# CHAPTER ONE

# INTRODUCTION

**1.1: Introduction**

Web based applications have evolved significantly over recent years and with improvements in security and technology there are plenty of good opportunities to develop a system as web based application. The Payroll System project is a fully Ajax enabled web application which is developed to solve the manual payroll system. The framework that was used in the project is Ruby on Rails, which is open source full-stack web application framework for the Ruby programming language. Ruby on Rails uses the Model-View-Controller architecture pattern to organize application programming. In this dissertation, we will go through all the steps that were involved in the development process of the system.

**1.2: Payroll System**

In a company, payroll is the sum of all financial records of salaries for an employee, wages, bonuses and deductions. In accounting, payroll refers to the amount paid to employees for services they provided during a certain period of time. Payroll plays a major role in a company for several reasons. From an accounting perspective, payroll is crucial because payroll and payroll taxes considerably affect the net income of most companies and they are subject to laws and regulations. From an ethics in business viewpoint payroll is a critical department as employees are responsive to payroll errors and irregularities: good employee morale requires payroll to be paid timely and accurately. The primary mission of the payroll department is to ensure that all employees are paid accurately and timely with the correct withholdings and deductions, and to ensure the withholdings and deductions are remitted in a timely manner. This includes salary payments, tax withholdings, and deductions from a pay check.

**1.2: Ajax web application**

Ajax (an acronym for Asynchronous JavaScript and XML) is a group of interrelated web development techniques used on the client-side to create asynchronous web applications.

In classic web application model, most user actions in the interface trigger an HTTP request back to a server. The server does some processing and then returns a HTML page to the client. This approach makes a lot of technical sense, but it doesn’t make for a great user experience. With Ajax, web applications can send data to, and retrieve data from, a server asynchronously without interfering with the display and behavior of the existing page.

Through Ajax, a web page feels like a desktop application.



Figure 1: The synchronous interaction pattern of a traditional web application (top) compared with the asynchronous pattern of an Ajax application (bottom)

The methodology that used in the Payroll System is Software Prototyping technique. The Software Prototyping technique refers to the activity of creating prototypes of software applications. A prototype typically simulates only a few aspects of, and may be completely different from the final product. The process of prototyping involves the following steps, which are identifying basic requirements, develop initial prototype, review, and revise and enhance the prototype.

The scope for the Payroll System will be divided into two main categories, monthly type salary (with overtime rates), and hourly type salary, which paid by hours worked (with hourly rate).

As the conclusion, it has many advantages for payroll administrator and the employee by using the Payroll System. The Payroll System is very important for the companies or industries where it can ease the work for payroll administrator, and the system is systematic compared to the manual system. Therefore, the Payroll System is developed to solve the problems exist in manual system. The Payroll System has many functions where it is very useful for both payroll administrator and the employee. The main function for the Payroll System is it can help the payroll administrator to calculate the salary and print the pay slips. In addition, the Payroll System also has functions to save, update, and delete employee information. Payroll administrator can backup the database to avoid any data missing from the system. Besides, the Payroll System also has the functionality to allow both payroll administrator and employee to view overtime charts, total hours worked chart, and hourly payroll chart. Furthermore, the Payroll System has the user authority function to make the system more secure.