new system will be state of the art and will have a Windows-based desktop interface to allow employees to enter timecard information, change employee preferences (such as payment methods) and create various reports. The system will run on individual employee desktops throughout the entire company. For ensuring issues related to security and auditing, employees are restricted to only access and edit their own timecards.
1.4 Problem Statement

The author was asked by AIS UTM to build a new payroll system to replace the existing one, which is expected to be out of date. AIS UTM needs a new system to allow employees to record timecard information electronically and automatically generate pay checks based on the total number of hours they have worked. Following are some of the characteristics of this user interference software:

1. The new system will be Windows-based desktop interface that would allow employees to enter timecard information and create various reports.

2. The system will run on individual employee’s desktop throughout the entire company. For security reasons of preserving information and auditing, employees can only access their own timecards.

3. The employees who work on hourly basis are paid at hourly rate. They submit timecard that records the date and number of hours they work for a particular charge number.

4. Some employees are paid on a flat salary. Even though they are required to submit timecard in order to record the date and hours worked in the company. In this way the system can track the working hours of employees against particular charge numbers.

5. The payroll application will run automatically on every first day of the month, and it will issue payments to the employees on the basis of their timecard record. The date needs to be specified in the system on employee’s payment, and in this way the system will generate payments for records from the last time the employee was paid. This new system basically is designed in a way that the payroll generates automatically, without any manual intervention.
1.5 Project Objectives

The study comes with following objectives with intention of executing this project:

1. To conduct an analysis of studies on existing payroll systems.
2. To propose new features and services for payroll system.
3. To develop a new payroll system based on the requirements and proposed features.
4. To perform informal test of the system.

1.6 Project Scopes

The project scope defines the description of the work that is required in delivering payroll system. The scope of this project includes following point:

1. To construct the Software Development Plan (SDP).
2. To understand the features of payroll system by comprehending existing payroll systems.
3. To construct the Software Requirement Specification (SRS) document.
5. To development of the payroll system.
6. To test the payroll system.
1.7 Project Deliverables

This project will end-up with some deliverables, which will be produced as a result of the project throughout the period of its execution:

5. Industrial attachment log book.
1.8 Software Project Plan

![Software Project Plan](image)

**Figure 1.1:** Software Project Plan
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