Simple Online Payroll System

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Acceptance

Acknowledgment

All the praise to almighty God for bestowing us with the courage, knowledge, health and wisdom to carry out this project. We are greatly indebted to our parents, without their endless financial & moral support, patience and prayers this effort will be impossible.

We would like to take this opportunity to express our gratitude to the following professionals of whom contributed to this project.

Firstly, we would like to express our appreciation to our first academic supervisor, Mr. Mushfiqur Rahman, Lecturer, Department of SWE, Daffodil International University. And Finally, we would like to express our gratitude to Mr. Md. Mujahidul Islam Khan, Asst. Director, Daffodil Computers Limited.

Dedication

We dedicated this project to all of those humble beings who have aided us in any way to become what we are today. Whose sacrifices seeded our success; especially our parents& family members who have felt our pain beyond us and showered us win never ending prayers and support. We love them and deem them as a divine source of inspirations.

Abstract

Payroll system is very popular nowadays in the government and private sectors. A payroll system is a software where filing all the employees payments, taxes, bonus etc. Basically payroll is very popular software and it is very easy to use. Before developing the payroll system organizations put their employees' payment information in the hard copy. But it was not secured and it was very difficult to handle. After developing this system, this problem is solved. This section describes the basic concepts of Payroll System. Normally most of the organizations use offline or desktop based payroll system. Here, we develop online based payroll system. This Payroll management system is used to collect employee data so that a company can use to manage records of employees working in the company. This system improves efficiency of companies' administration, store employees salary information up to date. Here employee also can view their basic salary, allowance and other information. In this system we are introducing two types of user. One is for admin and another one is for employee. Admin is a fully authorized user who can enter all the functions. Admin is authorized to delete, update the employees' information. But employees are get permission to view their information. We have a plan to introduce face detection login system with the payroll system and also we have a plan to add employee attendance system with it

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Keywords: payroll, web based, payment slip, automation, Spring MVC.

Chapter 1

Introduction

Payroll is not just about paying people. Payroll management system is used to collect employee data that a company can use to manage records of employees working in a company. Only the office administration has the authority to read and update data of employees. Employees can only log in to system and check their reports. Normally payroll system is used to collect data or create data, delete data, save data of employees according to the information provided by them to admin. We are tired of managing thousands of odd papers, pay slip, payroll reports and salary details and so on. We are making a payroll system which will generate our pay slip and payroll reports within second.

1.1 Background of the project:

Technical Perspective: We have been working in a real life project using Java Web Platform- Spring MVC Framework and mySql Database.

Domain Perspective: Avoiding management system, we have tried to do something new like Simple Payroll System which is not so common in our country.

1.2 Objectives

By successful completion of this project, users will be able to-

- ➢ To improve efficiency of companies administration.
- ➢ To store employees salary information up to date.
- ➢ To make the understanding of rules of a company.
- ➢ To reduce extra cost for the security of the database.
- ➢ Employee can view their basic salary, allowance and other information.
- ➢ Easy to use payroll system.

Chapter 2

Literature review

Payroll systems are usually by manual that things of the past with doing that we can't have up to date accurate reports and by not having up to date reports will create inaccurate information. In today's society everything is about the new technology and we all know paper records are things of the past era. Some of the disadvantages of the manual systems are delay of payment, repeated loss of records, physical destruction of records, difficulties in managing paper work system being prone to human errors, low system security, lack of data integrity, slow movement of data between departments and people, poor attendance reports of employees etc. This application is being developed to deal in general office operation such as saving of data in the database hence fully automating the operations, dealing with registrations and keeping records of tasks and employees. Initially the company used Microsoft access to store their records. Most of the payroll systems are desktop based.

This Payroll management system is used to collect employee data that a company uses to manage records of the employees working in the company. This system improves efficiency of companies' administration, store employees salary information up to date. Here employee also can view their basic salary, allowance and other information. In this system we are introducing two types of user. One is for admin and another one is for employee. Admin is a fully authorized user who can enter all the functions. Admin is authorized to delete, update the employees' information. But employees are get permission to view their information. We try to manage thousands of odd papers, pay slip, payroll reports and salary details and so on. We are making a payroll system which will generate pay slip and payroll reports within second.

Chapter 3

Scope of the Study

There are a lot of scopes of study/work in this topic online payroll system. For lacking of time we cannot add these features like-

- ➢ Employee salary structure.
- ➢ Loan recovery schedules.
- ➢ Attendance sheet.
- ➢ Generate of bank transfer files for the credit of salary.
- ➢ Approval from HR department.
- ➢ Salary disbursement via electronic bank transfer.

Chapter 4

Experimental Details

The Benefits of the Company to our proposed system, the Database of the System is Secured because the Admin &Employees have an own account to access to the Database File and the owner/admin is only one who access the important details. And of course our proposed System is user-friendly. It has the functionalities of monitoring the daily reports, basic salary, allowance and deduction easily. This system is secured and web based with online supports.

4.1 Project Scenario

- By registering in simple online payroll system admin can create an account of his company and also create his own account.
- Admin can check reports.
- Admin can add, delete and update employee information.
- Admin can edit company profile.
- Admin can generate pay slip.
- Admin can modify salary structure.
- Admin can edit reports.
- Employee can register by putting his information.
- Employee can edit his profile.
- Employees can view his salary information.
- Employees cannot edit his salary information.
- Employees can view pay slip.

4.2 Stakeholders

- **Admin can** create company profile, update company profile, edit employee information, delete employee information, generate pay slip, view reports, edit salary structure.
- **Employees can** view his salary information, can view pay slip.

4.3   Project Timeline

We set timeline for this project in Gantt. Chart given below.

Simple Online Payroll System
Project Manager: Manos Chandra Roy
Project Contributor: Md. Raqibul Hasan Mahadi

SL	Tasks	Start Date	End Date	Durations (Days)	Budget (Taka)	Feb	Mar			Apr	
						25/02	02/03	10/03	18/03	10/04	13/04
1	Simple Online Payroll System	23/02/2018	14/04/2018	51	-			Simple Online Payroll System			
1.1	Planning	23/02/2018	01/03/2018	8	-	Planning					
1.2	Requirement Elicitation	02/03/2018	09/03/2018	8	-		Req. Elicit.				
1.3	Design	10/03/2018	17/03/2018	8	-			Design			
1.4	Implementation	18/03/2018	09/04/2018	22	-				Imple.		
1.5	Testing	10/04/2018	12/04/2018	3	-					Testing	
1.6	Evolution	13/04/2018	14/04/2018	2	-						Evol.

Figure 4.1 Estimative Timelines & Budget Gantt. Chart

4.4 Project Risk Management

Risk identification:
- Employee may enter wrong information.
- Admin may approve wrong entries.
- Admin may refuse right entries.
- Attacker outside of the company may harm company information.
- Natural disasters may affect networking system.

Risk evaluation:

People outside of a company may access to the system and try to manipulate important information of the company if there are any weak points in the system, e.g. Attackers may try to find vulnerabilities of the system. Employees may provide wrong information when they enter information. Once the entries are wrong, all the information will be wrong. Admin may mistake at the entries. If they do so, same thing will be happen. Natural disasters may affect networking system. If it happens, none can access to network system.

Risk monitoring:

How many employees provide wrong information for registration, Is the authorities monitor employees entries and their information, what's the expire date of antivirus software in computers of the company, Is those pirated or licensed version? This is very important to bring these questions for risk monitoring purposes.

Risk management:

When an employee request for registration, admin must monitor employee entries. They must be careful at the approval time. They must respond to employee entries when they get notified. Installation of paid licensing anti-virus software may protect from security breach. Need proper backup for the company data & information.

4.5 Use Case Diagram
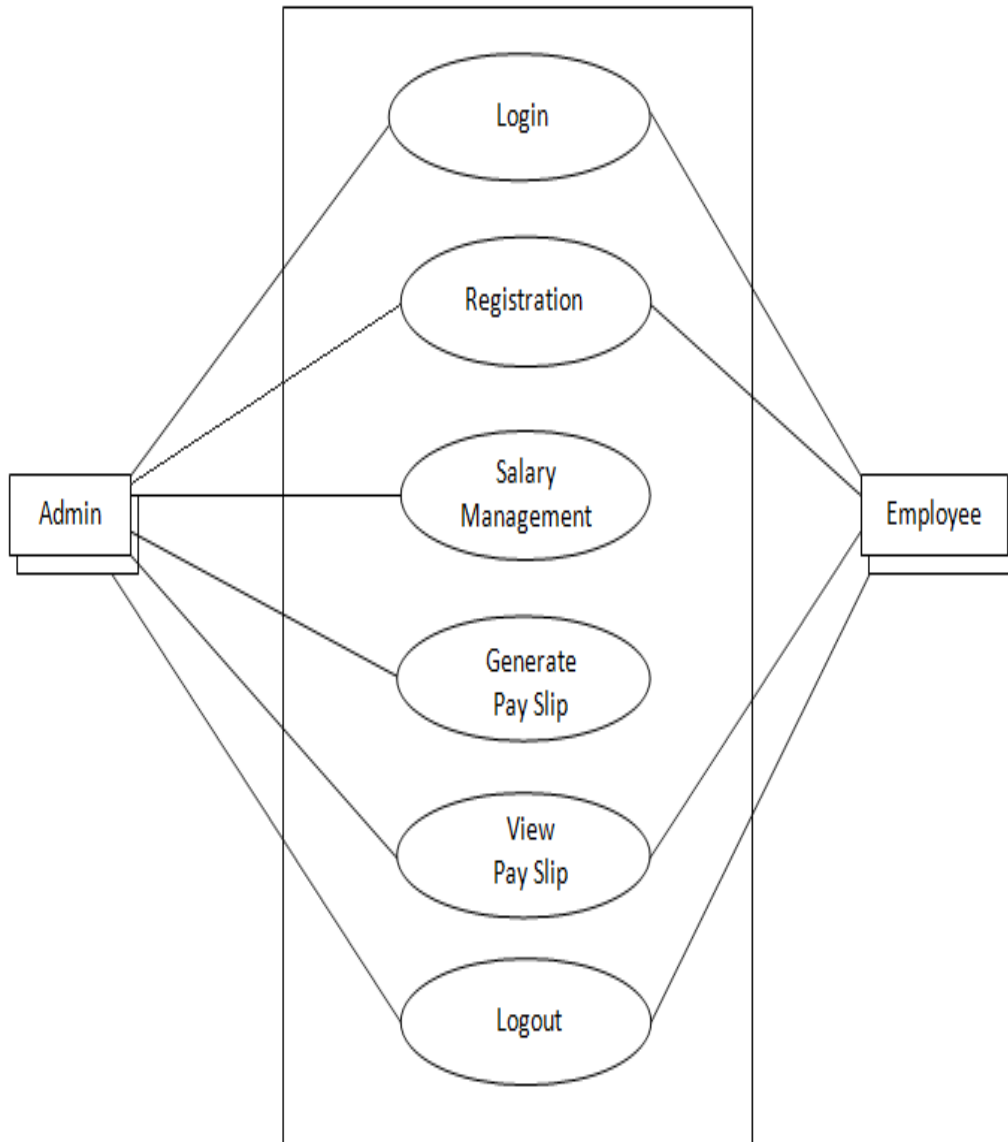
Figure 4.2 Use Case Diagram

4.6   Sequence Diagram
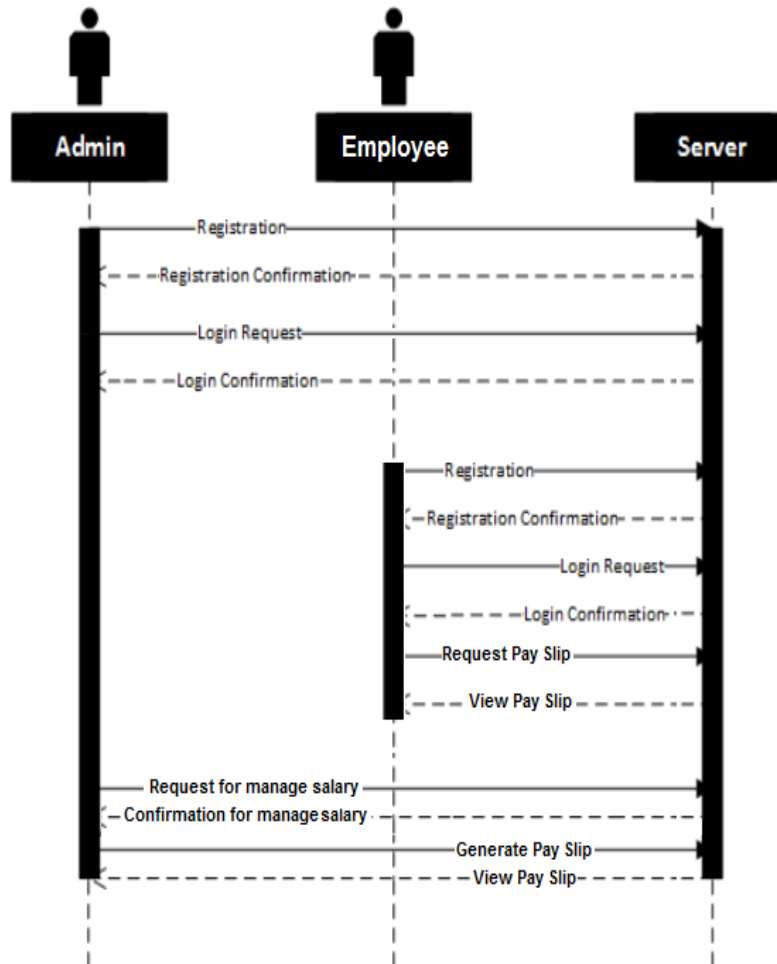
Figure 4.3 Sequence Diagram

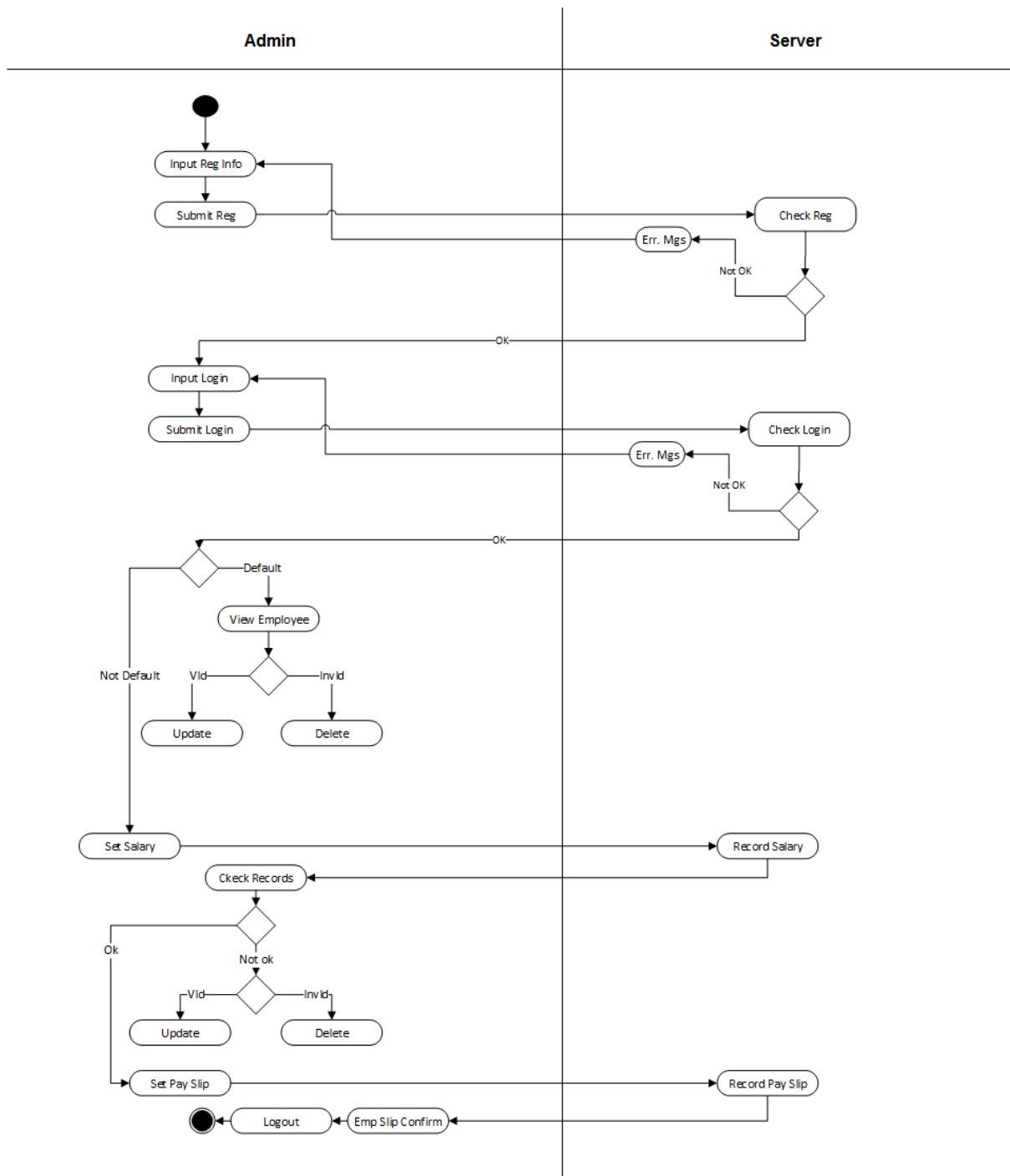## 4.7   Activity Diagram

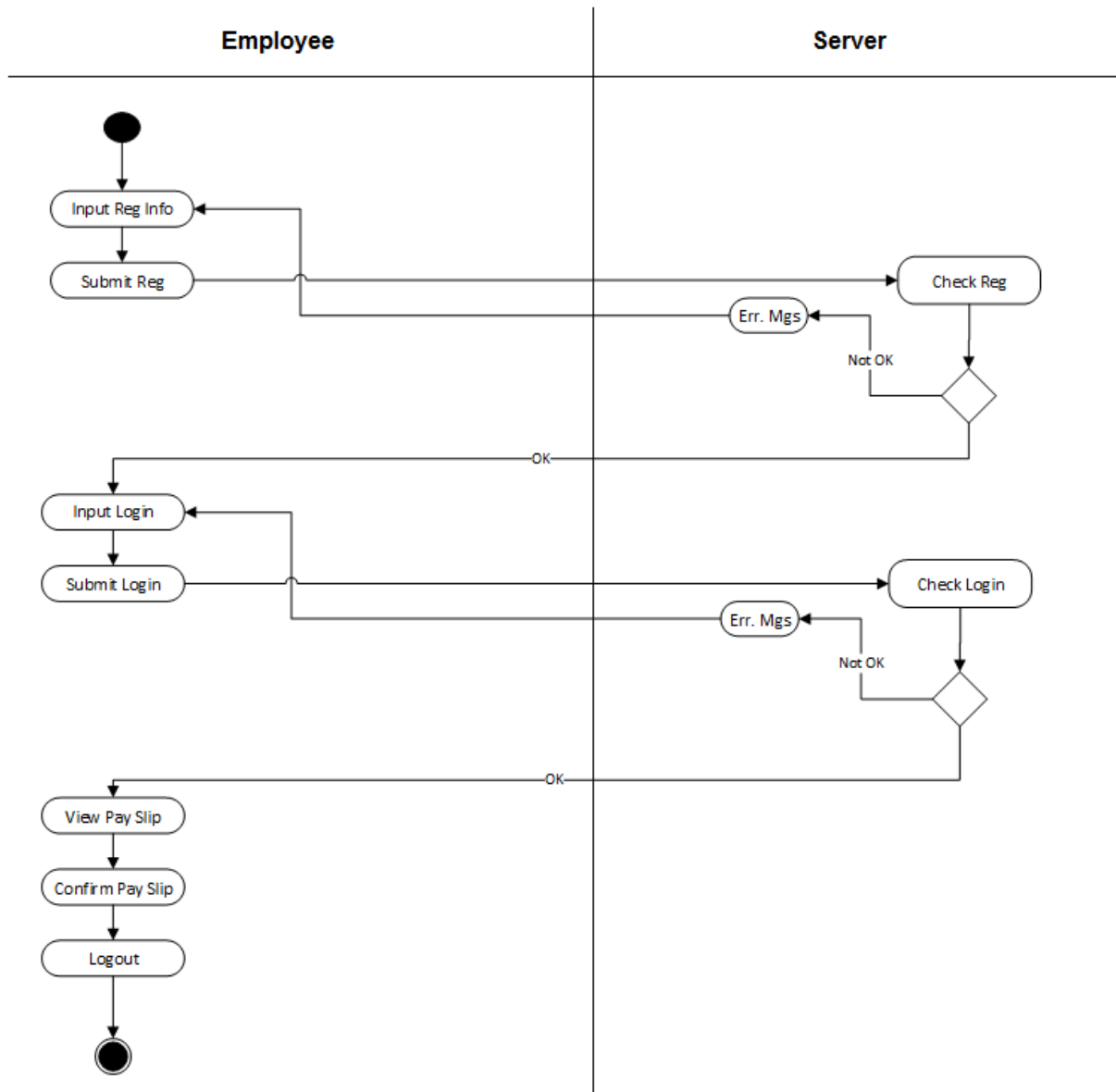Admin perspective:

Figure 4.4 Activity Diagram

Employee perspective:
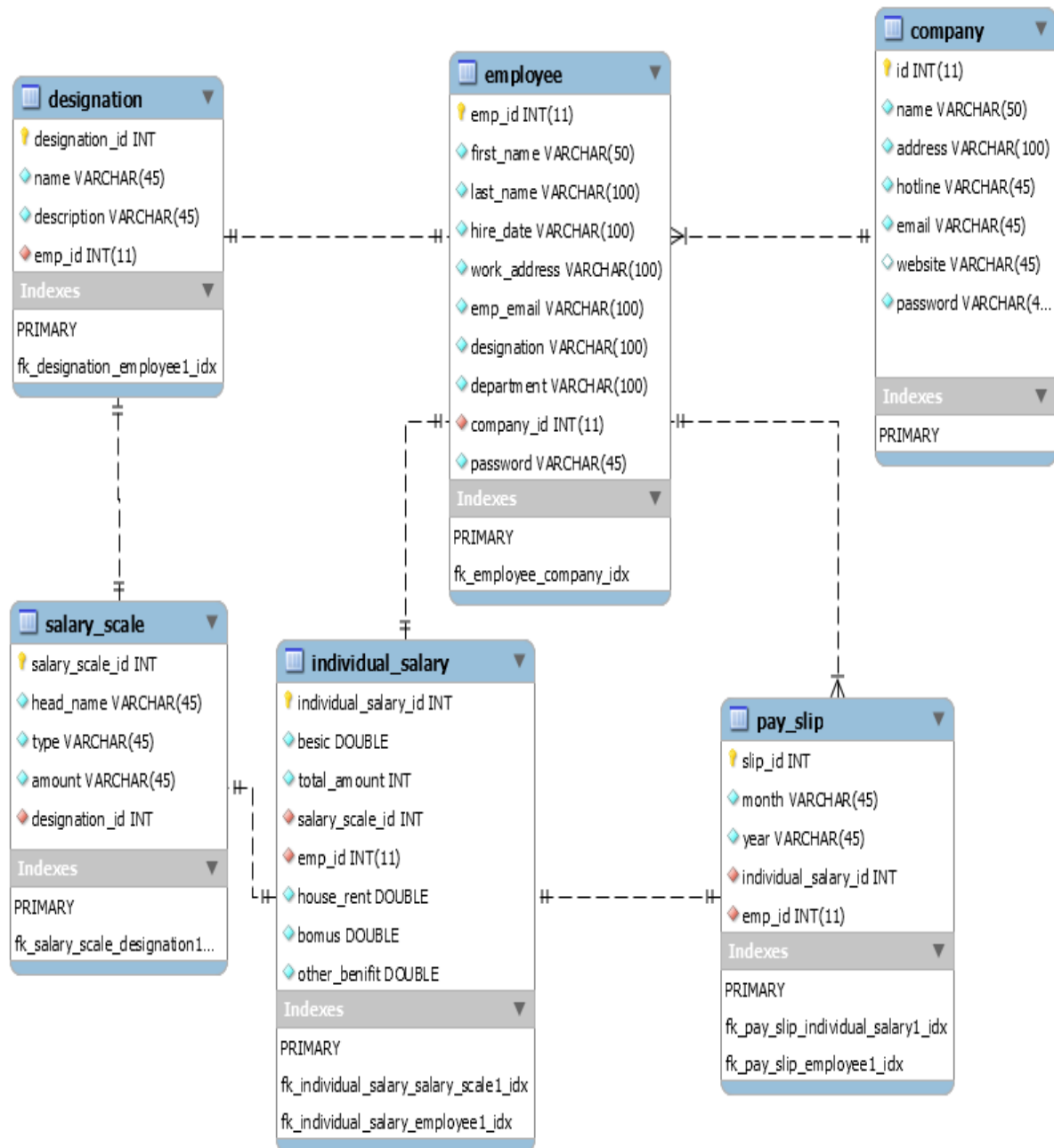

Figure: 4.5 Activity Diagram

4.8   Database Design
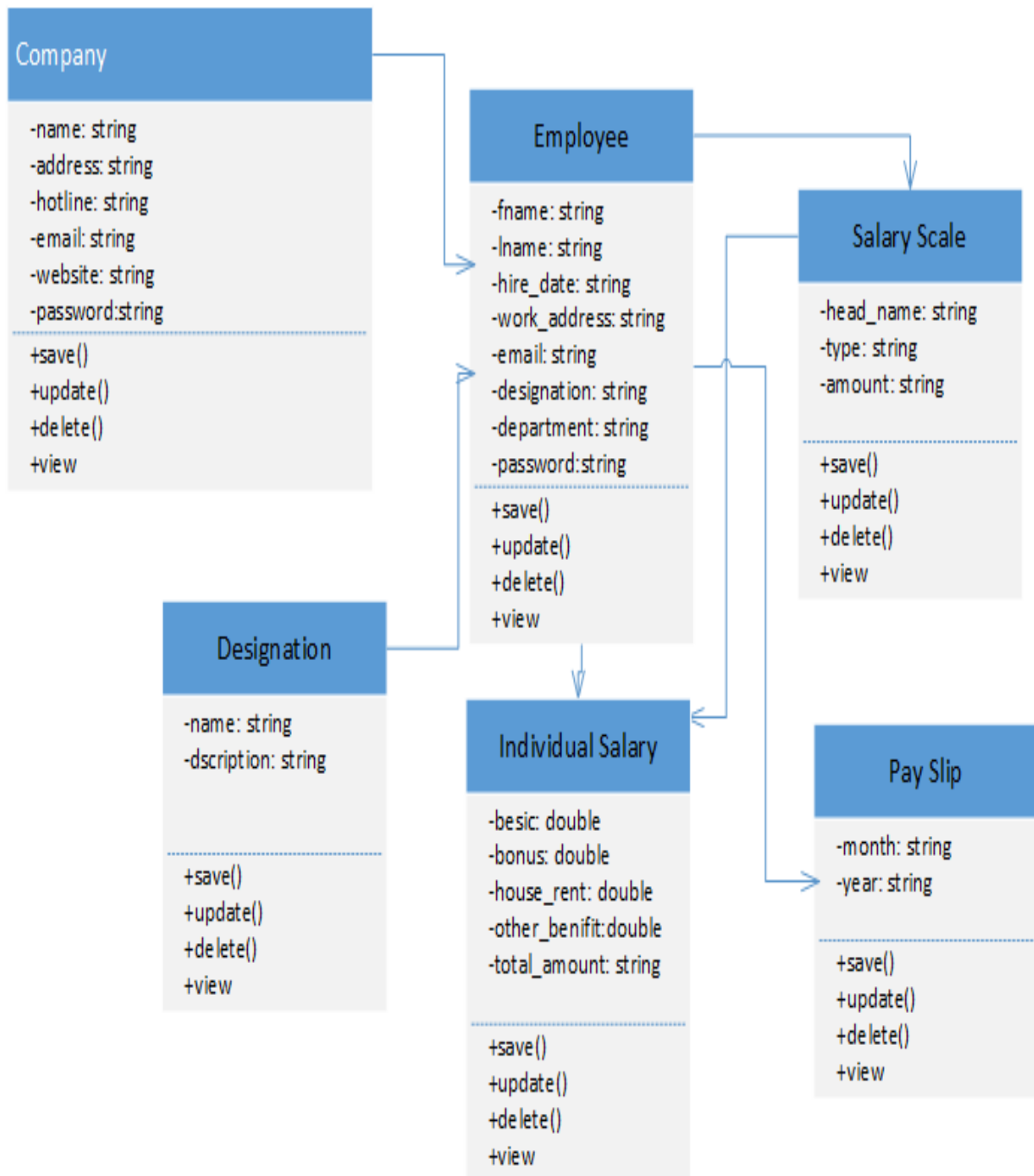

Figure 4.7 Database Design

4.9   Class Diagram

Company

-name: string
-address: string
-hotline: string
-email: string
-website: string
-password:string

+save()
+update()
+delete()
+view

Employee

-fname: string
-lname: string
-hire_date: string
-work_address: string
-email: string
-designation: string
-department: string
-password:string

+save()
+update()
+delete()
+view

Salary Scale

-head_name: string
-type: string
-amount: string

+save()
+update()
+delete()
+view

Designation

-name: string
-dscription: string

+save()
+update()
+delete()
+view

Individual Salary

-besic: double
-bonus: double
-house_rent: double
-other_benifit:double
-total_amount: string

+save()
+update()
+delete()
+view

Pay Slip

-month: string
-year: string

+save()
+update()
+delete()
+view

Figure 4.8 Class Diagram

4.10   Development Tools & Technology

Server Side Technology:
- Programming language: Java
- Framework: Spring MVC
- DB Server: mySql/Oracle
- DB Framework: Hibernate

Client Side Technology:
- HTML 5
- CSS 3
- Jquery
- AJAX

Tools
- IDE- STS
- mySql Workbench

4.11   System Mapping

System mapping is a procedure that how the system work. An user send request and the request go through dispatcher servlet to handler mapping then controller and then view resolver and finally give response of the request. (Tutorial Point, 2018, January 08, Spring MVC Framework)
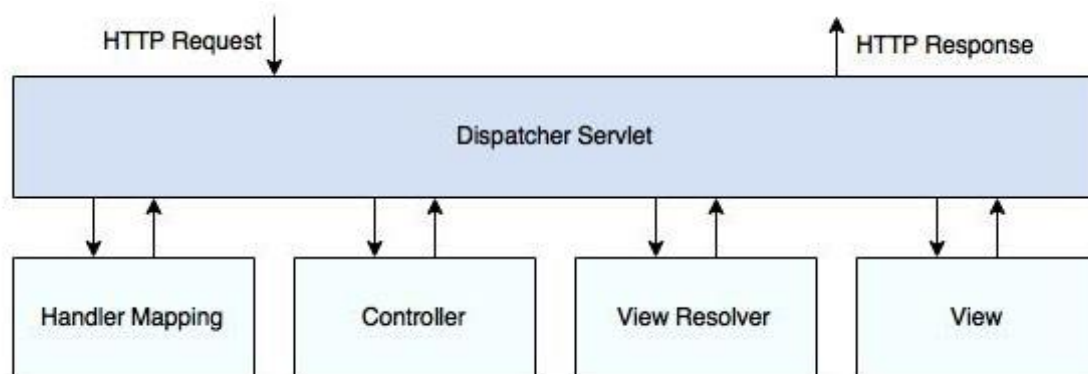
Figure 4.9 System Mapping with Spring MVC

4.12   Testing

Unit Testing is a testing type for software by which individual units of source code,
Sets of one or more computer program modules together with associated control
Data, usage procedures, and operating procedures, are tested to determine whether
They are fit for use. We have done black box testing for unit testing.

System Testing has been done after finishing this project. We used to verify that it faces
individualized. We got some error at the time of system testing. After getting error we tried to
resolve it.

Acceptance Testing or beta testing is executed after System Testing and before making the
system available for actual use. We have done beta testing of the system.

4.13   User Interface

Home Page:
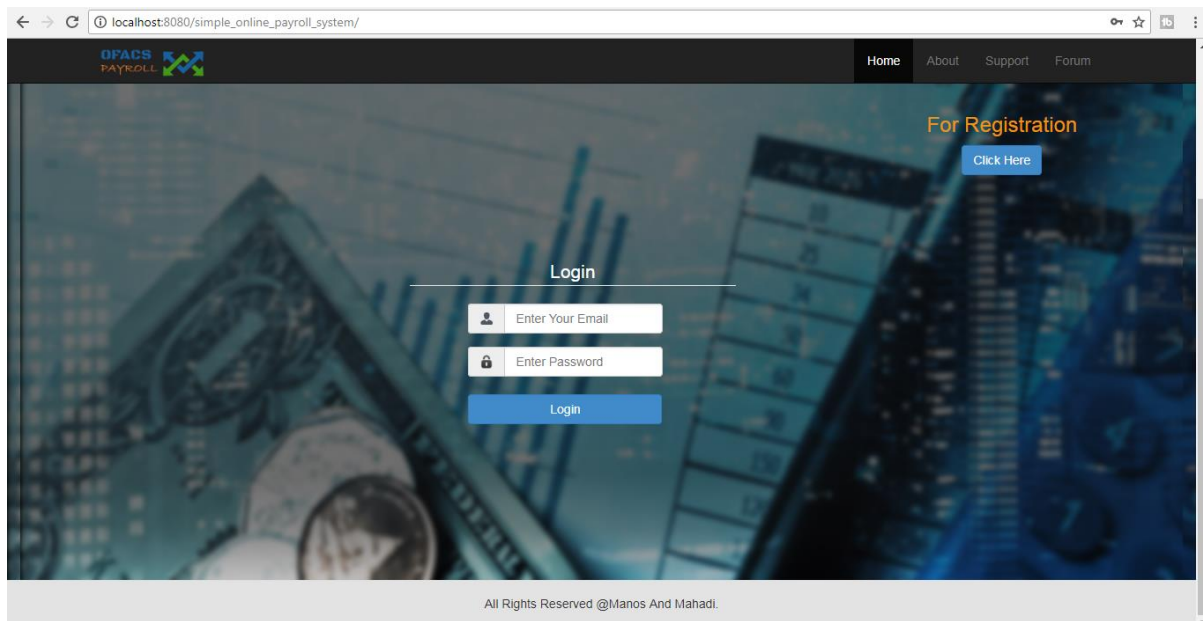
Register as:

Company Registration:

Employee Registration:

Designation:

Salary Setup:

Individual Salary Setup:

Employee list:

Pay slip:

Chapter 5

Discussion

The outcomes of this project are –

- Online Integrated Software, can be used from different branches.
- Secured with Java Spring MVC framework .
- User friendly & accessible from anywhere.
- Management can get easily integrated report.

This project is developed with Java Programming Language along with its Spring Framework using MVC architecture. So, this system is much more secured. As it cloud based system, one can easily access here from anywhere . It has very much user friendly design and nature. Management can easily view integrated reports.

Project Deliverable

Table 5.1 Project Deliverable

Tasks	Status
Project Proposal	Submitted on time
Implementation	80% completed
Testing	Done
Final Documentation	Completed

Chapter 6

Conclusion

In this project we just focused on a web based payroll system where Admin & Employees have their own accounts to access to the system and the owner/admin is only one who access the important details. It is easy to monitor the daily report, basic salary, allowance and deduction here. This system is online supported and web based. This web based payroll system is more helpful and user friendly. Because, it can be used at anytime and anywhere.

We have limitations in this project. As final year course project's shortest limited time for submission, we couldn't get enough time to build a complete payroll system. We have just focused on the salary structure, pay slip generation.

There is lots of scope for making study on this project in future. We can work on employee attendance system, login with face detection, improve the quality of this project and introduce more future in this system.

Appendix

A. APPENDIX
Pre Discussion about Project Requirements

We had discussed about project requirements with Honorable Mrs. Shahana Kabir, Assistant Professor, Faculty of Business & Economics
Email: shahanasumi35@daffodilvarsity.edu.bd
On 5th November, 2017

References

[1] Sherman,F. (2017). *The History of Computerized Accounting*. Retrieved

      from https://careertrend.com/

[2] Mohammed, A, Samuel, H, Khanoba, M & Evbuoma, O. (2007).*Payroll System*. Nigeria:

      Abti-American University of Nigeria.

[3] Madavarapu, J. (2014).*Payroll Management System*. India: Governors State University.

[4] Sajidkhan& Patel, C . () *Payroll System*. India: Institute Of Computer Studies ,

      Ganpat University.

[5] Mihalachi, A.(2011). *Risk Analysis of Accounting Information System*

      Infrastructure, Munich Personal RePEc Archive. Retrieve from

      https://mpra.ub.uni-muenchen.de/28874/1/MPRA_paper_28874.pdf

[6] Tutorial Point, (2018, January 08). *Spring MVC Framework*. Retrieved form

      https://tutorialpoint.com/spring/spring_web_mvc_framework.