



HR MANAGEMENT SYSTEM

Semester 6. Final Year project 2013-2014

Name:Roll No:

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Preliminary Investigation

1.1 Organization Overview:

HRMS (HR Management System) is a global services provider delivering technology - driven business solutions that meet the strategic objectives of our clients. We deliver unmatched business value to customers through a combination of process excellence, quality frameworks and service delivery innovation.

We committed to invest in new technology and development which offers a comprehensive range of integrated software. We innovate in the area of Marketing, Training, Business Operations and Technology.

We continue to set the standard of making clients successful and helping them realizes the opportunities that exist within their organizations. We achieve our commitment to their success, empowering people and organizations to give competitive advantage by creating powerful interactive relationships.

❖ Vision:

Our company philosophy has always focused on customer satisfaction with

Uncompromising integrity. Vital Softech vision is to be the one top IT services provider in contracting as well as projects to a diverse and targeted base of established and emerging corporations.

❖ Mission:

Our mission is to be known and trusted by our customers to deliver top quality IT contracting and technology services. We do not want to see our Clients just satisfied, but delighted with our services. We approach our work with passion and creativity.

1.2 Current System:

Manually it is very difficult to manage the human resource. With the help of computer it becomes easy and faster to manage the system. In this project it is the facilities to storing and managing all the information about the employee working in that company and the projects handle by the company.

1.2.1 Human Resources:

Add here how this HR Management works.....

1.2.2 Functions of human resource management system:

The function of Human Resources departments is generally administrative and not common to all organizations. Organizations may have formalized selection, evaluation, and payroll processes. Efficient and effective management of "**Human Capital**" has progressed to an increasingly imperative and complex process.

The HR function consists of tracking existing employee data which traditionally includes personal histories, skills, capabilities, accomplishments and salary. To reduce the manual workload of these administrative activities, organizations began to electronically automate many of these processes by introducing specialized Human Resource Management Systems. HR executives rely on internal or external IT professionals to develop and maintain an integrated HRMS.

Before the *client-server* architecture evolved in the late 1980s, many HR automation processes were relegated to mainframe computers that could handle large amounts of data transactions. In consequence of the low capital investment necessary to buy or program proprietary software, these internally-developed HRMS were unlimited to organizations that possessed a large amount of capital. The advent of client-server, Application Service Provider, and Software as a Service or SaaS Human Resource Management Systems enabled increasingly higher administrative control of such systems.

Currently Human Resource Management Systems encompass:

1. Payroll.
2. Work Time.
3. Benefits Administration.
4. HR management Information system.
5. Recruiting.
6. Training/Learning Management System.
7. Performance Record.
8. Employee Self-Service.

1.3 Limitations of current system:

There were problems related to current system such as employee details storage problem, maintain privacy, cost and budget, etc...

1. **Employee Privacy:** Your employee entrust you with personal information. Everything from Social Security numbers to private health information and marital status gets stored in HR Management System.
2. **Cost:** One of the main limitation/disadvantage of HR Management System is its cost.
3. **Loss of Subjectivity:** All personal data of any employee was easily leaked.
4. **Difficult of Analysis:** Due to huge amount of data stored in your system it becomes difficult to analyze the data.

1.4 Proposed System and its Features:

Using today's updated software and running technologies we have developed software which can come overcome the problems of current system.

The solutions made by proposed system are as follows:

- 1. Fast retrieval of data:** Response of data retrieving was improved by proposed system with high throughput.
- 2. Security:** Personal information data of employee was secured.
- 3. Ease of use:** Propose system must be user-friendly.
- 4. Payroll:** The payroll module of HR Management System automates the payment process by gathering data of employee time and attendance, calculating various tax, etc.
- 5. Work Time:** The work time gathers standardized time and work related effort.
- 6. Administration:** The admin module of HRMS handles all operations related to employee.
- 7. Training module**
- 8. Employee self-service module**

1.5 Feasibility Study:

The feasibility studies are undergone as follows:

1. Economic Feasibility:

More commonly known as **Cost/Benefit Analysis**. The procedure is to determine the benefits and savings that are expected from a candidate system and compare them with costs. If the benefits outweigh costs, then decision is made to design and implement the system. Considering the facts it is becoming evident that the system will be economically feasible both for developer as well as for client's respect.

2. Technical Feasibility:

Technical feasibility centers on the existing computer system (hardware, software, etc.) and to what extent it can support the proposed addition. If the budget is a serious constraint, then the project is judged not feasible. In our case this does not become an obstacle.

HARDWARE REQUIREMENTS:

Content	Description
HDD	20 GB Min 40 GB Recommended
RAM	512 GB Min 1 GB Recommended

SOFTWARE REQUIREMENTS:

Content	Description
OS	Windows XP with SP2 or Windows Vista
Database	MS-SQL server 2005
Technologies	ASP.NET with C#.NET
IDE	Ms-Visual Studio .Net 2008
Browser	IE

3. Legal Feasibility:

A determination of any infringement, violation or liability that could result from the development of the system. But the system to be developed will be 100% legal.

4. Operational feasibility:

The management & operators desire to be well acquainted with the requisite skill needed. Here most of the members in development team having technical expatriation.

5. Time feasibility:

The management & operators here concern about whether the project will completed timely or not. But considering the facts and figures collected by us regarding our project it can be easily assumed that the project will be completed within the specified time frame.

1.6 Stake Holders:

A person, group or organization that has direct or indirect stake in an organization, can be affected by the organizations actions, objectives and policies. Key stakeholders in a business organization include creditors, directors, employees, government (and it agencies), owners (stakeholders), suppliers, unions and the community from which the business draws its resources.

Although stake holding is usually self-legitimizing (those who judge themselves to be stakeholders are stakeholders), all stakeholders are not equal and different stakeholders are entitled to different consideration. For example, a company's customers are entitled to fair trading practices but they are not entitled to the same consideration as the company's employees.

➤ Project Leader:

Here the project leader is our Professor. _____ and Professor _____. who guided me in this project.

➤ Developer:

Here in this project the developer is _____.

➤ Admin:

In this project, the administrator role will be played by staff & HOD.
ie Head of Department.

➤ Organizational Manager:

Here the Organizational Manager is Mr. Anil. Karekar and Mr. Raju. Sawant.

➤ Organizational Employee:

Here the employee is the company Manager who will use the project.

Before the development of this software, a meeting was conducted with the members of the organization to discuss their requirements and their expectations with the product.

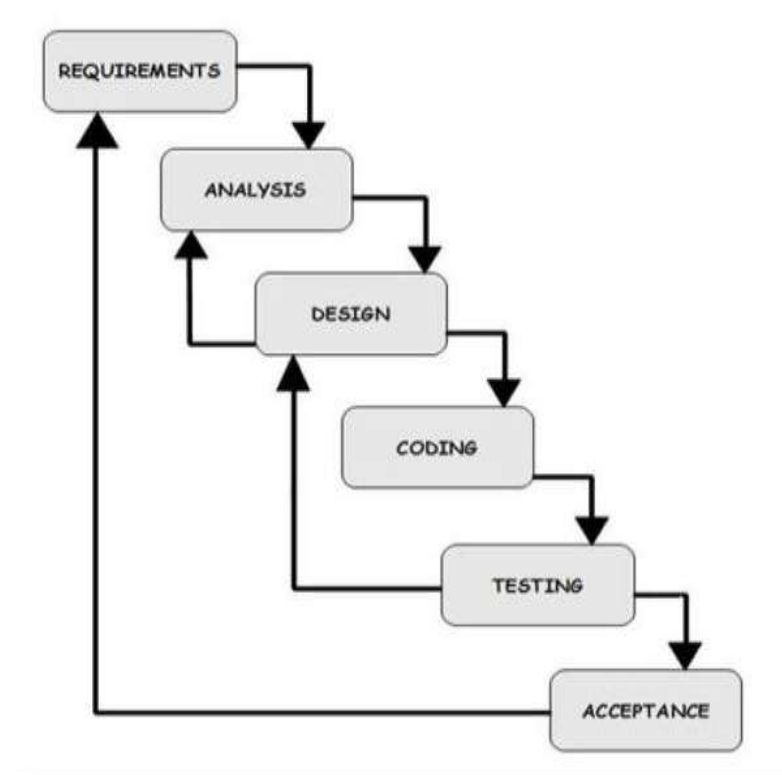
1.7 Process Model:

The Process Model means the design, testing and implementation of the project. This is also known as **Classic Life Cycle Model or Linear Sequential Model or Waterfall Model**. It includes various phases and activities. The activities are as listed below in the following manner:

1. System Analysis and Design:

Easy track is based on waterfall model of software engineering. In **“WATERFALL MODEL”**, the process software development is divided into separate process phases. Software design, implementation, testing and maintenance. All these phases are cascaded to each other so that second phase is starts as and when defined set of goals are achieved for the first phase and it is signed off. So the name is suggested as **“WATERFALL MODEL”**.

General view of a **“WATERFALL MODEL”** is given below,



The stages of “**WATERFALL MODEL**” are requirement of the system to develop are captured in this phase. Requirements are the set of functionalities and constraints that the end-user (who will be using this system) accepts from the end-user. The requirements are gathered from the end-user by consultation these requirements are analyzed for their validity and the possibility of incorporating the requirements in the system to develop is also studied.

Finally, a requirement specification document is carried which serves the purpose of guidelines for the next phase of the model. It is called as **Software Requirement Specification (SRS)**.

2. System and Software Design:

Before starting to the actual coding of any project, it is highly easy to understand what we are going to create and what it should look like? The requirement specification from first phase is studied in the phase and the system design is prepared. System design helps in specifying hardware and system requirement and also helps in defining overall system architecture. The system design specification serves as input for the next phase of the model.

3. Analysis:

The overall code of software in larger system is identified during system engineering. However it's necessary to take a harder look at the software's role to understand the specific requirements that must be achieved to build high quality software. That's the job of software requirements analysis.

The requirement modeling activity for a system c/s from the analysis modeling methods applied to more conventional computers architectures because analysis modeling avoids specification of implementation detail issues associated with the allocation of software components of client and server are considered as only as transaction made to design. However, an evolutionary approach to software engineering is applied for c/s system. Implementation decision on over all c/s approach may be made during early analysis and design iterations.

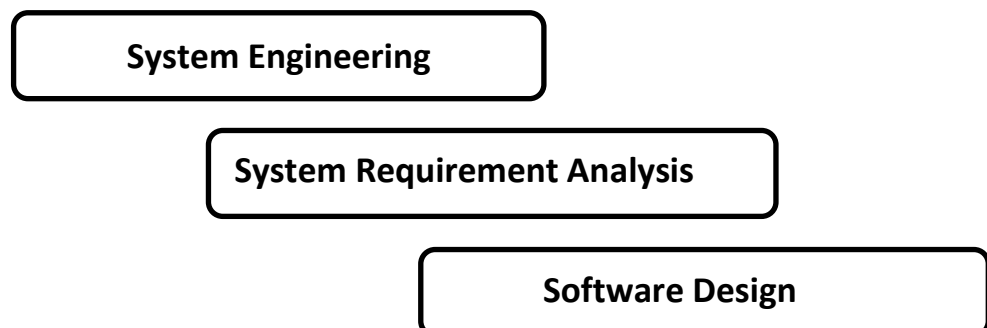
The steps involved in analysis include data; functional and behavioral requirements begin identified by electing information from the customer. Requirements are refined and analyzed to access their clarity, completeness and consistency. A specification incorporating a model of software is created and then validated.

Analysis has a set of operational principles which are as follows:

1. The information domain of a problem must be represented and understood.
2. The functions that the software has to perform must be defined.
3. The behavior of the software must be represented.
4. The models that depict information function and behavior must be partitioned in a manner that uncovers detail in layered fashion.
5. The analysis process should move from essential information towards implementation detail.

4. Requirement Analysis:

Requirement analysis is software engineering task that bridges the gap between the system level requirement and software design. These activities result in the specification of the software operational characteristics indicate the software interface with other systems elements and establish constraints that the software must meet.



5. Implementation and Unit Testing:

On receiving system design document i.e. SRS (Software Requirement Specification) now the work is divided into modules or in units and actual coding of a project is started. The system is first developed in small programs and then they are integrated in the next phase. After each unit development it is tested and its functionality is checked, this is referred as unit testing.

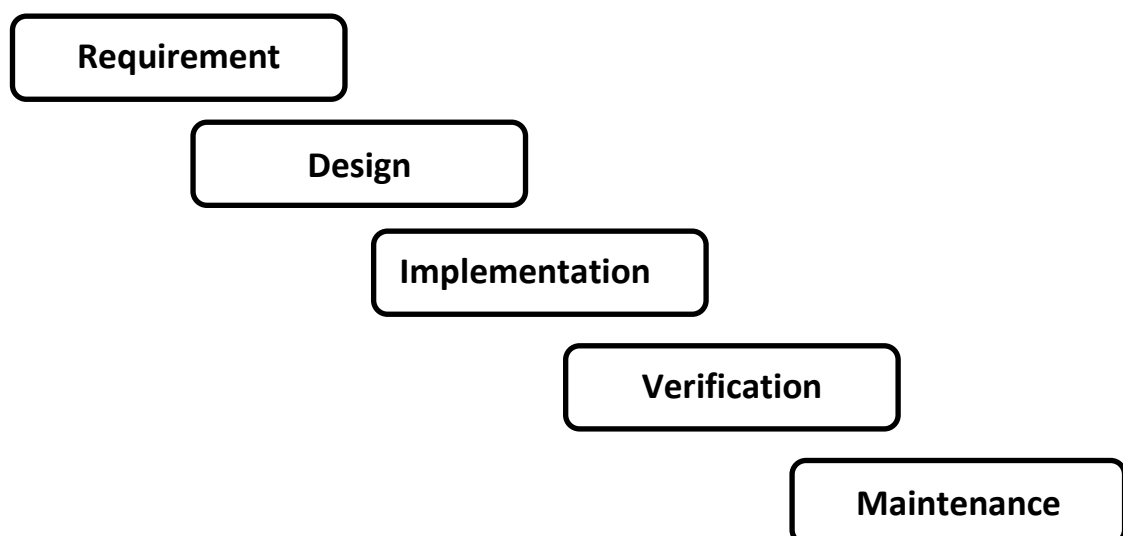
Unit testing mainly modified if the models or units meet their specification.

6. Integrated and System Testing:

As specified above the system is divided in units which are developed and tested for their functionalities. These units are integrated into a complete system as a whole behaves as per the specifications. After successfully testing the software, it is delivered to the customer.

7. Operation and Maintenance:

This phase of the **“WATERFALL MODEL”** is virtually never ending phase. Generally, problems with the system developed come up after its practical use starts, so the issues related to the system are solved after development of the system. Not all the problems come in picture directly but they arise time to time and needs to be solved, hence this process is referred to as maintenance.



The waterfall model development helped us because our team size was small as it was just two members working on this project so it is precise, as compared to vastness and complexity of the project. It helped us to meet with business deadlines by customers with prototype, thereby enabling partial functionality without inordinate delay.

We delivered our first trial version, the core product at no charge to the organization for a trial period. This helped the customer get feel of the system and more of gave us useful suggestion and feedback that helped us plan what could be implemented in the next version. The feedback helped us to modify the core product to better the needs of the customer and delivery of additional needs and functionality.

System Analysis

Event Table Content

2.1 Event Table:

A UML Event Table is an interaction between user and a system. The user sends an event which is fired by a trigger from source after that interaction is done with the system and response given back to the user.

1. **Trigger** is an occurrence that tells the system that an event has occurred, either the arrival of data needing processing or of a point in time.
2. **Source** is an external agent or actor that supplies data to the system.
3. **Activity** is a behavior that the system performs when an event occurs.
4. **Response** is an output, produced by the system that goes to a destination.
5. **Destination** is an external agent or actor that receives data from the system.

Sr. No	Events	Triggers	Source	Use-Case	Response	Destination
1.	Login	Admin request for login	Admin	Enter Admin id and password	Successfully logged in	Admin
2.	Register	Admin request for registration	Admin	Enter required registration details	New user got register successfully	Data base
3.	Forgot Password	Admin request for new password	Data base	Enter mail-Id required details	Mail send to the Admin	Admin

4.	Change Password	Admin request for update password	Admin	Enter required details	New password set successfully	Data base
5.	Accepting registration of user	Admin accepts new registration	Admin	Confirm request for registration	New user got registered	Database
6.	Delete registration of user	Admin deletes registration	Admin	Delete registration	User deleted	Database
7.	Add Project details of user	User enters project details	Admin	Enter required details	Project details entered successfully	Database
8.	View Project details of user	User views project details	Data base	Look up for Project Details	Project Details	Admin
9.	Update Project details of user	Admin updates project details	Admin	Enter required details	Project details updated successfully	Database
10.	Delete Project details of user	Admin deletes project details	Admin	Remove project details	Project details deleted successfully	Database
11.	Add Personal details of user	Admin enters Personal details	Admin	Enter required details	Personal details entered successfully	Database

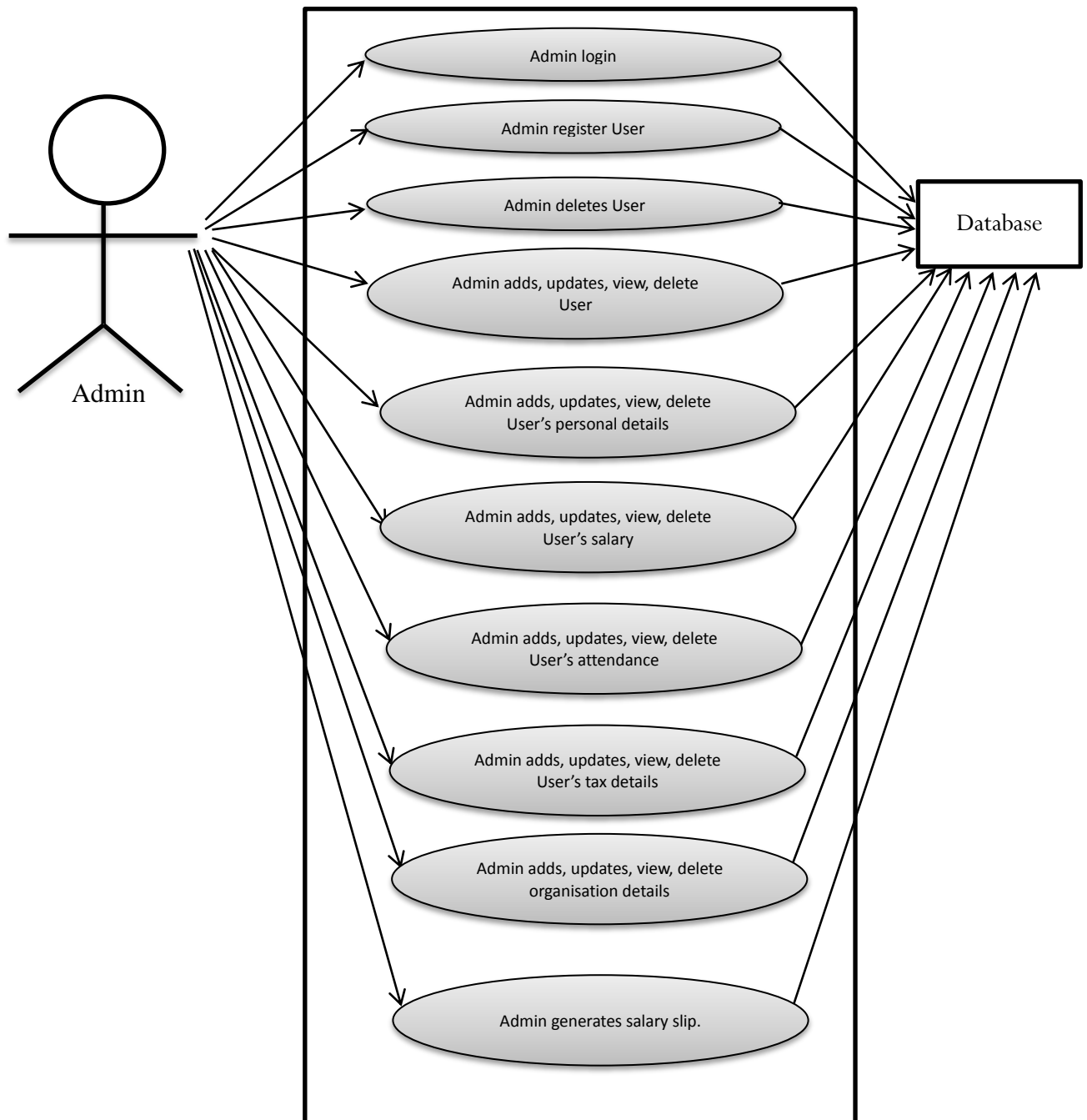
12.	View Personal details of User	Admin views personal details	Data base	Look up for Personal Details	Personal Details	Admin
13.	Update Personal details of User	Admin updates personal details	Admin	Enter required details	Personal details updated successfully	Database
14.	Delete Personal details of user	Admin deletes personal details	Admin	Remove personal details	Personal details deleted successfully	Database
15.	Add Salary Details of user	Admin adds salary details	Admin	Enter required details	Salary details added successfully	Database
16.	View salary details of user	Admin view salary details	Data base	Look up for salary details	Salary Details	Admin
17.	Update salary details of user	Admin updates salary details	Admin	Enter required details	Salary details updated successfully	Database
18.	Delete salary details of user	Admin deletes salary details	Admin	Enter required details	Salary details deleted successfully	Database
19.	Add attendance details of user	Admin adds attendance details	Admin	Enter required details	Attendance details added successfully	Database

20.	View attendance details of user	Admin views attendance details	Data base	Look up for attendance details	Attendance details	Admin
21.	Update attendance details of user	Admin updates attendance details	Admin	Enter required details	Attendance details updated successfully	Database
22.	Delete attendance details of user	Admin deletes attendance details	Admin	Enter required details	Attendance details deleted successfully	Database
23.	Add tax details of user	Admin adds tax details	Admin	Enter required details	Tax details added successfully	Database
24.	View tax details of user	Admin view tax details	Data base	Look up for tax details	Tax Details	Admin
25.	Update tax details of user	Admin updates tax details	Admin	Enter required details	Tax details updated successfully	Database
26.	Delete tax details of user	Admin deletes tax details	Admin	Enter required details	Tax details updated successfully	Database
27.	Generate User Personal Details Report of user	Admin generates report	Data base	Look up for Personal Detail	Report generated successfully	Admin

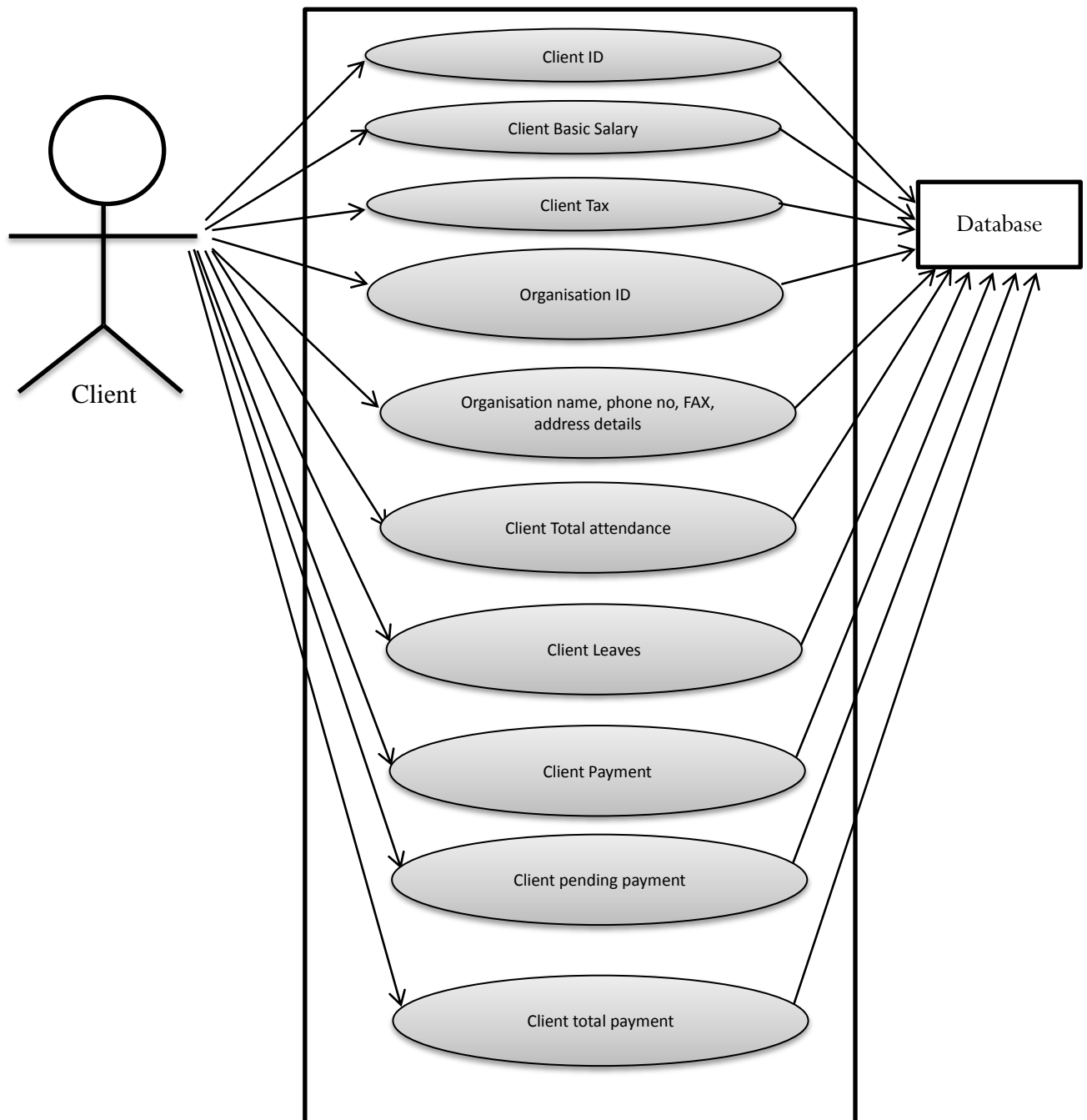
28.	Generate Salary Details report of user	Admin generates report	Data base	Look up for Salary Details	Report generated successfully	Admin
29	Add organization details	Admin adds organization details	Admin	Enter required details	Organization details added successfully	Database
30	Update organization details	Admin updates organization details	Admin	Enter required details	Organization details updated successfully	Database
31	Delete organization details	Admin deletes organization details	Admin	Deletes required details	Organization details deletes successfully	Database

Use Case Diagram

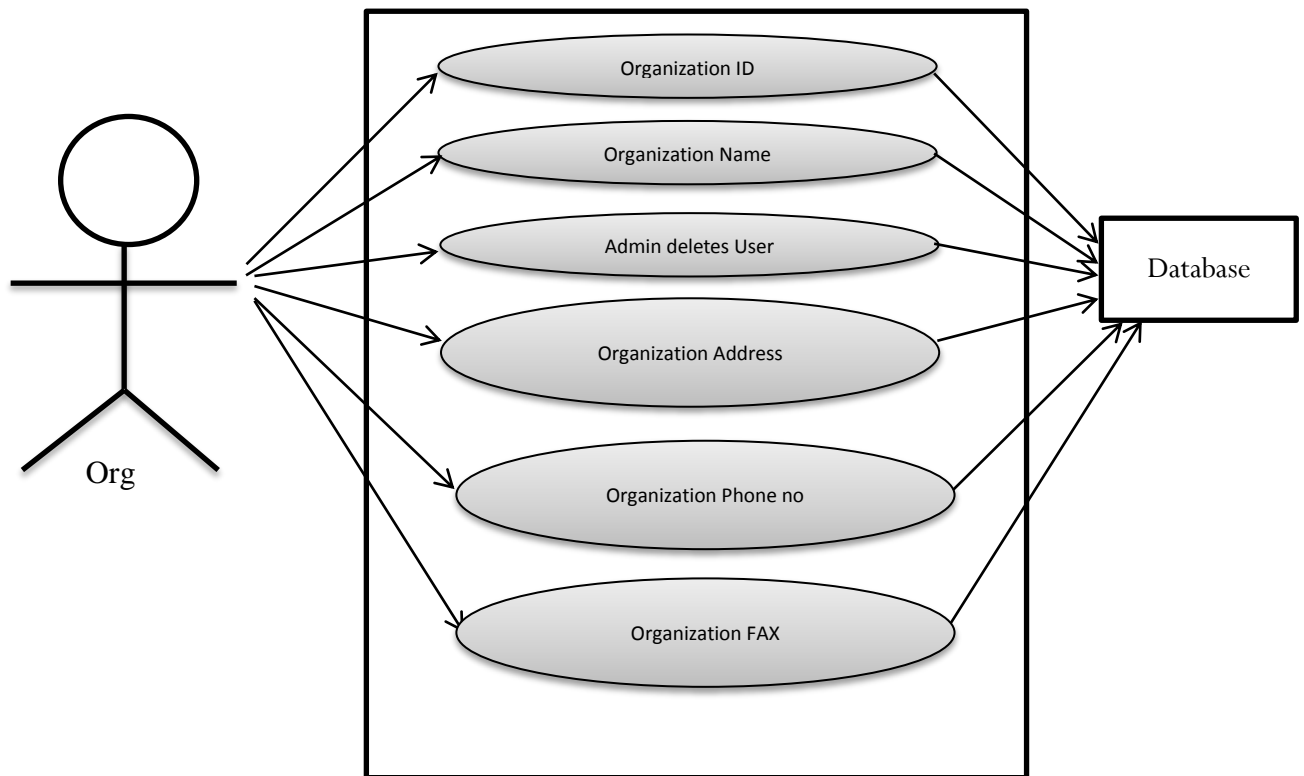
Use case diagram for Admin



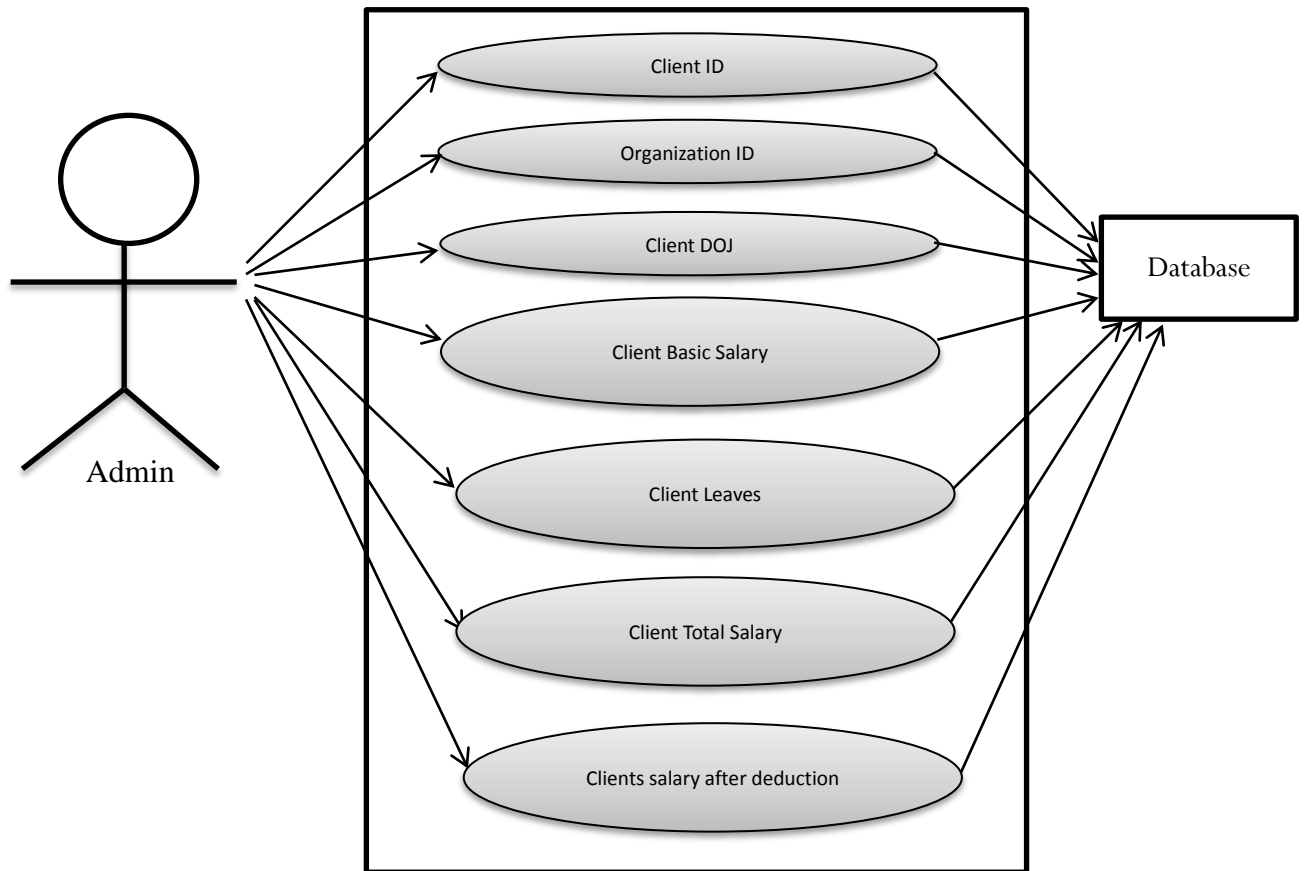
Use case diagram for Client



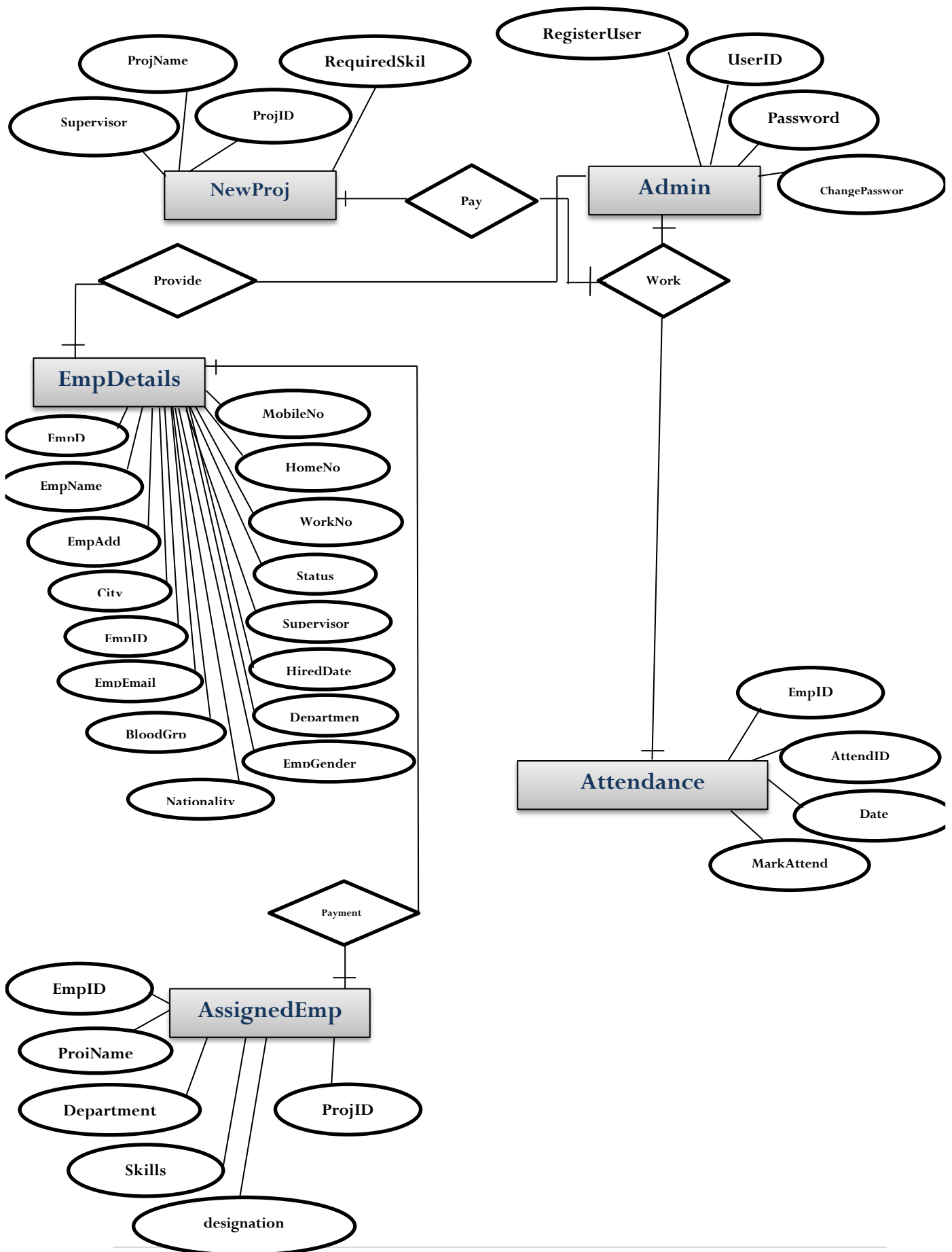
Use case diagram for Organization



Use case diagram for Attendance And Salary

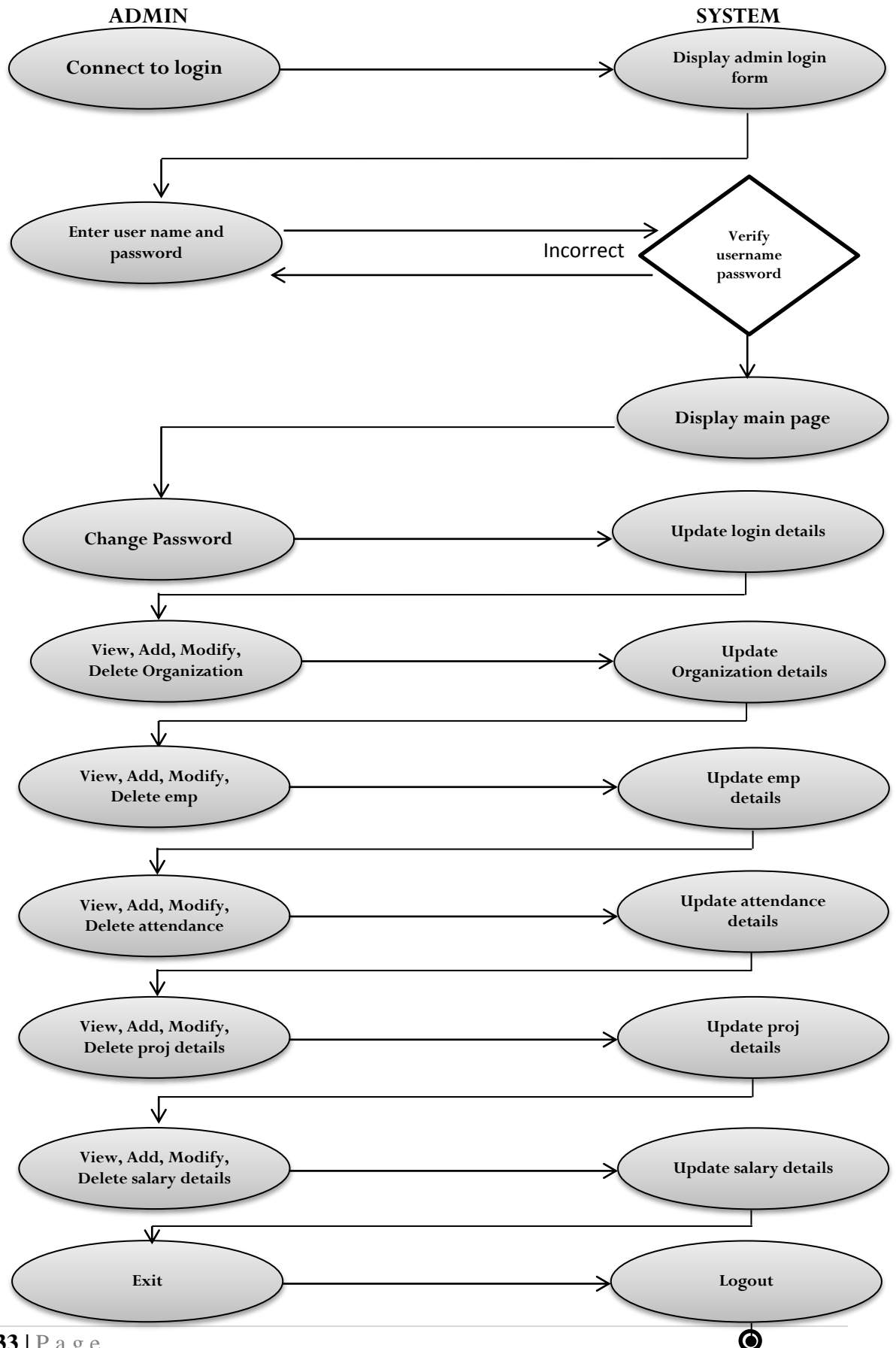


E R Diagram

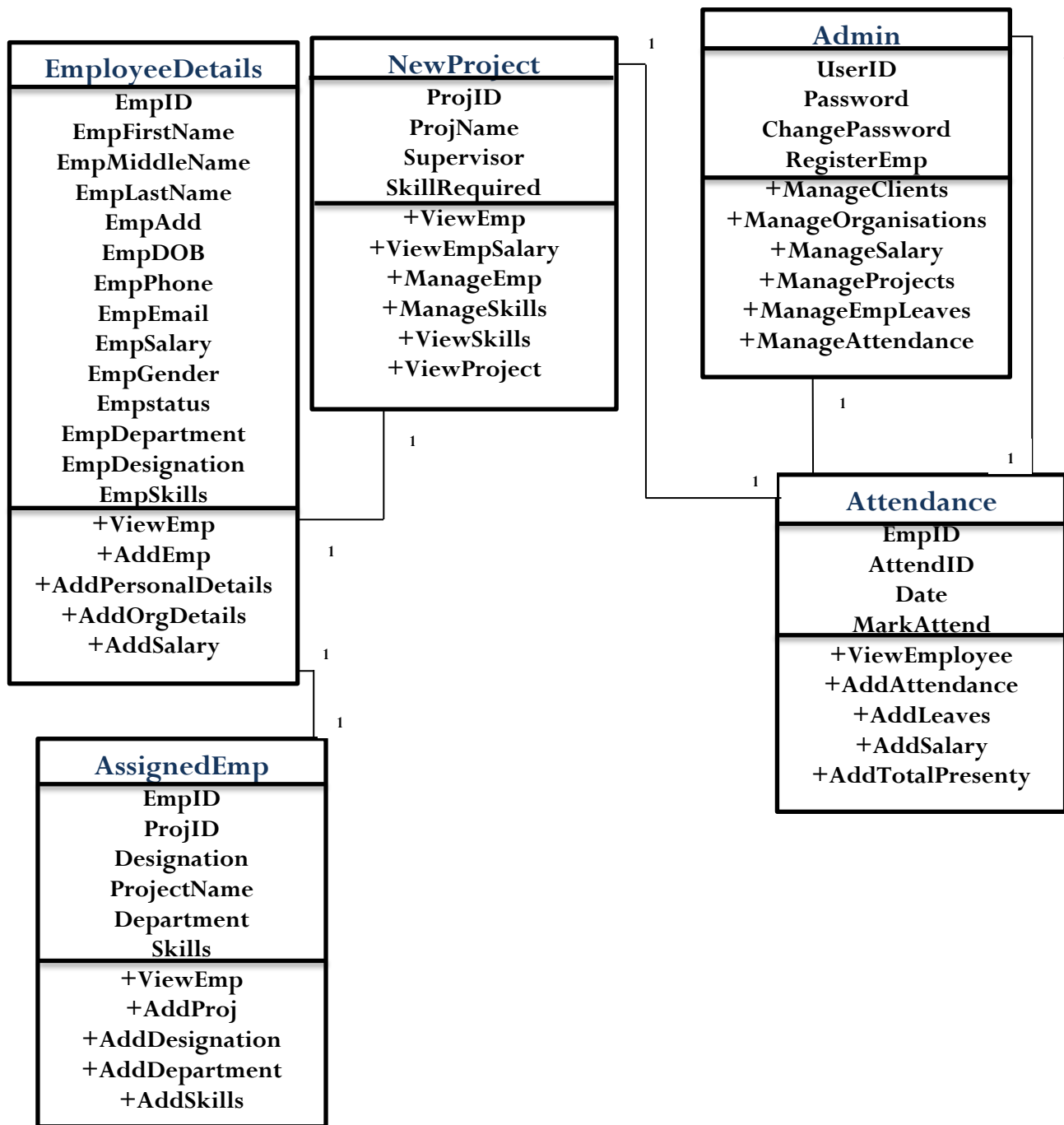


Activity Diagram

Activity Diagram for Admin

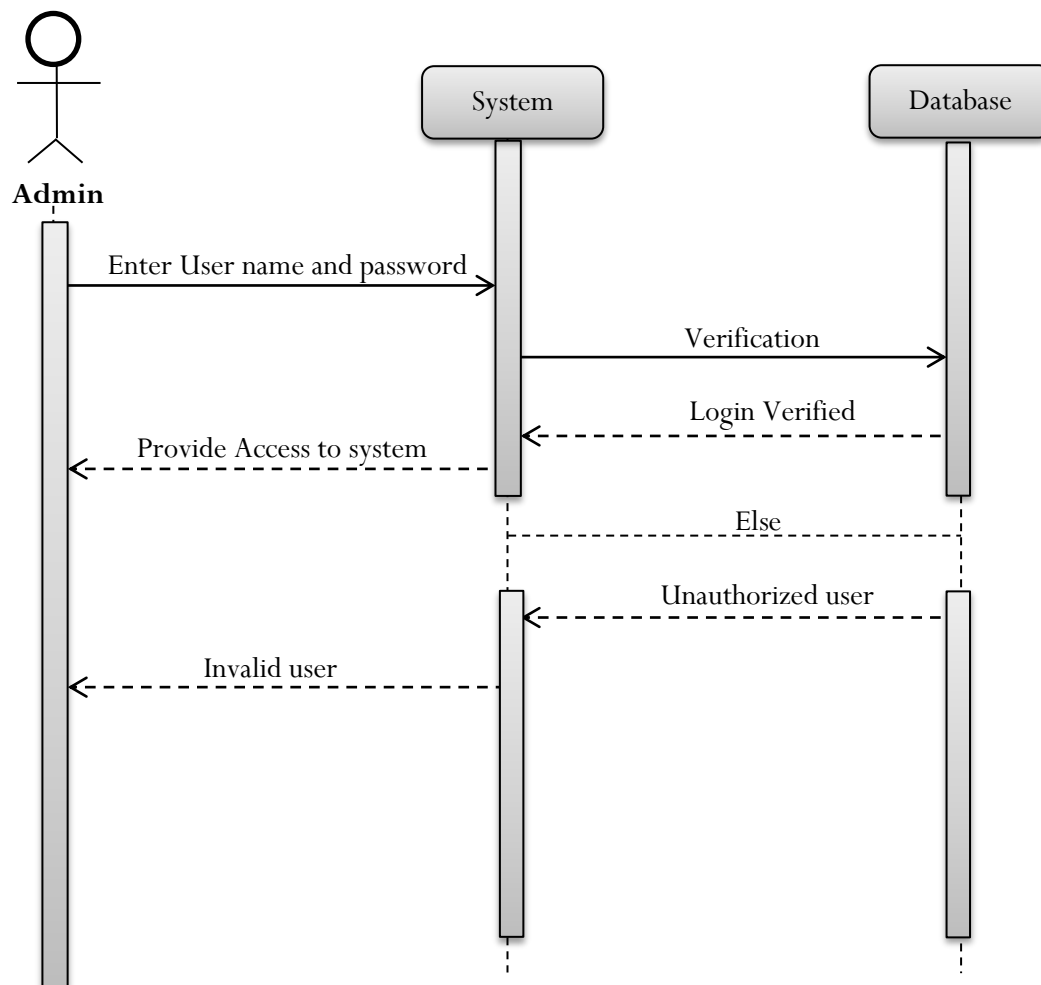


Class Diagram

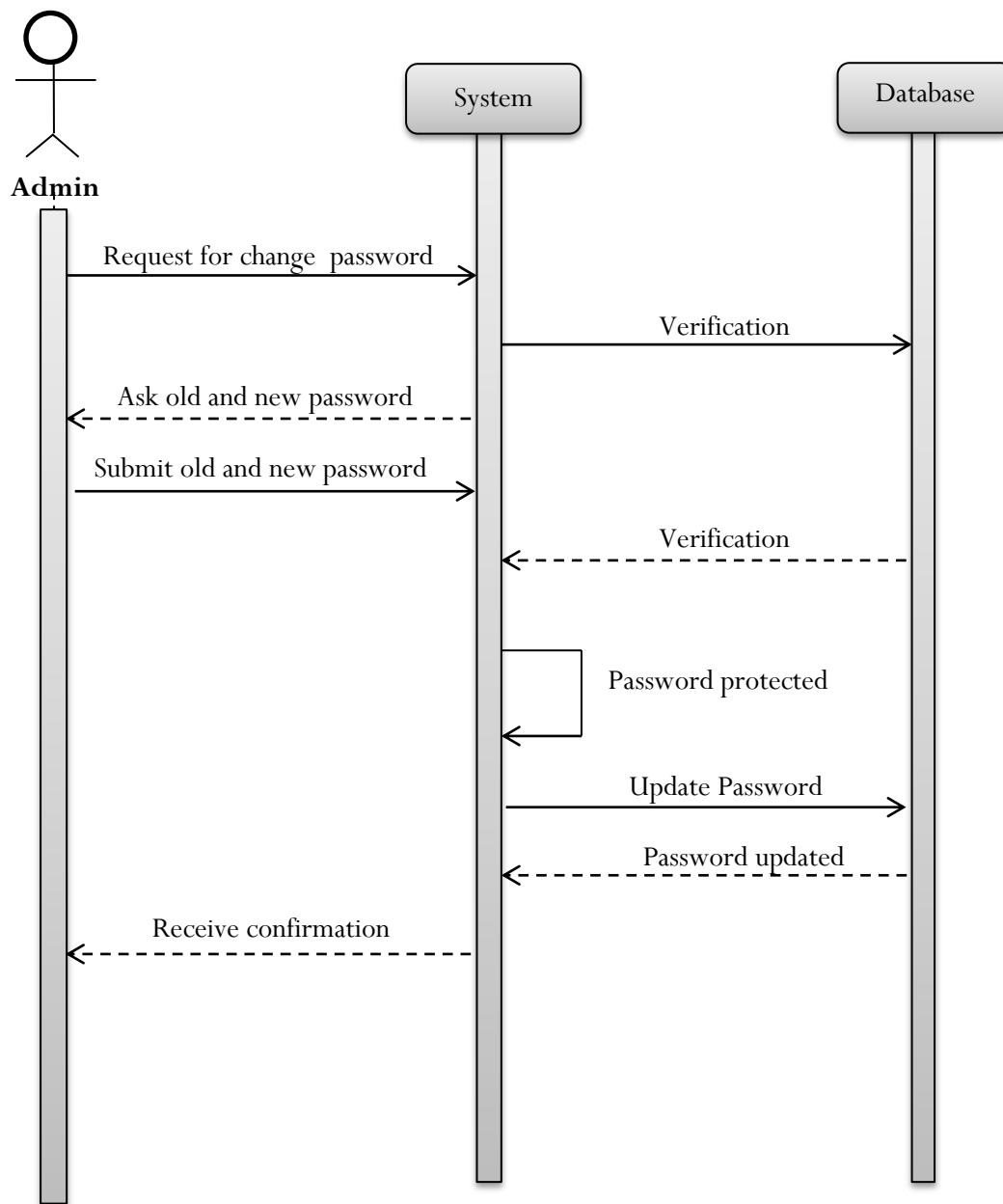


Sequence Diagram

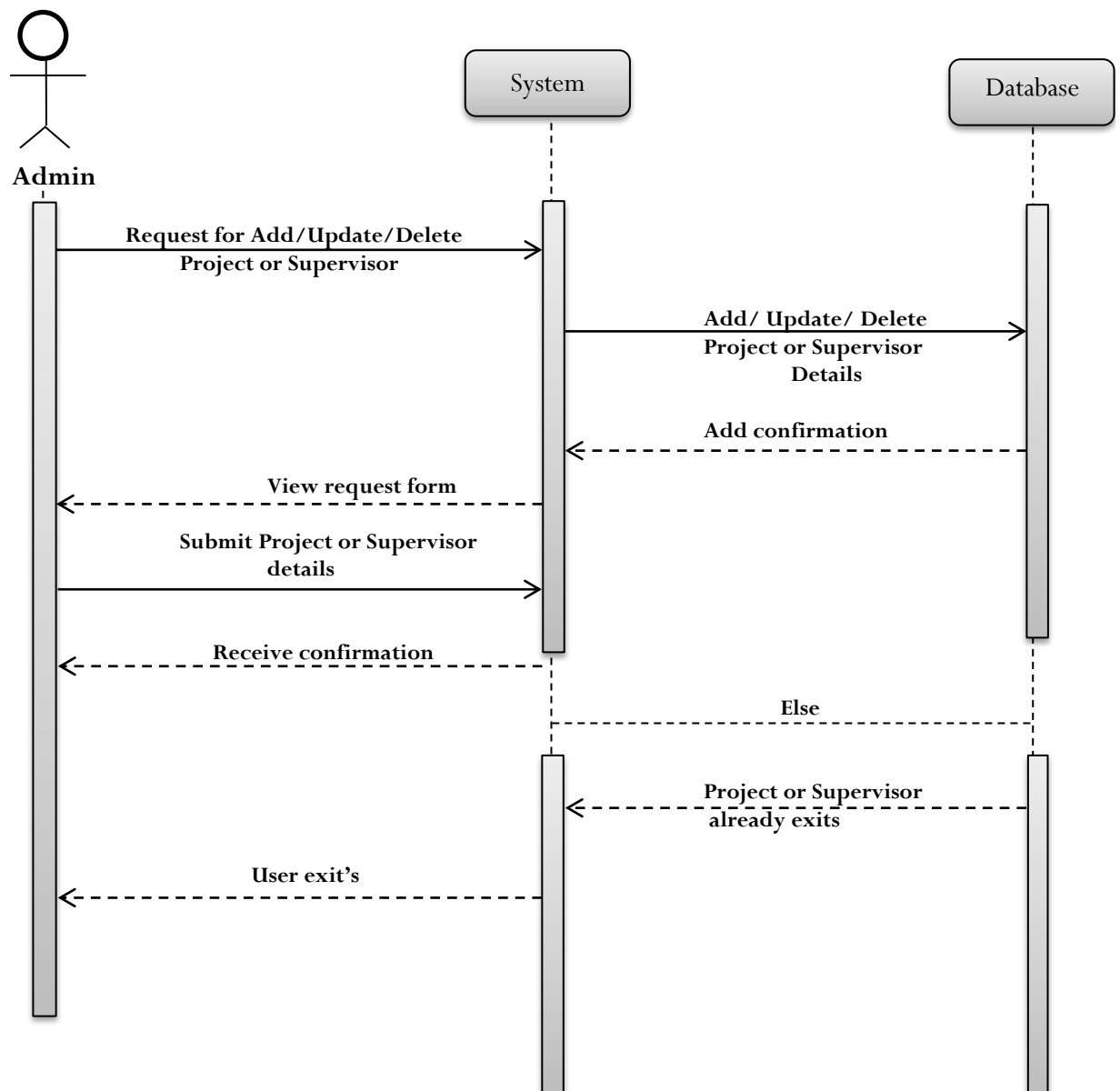
Sequence diagram for Login:



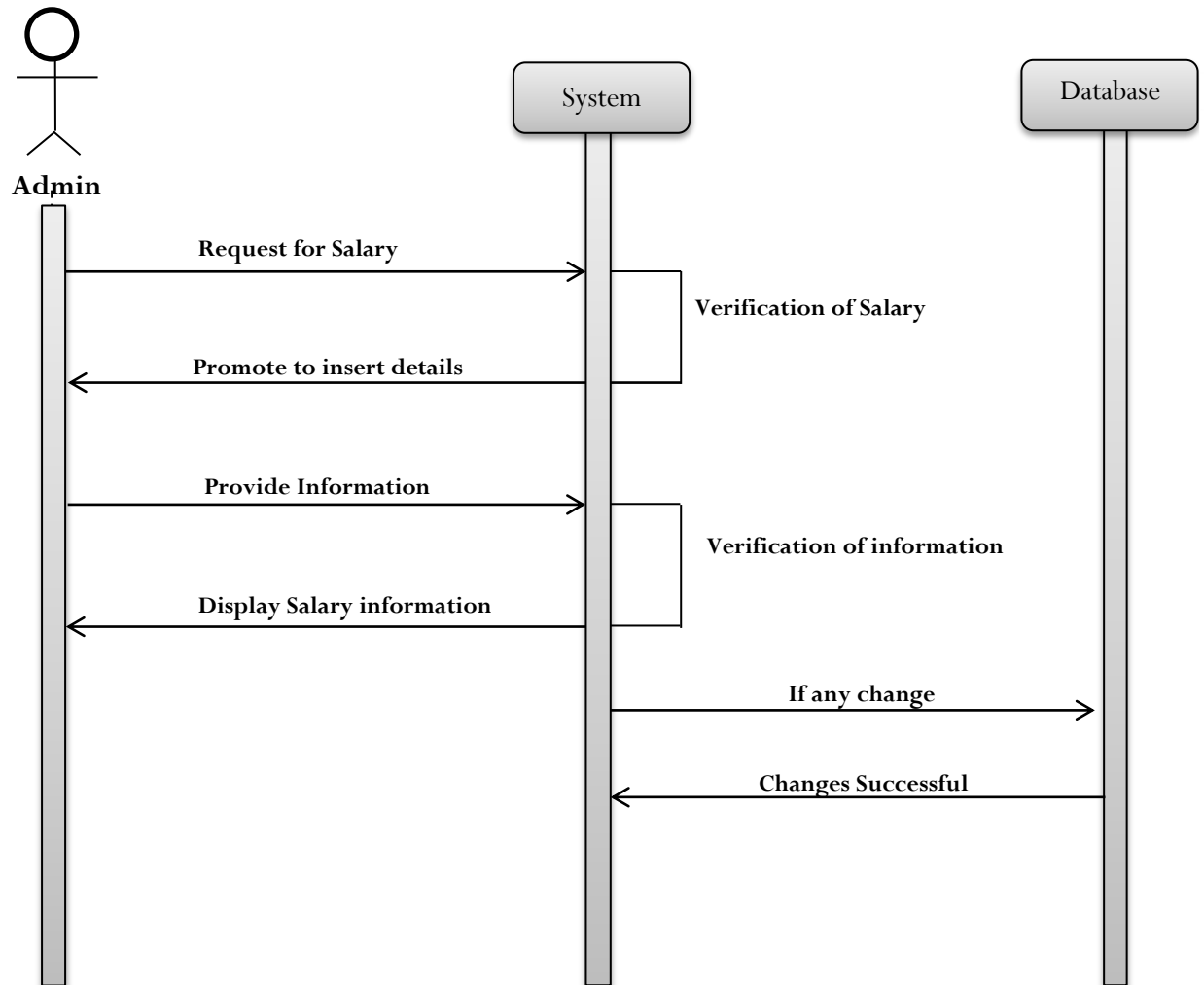
Sequence diagram for Changing Password



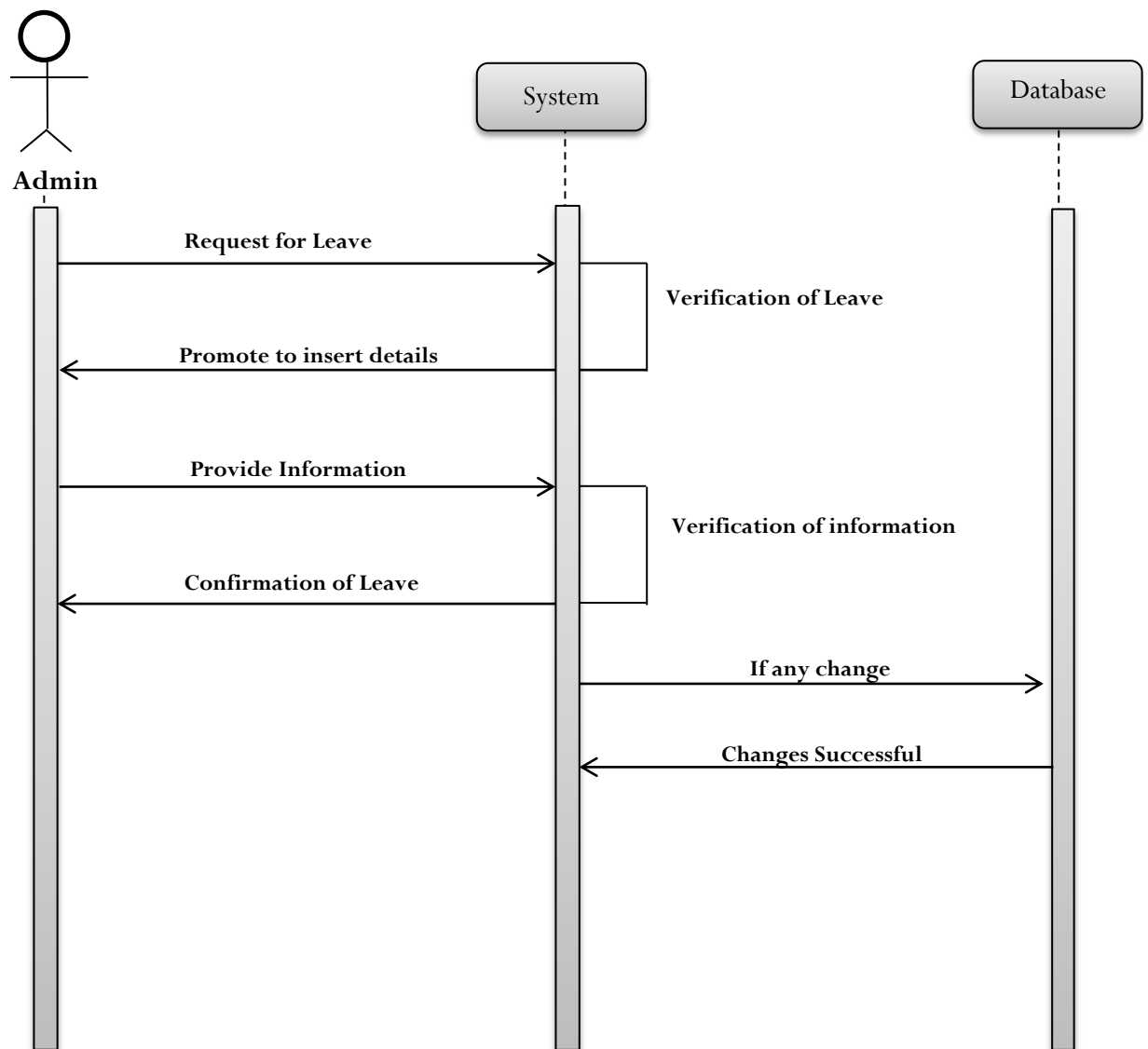
Sequence diagram for adding or deleting Project and Supervisor



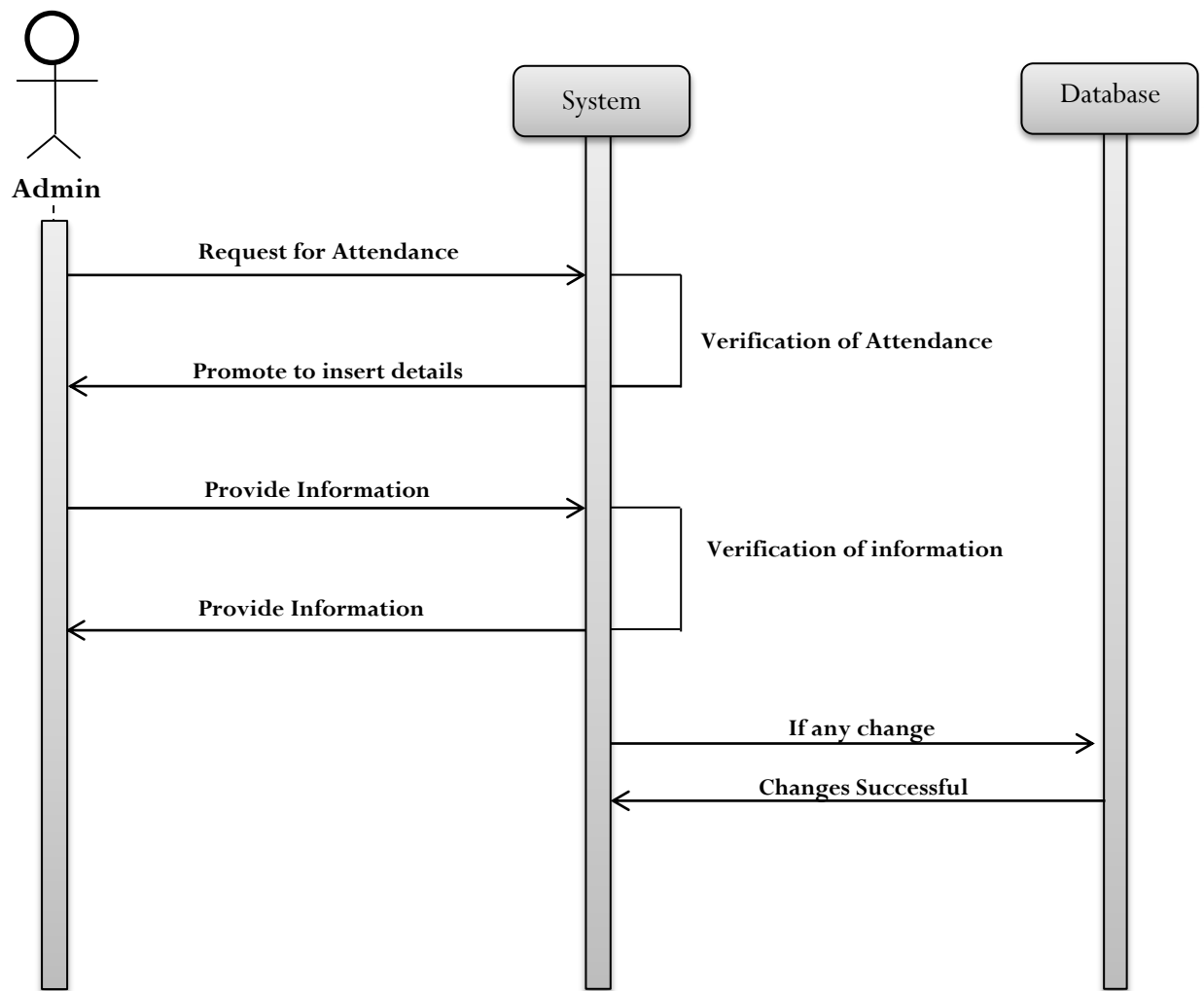
Sequence diagram for Checking Employee Salary



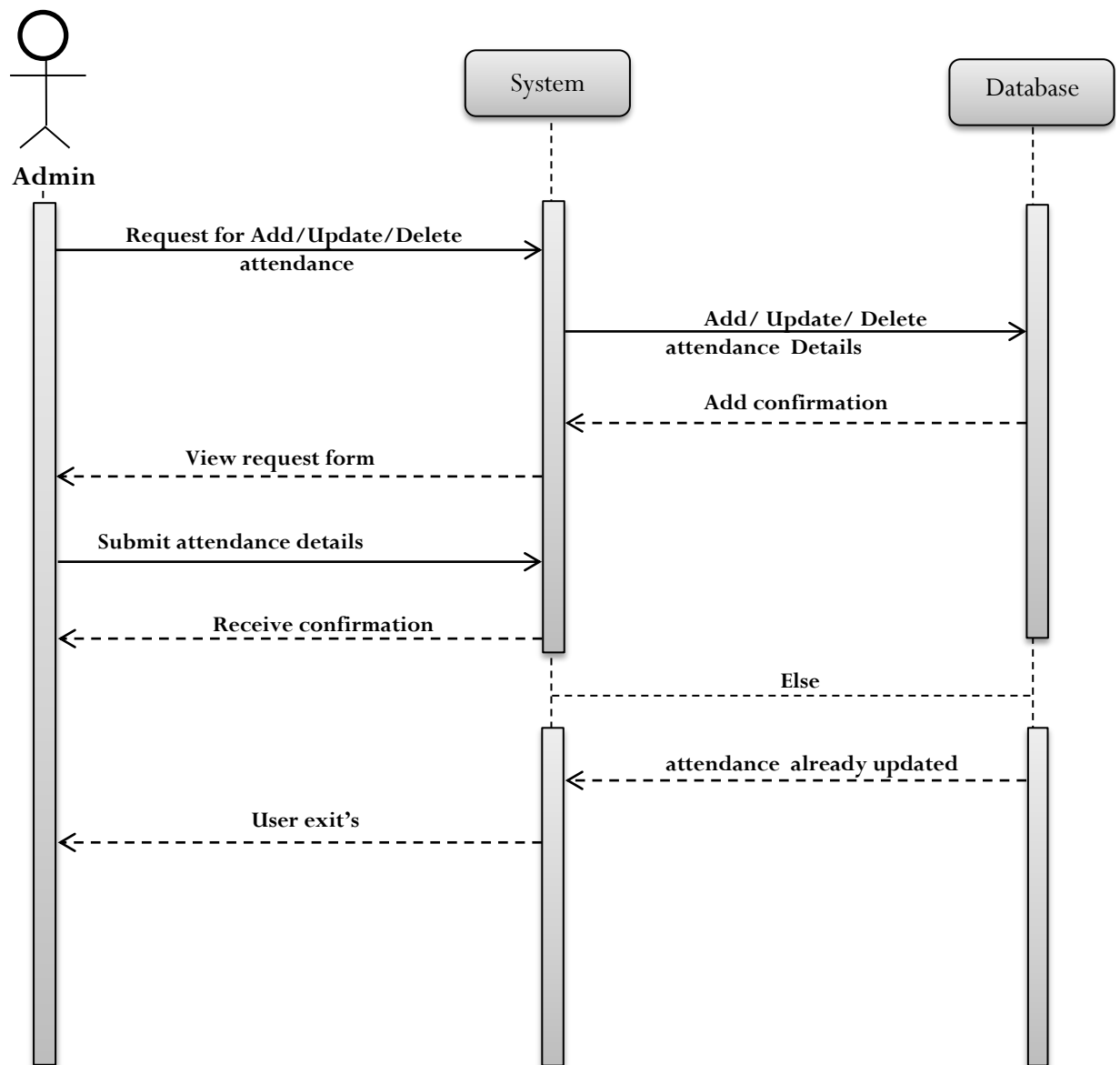
Sequence diagram for Checking Apply Leaves



Sequence diagram for Checking Attendance

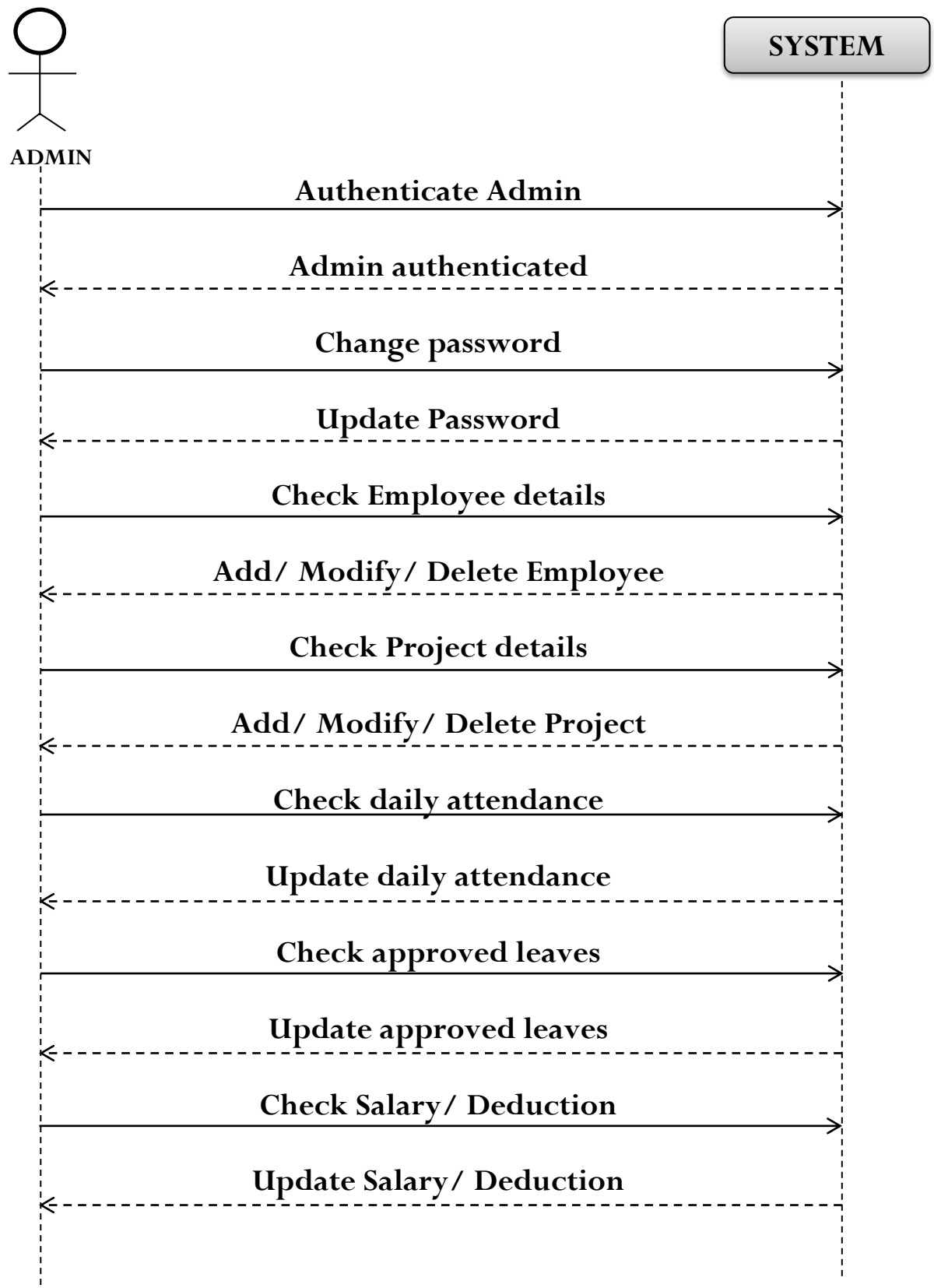


Sequence diagram for adding or deleting attendance



System Sequence Diagram

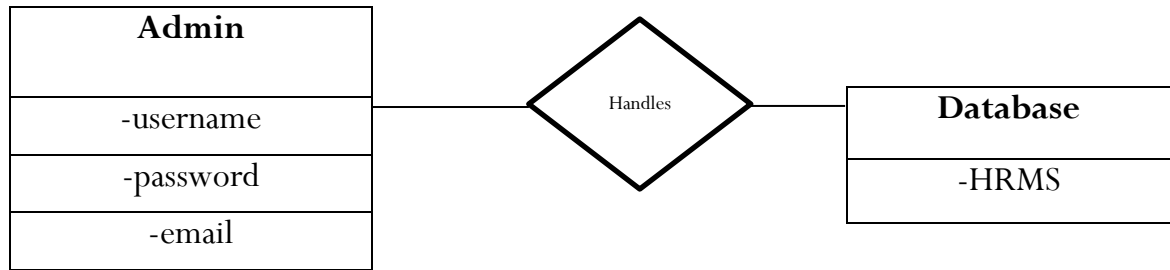
System Sequence Diagram for Human Resource Management System



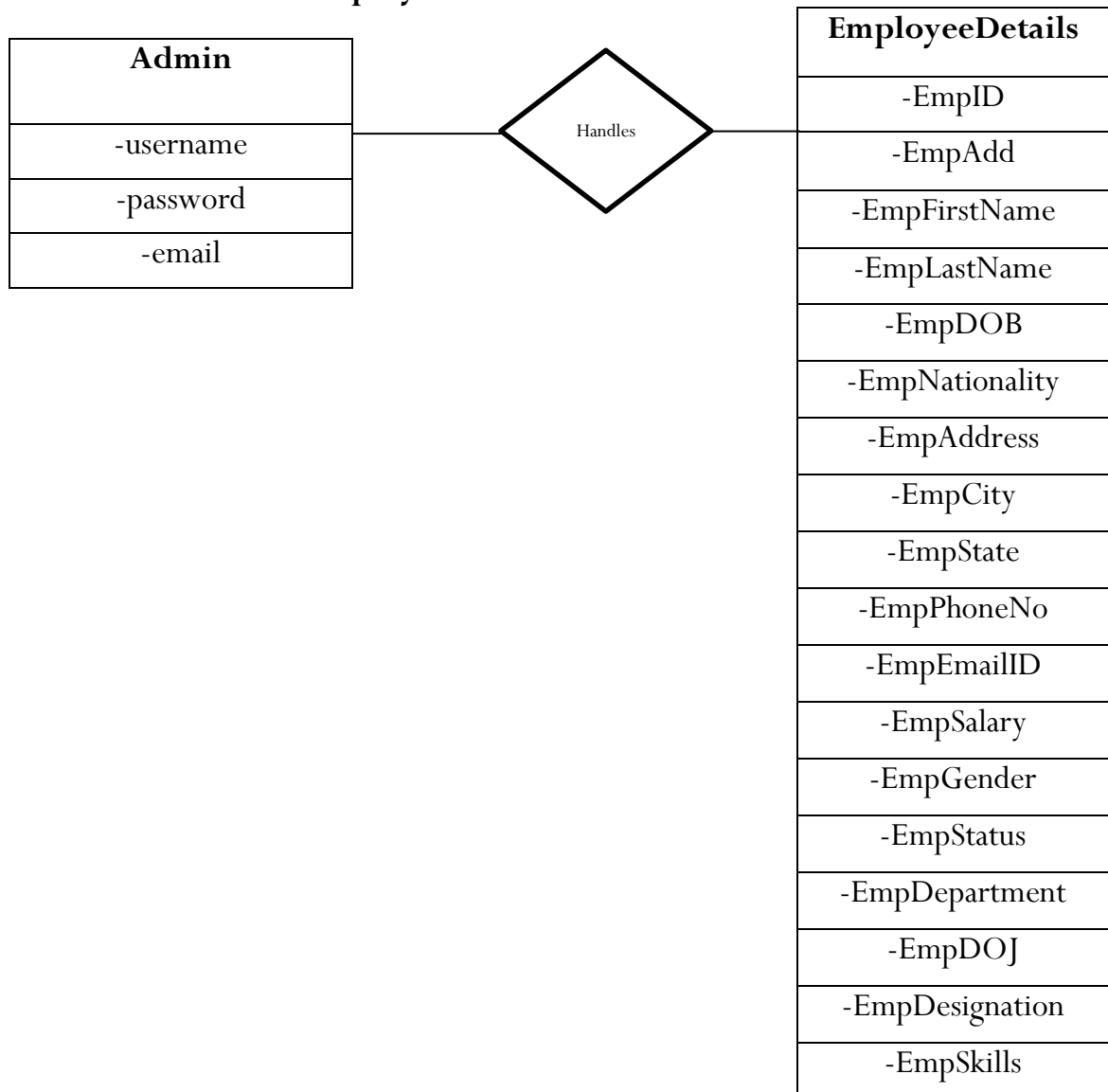
System Design

Converting ERD to tables

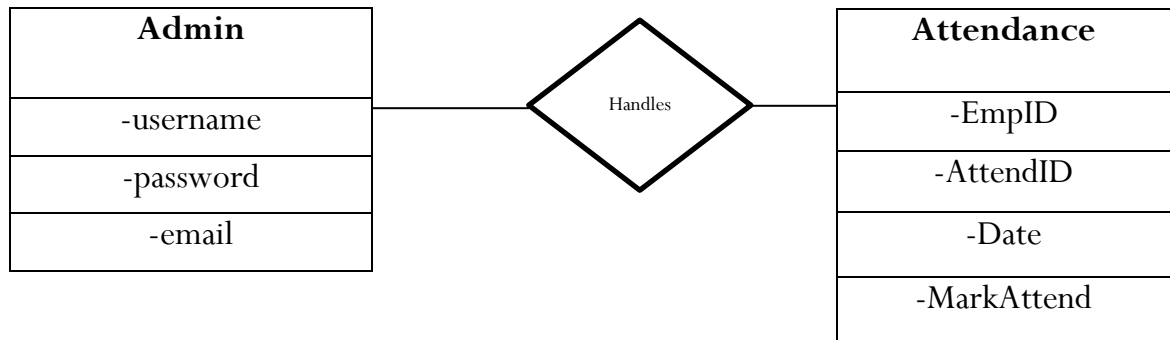
Admin And Database



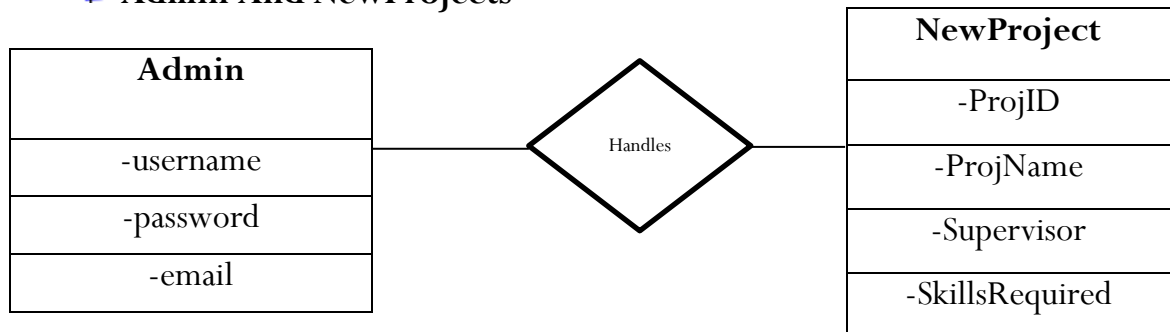
Admin And Employee



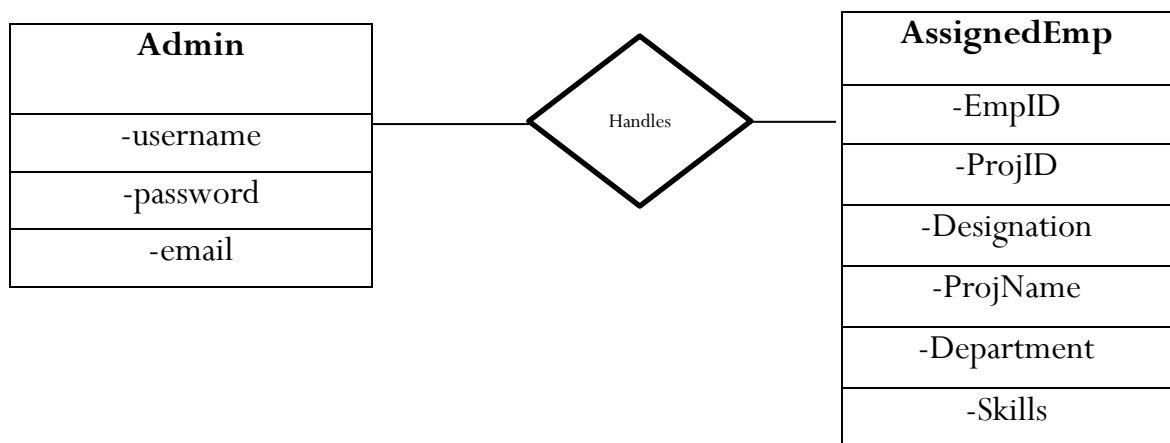
Admin And Attendance



Admin And NewProjects



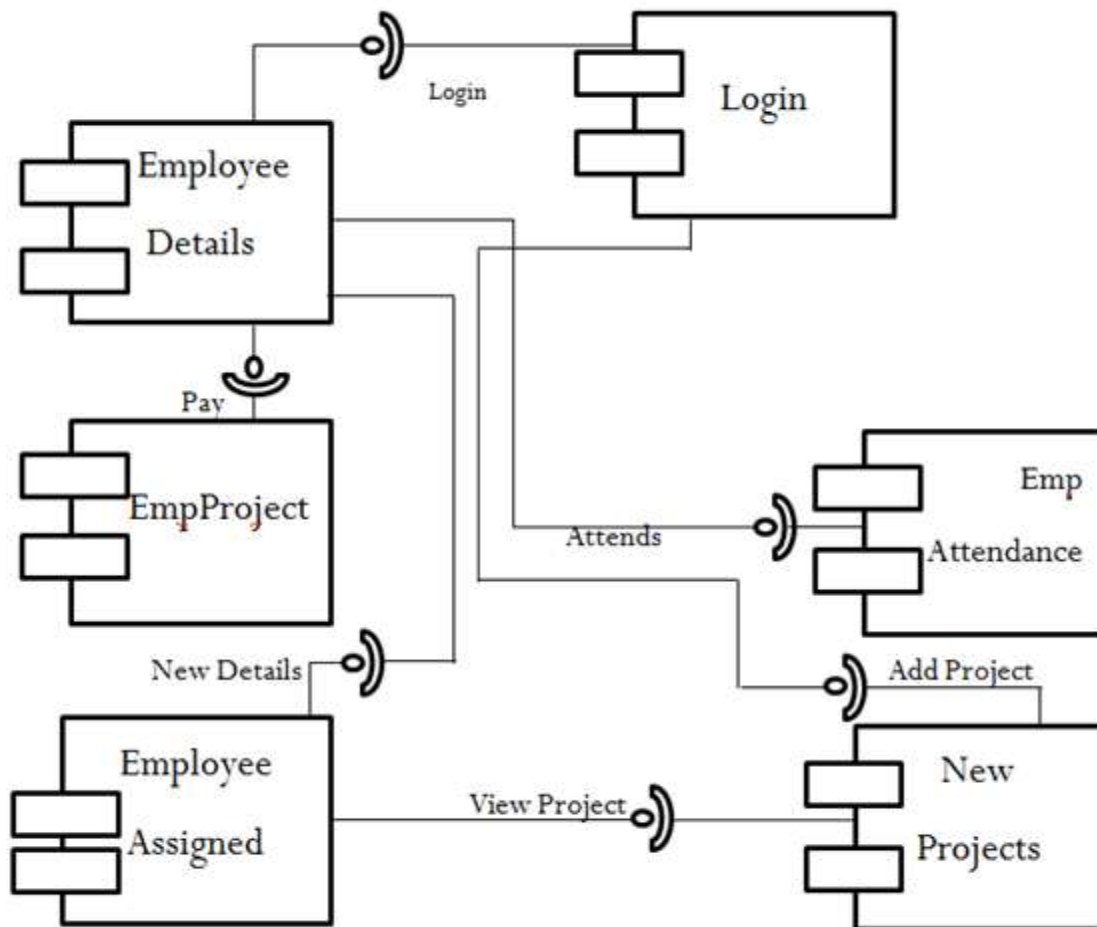
Admin And AssignedEmployee



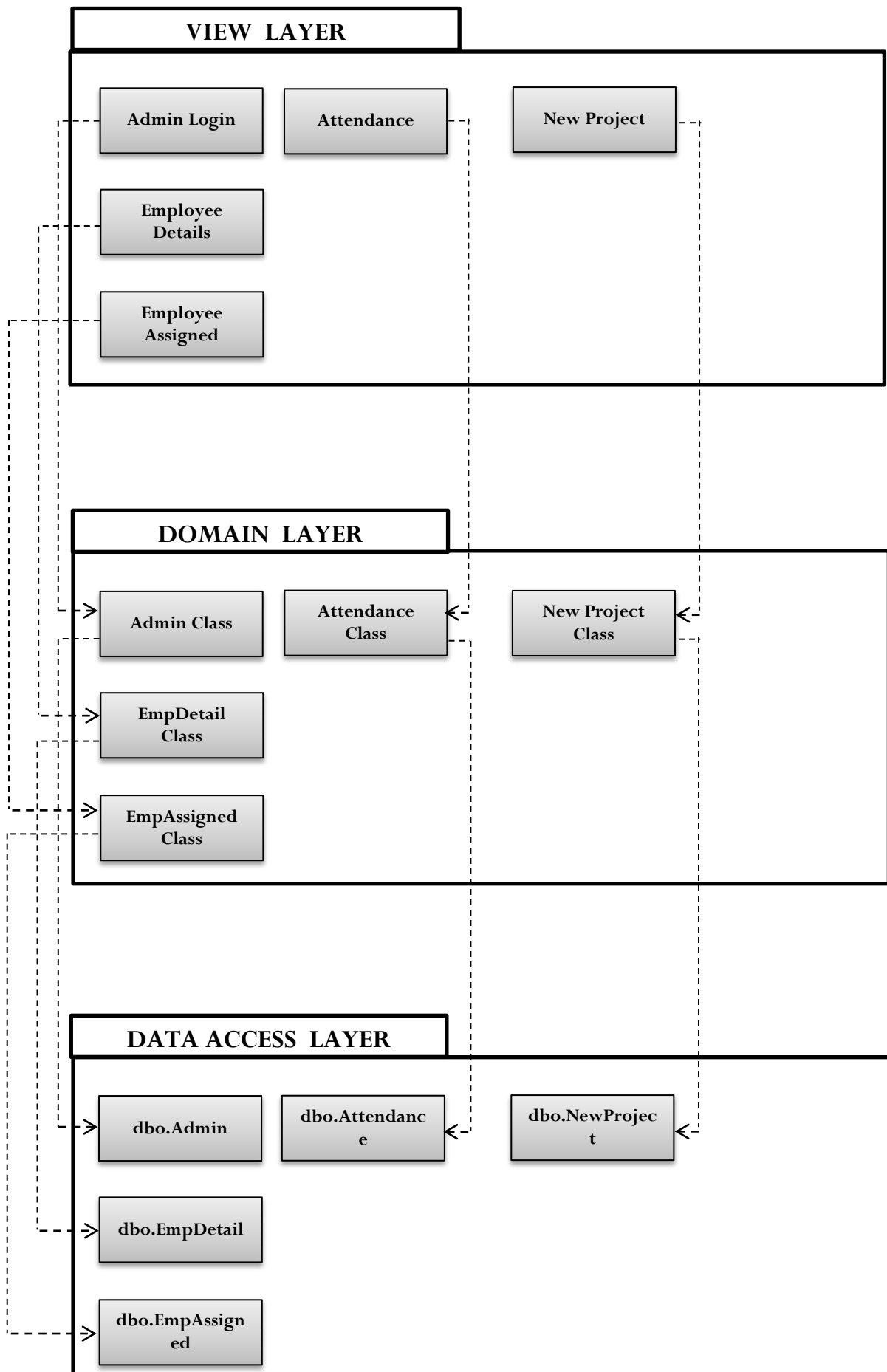
Data Dictionary

List Of Tables With Attributes And Constraints.

Component Diagram



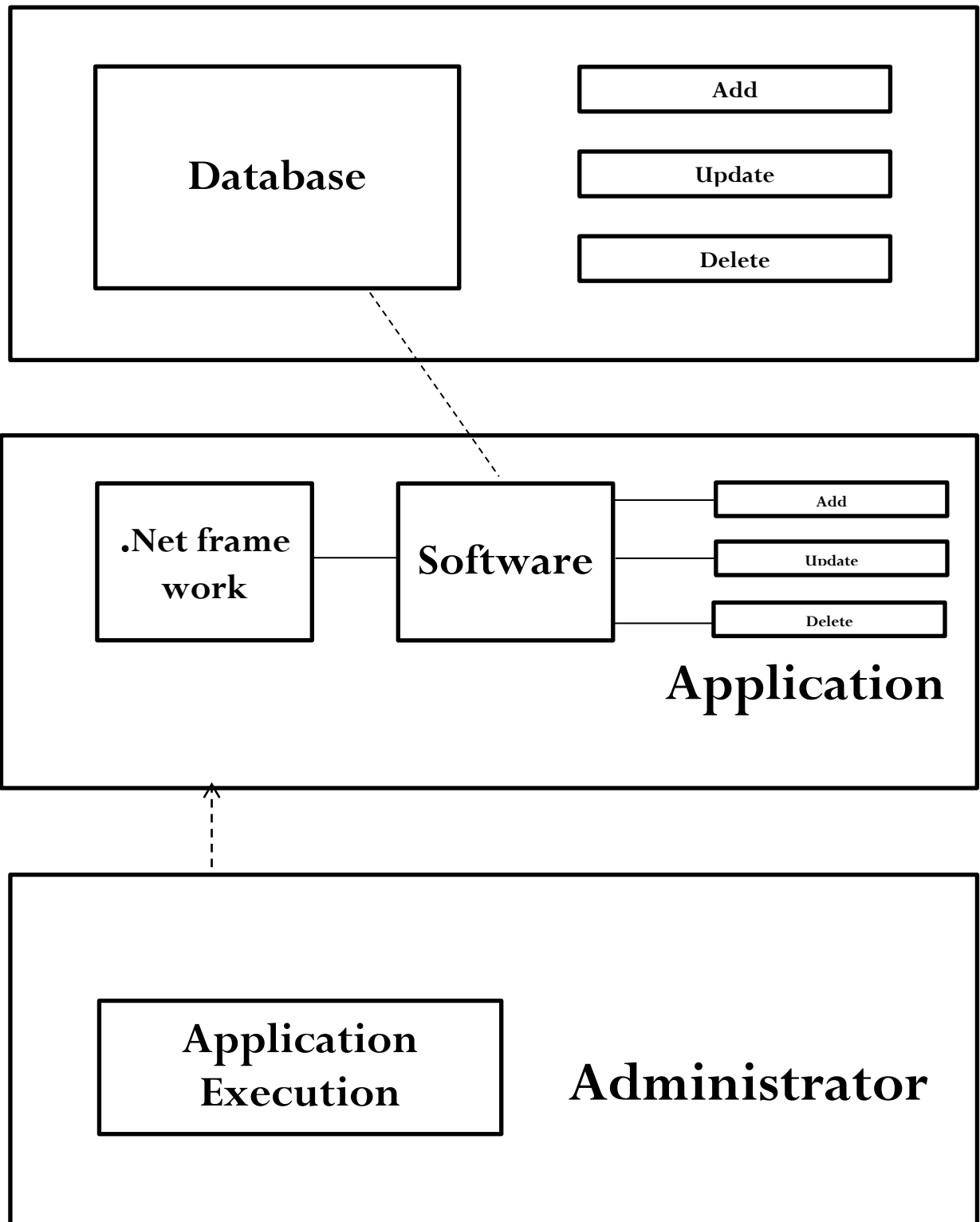
Package Diagram



CRUD Table

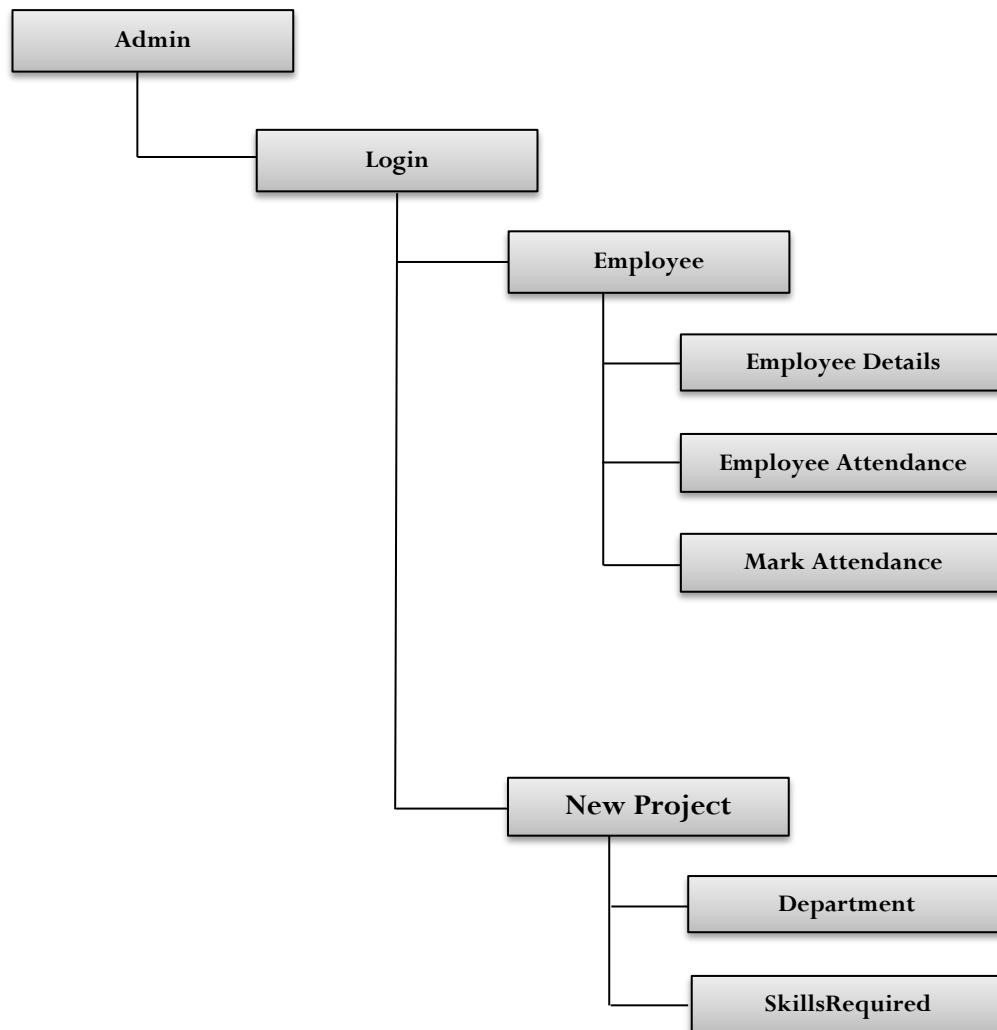
Table Process	Admin	Employee	Emp Attendance	New Project	Employee Assigned
Emp Main Form	C	R			
Emp Add Form	R,U	R			
Emp Modify Form	U				
Emp Remove Form	D				
Project Main Form	C	R		C	
Project Add Form	R,D	R		U	
Project Modify Form	U	R		U,D	
Project Remove Form	D	R		D	
Attendance Main Form	C	R	R		
Attendance Add Form	R,U	R	U		C,U
Attendance Modify Form	U		U		U
Attendance Remove Form	D		D		D
Mark Attendance Form	R,U,D				R,U
Add Skills Form	U,D			U	U
Add designation	U,D	R		U	U
Add Department	U,D			U	U
Leave Setup Form	U,D	R,U			C,U,D

Deployment Diagram



System Coding

Menu Tree Diagram/ Site Map



Validations

- i. **Validation for empty ID field:**
If the ID field is empty then display a message box— ID Field Empty.
- ii. **Validation for empty Password field:**
If the Password field is empty then display a message box— Password Field Empty.
- iii. **Validation for mandatory field:**
If the mandatory field is empty then display a message box— Field marked mandatory cannot be blank.
- iv. **Validation for Email field:**
If the Email field is not valid then display a message box— Invalid Email.
- v. **Validation for Employee code field:**
If the code entered is already present in employee table then display a message box— Code already exists.
- vi. **Validation for Project code field:**
If the code entered is already present in product table then display a message box— Code already exists.
- vii. **Validation for Attendance code field:**
If the code entered is already present in attendance table then display a message box— Code already exists.
- viii. **Validation for Department code field:**
If the code entered is already present in department table then display a message box— Code already exists.
- ix. **Validation for Employee leaves:**
If the leave entered is more than total number of leaves display a message box— Leave is unapproved.
- x. **Validation for Month Selection:**
If the selection of month is not made display a message box— Please select proper month.

xi. **Validation for Mobile Number:**

If the mobile number is not of 10 digits then display a message box— Please enter proper number.

xii. **Validation for Skills:**

If the code entered is already present in skills table then display a message box— Code already exists.

Test Cases, Test Data, Test Result

Form Name	Test Case	Test Data	State	Test Input Value	Expected Result
Login Form	User name and password is correct	User name and password correct	Valid	Admin and ***	Will allow to enter into main form
Employee Add Form	Mandatory fields fill, text values, numeric values field fill properly	All fields filled properly	Valid	Numeric fields, Text fields	Accurate Employee data saved in database
Project Add Form	Mandatory fields fill, text values, numeric values field fill properly	All fields filled properly	Valid	Numeric fields, Text fields, email ID fields	Accurate Project data saved in database
Designation Add Form	Mandatory fields fill, text values, numeric values field fill properly	All fields filled properly	Valid	Numeric fields, Text fields, email ID fields	Accurate Designation data saved in database
Required Skills Form	Mandatory fields fill, text values, numeric values field fill properly	All fields filled properly	Valid	Numeric fields, Text fields, email ID fields	Accurate required skills payment data saved in database
Employee Attendance Form	Mandatory fields fill, text values, numeric values field fill properly	All fields filled properly	Valid	Numeric fields, Text fields, email ID fields	Accurate Employee Attendance records saved in database

Screen Layouts

Maintenance and Bibliography

Future Enhancement

This software manages company's employee details and applications such as attendance details, employee leaves, Employee skills, department and many more.

It provides the Manager with effective tools to keep track of the records and easily manipulate them.

The software has wide scope in the future as its vast calculation of salary earnings and deduction.

In future it can be enhanced with some more features like:

- Distributed systems.
- External modules like TDS.
- Extra modules like overtime.
- Full financial accounting system.
- A complete payroll software.

Reference and Bibliography

- ✓ C# 2010 Programming Black Book Covers .NET 4.0
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By Dusan Petkovic
- ✓ Beginning SQL Server 2012 For Developers
By Robin Dewson

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