Employee Management System for Jazan University

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Introduction

Employees are the backbone of any company therefore their management plays a major role in deciding the success of an organization. Employees Management System makes it easy for the employer to keep track of all records. This software allows the administrator to edit employees, add new employees, transfer/promote/terminate employees. Each employee in the database is associated with a position can be added and edited when need arises. Employees can be transferred between positions easily without having to retype back their information in the database. It is possible to check to see if there are duplicate positions/employees in the database. Most of all, the employer can assign tasks to employees and assess their progress in order to keep track of employee performance.[1]

Expectations For The New System:

- The system should be able to provide a list of the employees, the times they worked, the tasks they have been doing etc.
- The system must be able to list what is currently in files.
- The system must provide easy access to employees 'details (name, id number, employee number, address) .[2]

1.1 Background

Organization Overview About Jazan University

The establishment of Jazan University (JU) was one of the most remarkable academic events in 2006 in Jazan Province. JU rests by the Red Sea on the southwest coast of Saudi Arabia. The emergence of JU was a significant further step to provide the local communities in Jazan Province

[1] - BANCIU, D. Informatizarea structurilor infodocumentare . Bucureşti: ARS DOCENDI, 2007.
[2] - Breeding, M. (2007), "An update on open source ILS", Computers in Libraries, Vol. 27 No. 2, pp. 27-29.

with unique educational opportunities with a modern touch, and up-to-date programs using the state-of the- art educational technologies. JU offers a number of highly demanded majors through many academic departments and centers.

Some key information about JU:

- Established in 2006 in Jazan Province, southwestern part of Saudi Arabia.
- Student enrollment about 50,000 students, male and female.
- Degrees offered : Bachelor degrees in most fields and diploma in some fields. The University has a plan to offer graduate studies in future.
- Campuses : Jazan , Sabya , Abu Arish , Farasan , Ad-darb, Samtah, Al-Daer, and Al-Ardah.
- Academic Calendar : By Semesters .

Faculties and Departments:

1. Faculty of Sharieah and law [Departments: Sharieah, Law]
2. Faculty of Science [Departments: Physics , Mathematics , Chemistry , Biology]
3. Faculty of Engineering [Departments: Mechanical, Industrial , Electrical , Civil , Chemical, Architecture]
4. Faculty of Computer Science and Information Technology [Departments :Computer science , Information systems , Computer Engineering and Networks]
5. Faculty of Medicine
6. Faculty of Dentistry
7. Faculty of Pharmacy [Departments: Clinical Pharmacy, Pharmacology, Pharmaceutical, Pharmacognosy, pharmaceutical Chemistry] .
8. Faculty of Applied Medical Sciences [Departments: Nursing, Medical lab technology, Physiotherapy, Clinical nourishment, Diagnostic radiology, Medical Records]
9. Faculty of Business Administration [Departments : Business Administration, Accounting, Marketing and E-commerce]
10. Jazan Community College [Departments: Administrative Sciences, Computer Science, Applied Medical Sciences]
11. Faculty of Arts and Humanities [Departments: English, Arabic, Islamic, Social Sciences]
12. Faculty of Design and Architecture
13. Faculty of Health Sciences
14. Faculty of allied sciences and nursing.

15. Faculty of health sciences and tropical diseases.

16. Faculty of Education

17. Other smaller colleges and departments

Supportive Deanships:

1. Deanships for Admissions and Registration

2. Deanship for Students Affairs.

3. Deanship for Scientific Research.

4. Deanship for Academic Development

5. Deanship for Distance and E-Learning.

6. Deanship for Library Affairs.

7. Deanship for Foundation Year.

8. Deanship for Community Service and Continuing Learning.

9. Deanship for Graduate Studies.

10. Public Relations an Mass Media.

Institutes and centers (within JU):

1. Center for Research and Environmental Studies.

2. Centre for Medical Research.

3. English Language Centre.

4. Center for Studies and Counseling Services.

5. Center for Science and Technology.

University's Vision :

Jazan University will be a gateway to the future for Jazan Province and the Kingdom, recognized nationally and internationally for academic excellence, competent graduates, high impact research, and service that deliver social and economic impact to the region and the world .

University's Mission:

Achieve academic excellence and prepare graduates to become regional and national leaders in business, industry, health, education, and government. Serve the community by addressing its problems and supporting its social and economic development. Produce internationally recognized research and new knowledge that meet the needs of Jazan Province, the Kingdom, and the world.

1.2 Statement Problem

Manual handling of employee information poses a number of challenges. This is evident in procedures such as leave management where an employee is required to fill in a form which may take several weeks or months to be approved. The use of paper work in handling some of these processes could lead to human error, papers may end up in the wrong hands and not forgetting the fact that this is time consuming. A number of current systems lack employee self-service meaning employees are not able to access and manage their personal information directly without having to go through their HR departments or their managers. Another challenge is that multi-national companies will have all the employee information stored at the headquarters of the university making it difficult to access the employee information from remote places when needed at short notice.

The aforementioned problems can be tackled by designing and implementing a web based HR management system. This system will maintain employee information in a database by fully privacy and authority access. The project is aimed at setting up employee information system about the status of the employee, the educational background and the work experience in order to help monitor the performance and achievements of the employee through a password protected system.

1.3 Objectives

The objective of this project is to provide a comprehensive approach towards the management of employee information. This will be done by designing and implementing an HR management system that will bring up a major paradigm shift in the way that employee information is handled.

The objectives of this system include:

- Design of a web based HR management system to fulfill requirements such as project management, leave management, report generation to assist in performance appraisal, and employee trainings.
- Well-designed database to store employee information.
- A user friendly front-end for the user to interact with the system.

1.4 Scope of the Employee Management System

The scope of this project will be limited to the following:

1.4.1   Employee profiles:

Employees will have access to their personal profiles and will be able to edit their details.

1.4.2   Electronic leave application:

Complete elimination of paperwork in leave management by enabling an employee apply for leave as well as check their leave status through the system. This will also enable the HR manager to accept/reject leave application through the system

1.4.3   Project Management:

Assign tasks and projects to employees, assign a project team and keep track of the progress.

1.4.4   Report generation:

The HR manager will be able to generate timely reports in order to monitor employees and this can be used for performance appraisals. The reports will be have all the information of an employee from educational background, trainings attended, projects done as well as technical skills.

1.4.5   Recruitment Process:

The admin will add an employee and a default password and employee id will be generated and sent to the new employees email. The HR manager will then have the ability to add an employee's information to the database.

1.5 Expected Benefits :

1.5.1   This system is expected to be user friendly and will offer easy access to data as well as services such as online leave management, e-recruitment, and timely report generation, monitoring employee trainings, task management, project management and employee tracking.

1.5.2   The employee is expected to have direct interaction with this system through a password protected user account therefore proposed system is web based to enable accessibility from any location as long as internet connectivity is available. This direct interaction with the system will enable employee self-service.

1.5.3   Without an employee management system, it's a tedious job for the human resource department to keep track of each and every employee and even harder for a project manager to assign tasks to the project team. The HR management system will be developed to provide information of employees and many other facilities at the click of a button.

1.5.4   Edit- A user with employee role can edit his/her specific personal information. Dean or HOD can only edit employees' personal information that is under his/her coverage except user role type. Admin can edit all information related to all employees' including their user role type.

1.5.5   Search- User with Dean/HOD role can search the content of database for the employees' who are under his/her coverage. HR and admin roles can search all the employees' information in the database. Search feature works on specific keywords showing employee's characteristics, peculiarities, skills, features, and etc. For example, HR wants to find employees' who are well trained in "Java Programming Language". He/she will write the specific keyword in the search bar and press the available search button. Afterwards, he/she will find a list of all the employees' who know "Java Programming".

1.5.6   Update authentication- This feature can be used only by admin role type. Admin can update the role type of a specific user. For example, an employee got promotion and his role type will be changed from employee role id to HOD or Dean role. Admin will be able to update this authentication mechanism.
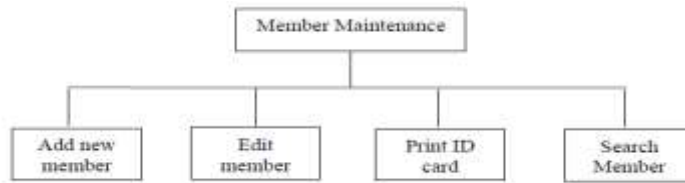
1.6 Employees Management System Modules :

1.   Authorization and Authentication Module :
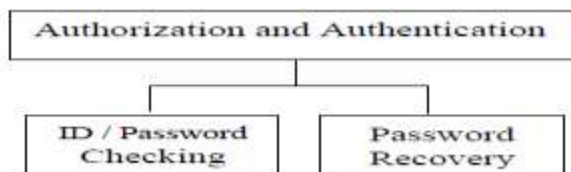
This module is used by user which means employee in the university , they need to login to the system using Id and password .

2.   **Member (Employee) Maintenance Module :**

This module can be accessed by either employee and admin to maintenance member profile or record such as search , add, edit and print ID card ,

The Employee Management System will be process in three Steps :

1. **Input :**

   - Username and password for login or new password for change. - Status/information of the inventory.

   - The reports from sales people.

2. **Process of module:**

   - Authentication of existing Username and password. - Validate the inventory.

   - Generate inventory report. - Generate inventory-trends.

3. **Output of module:**

   - Details of the reports from sales

   - Details of the inventory report and inventory-trends. - Inform the corresponding.

2. System Requirements Analysis

2.1 Software Requirement Specification (SRS)

The aim of the system is to developed **"Employee Management System"** software, which should automate the process to create and store employee details . The system is supposed to be used as a subsystem in a large office system, which could be manual system or a computerized one. Therefore, the proposed system must be able to function under both circumstances.

The proposed system is not a freeware and due to the usage of swings, becomes user interactive.

- The project demand a page of employee details that include:

- Employee's personal detail.

- Employee's salary, allowances, deductions.

Tools, Platform And Language Used

Front End:

The programming has been done using the language Java. It is Sun Microsystems's strategic language for platform independent programming. It is easy to use, efficient and flexible. This language is preferred because one can build a program using this object oriented and platform independent programming with less effort than with any other programming language. It's a natural language for building database applications, owing to the level and sophistication of the tools included with the language.

Back End:

Microsoft SQL Server is one of the leading database management systems available on the market today. It is easy to use and administer, and it comes with tools and wizards that make it easy to develop applications. The database itself has been redesigned to automatically perform many tuning functions, leaving you free to focus on most important tasks.

Platform Used:

The Accounts Automation System is targeted at Microsoft Windows platforms.

System Design

Process Diagram
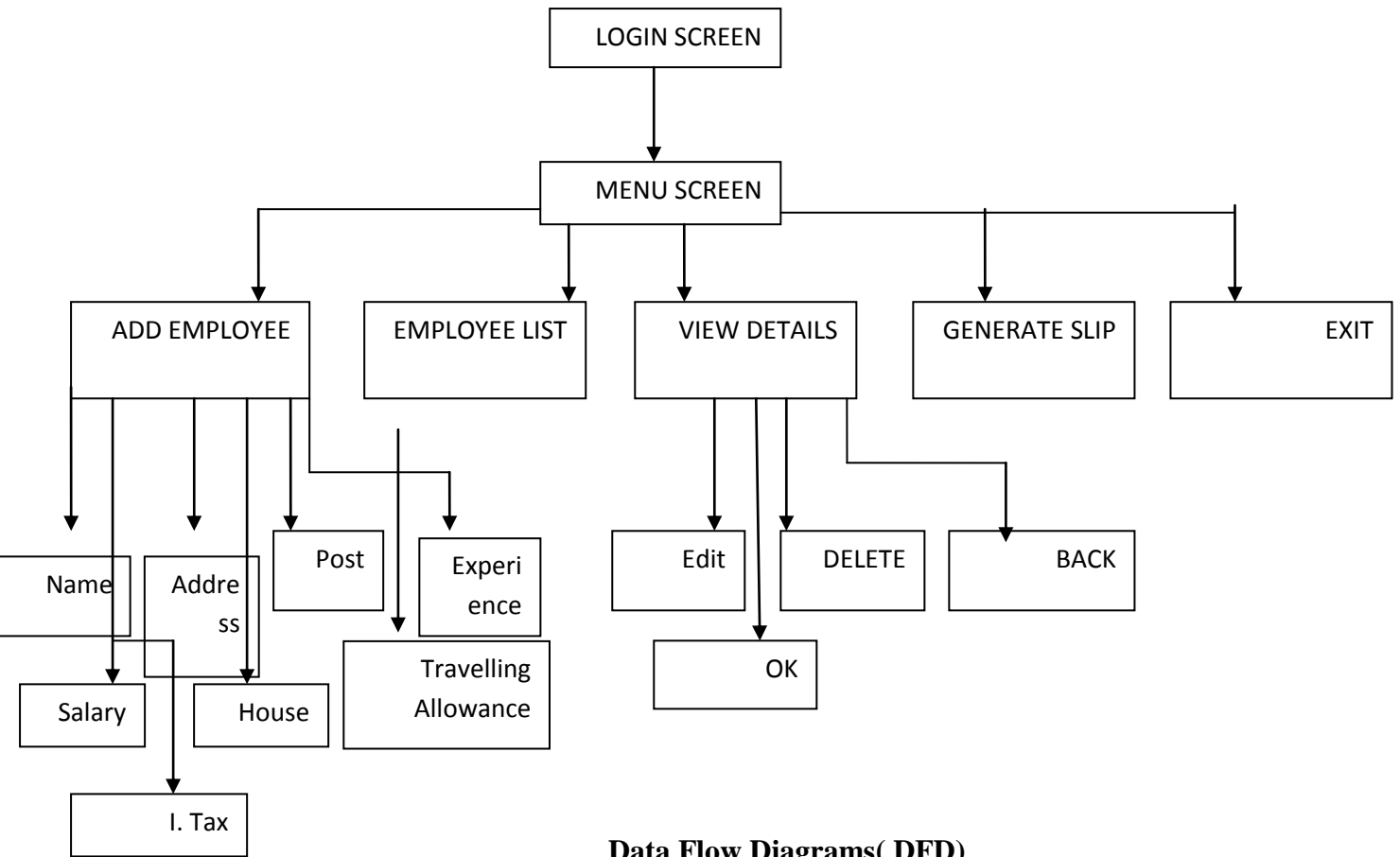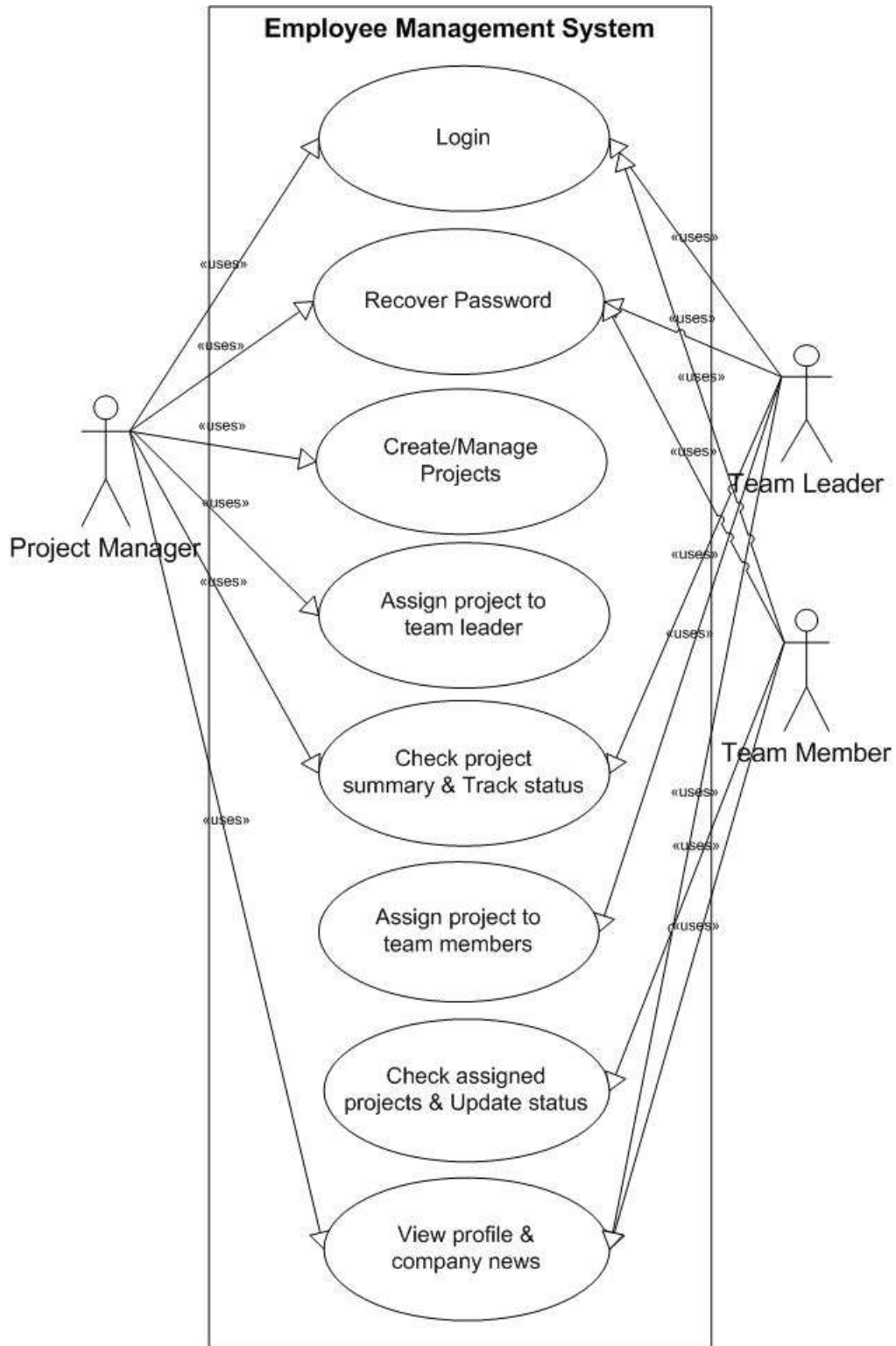

Data Flow Diagrams(DFD)

LEVEL 0 DFD:
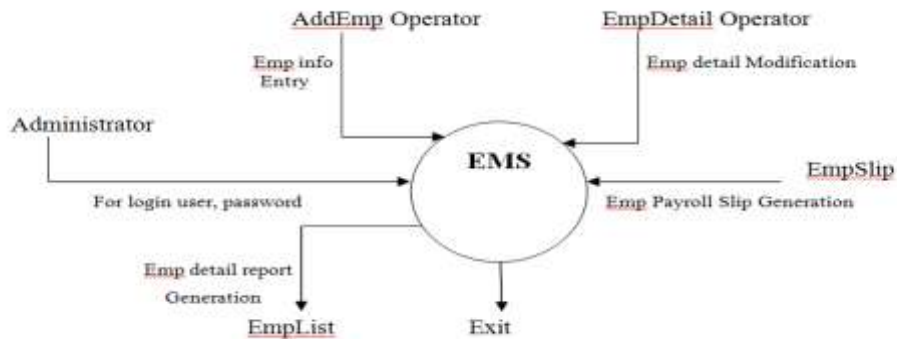
1. **Use-Case Diagram For Administration Module:-**

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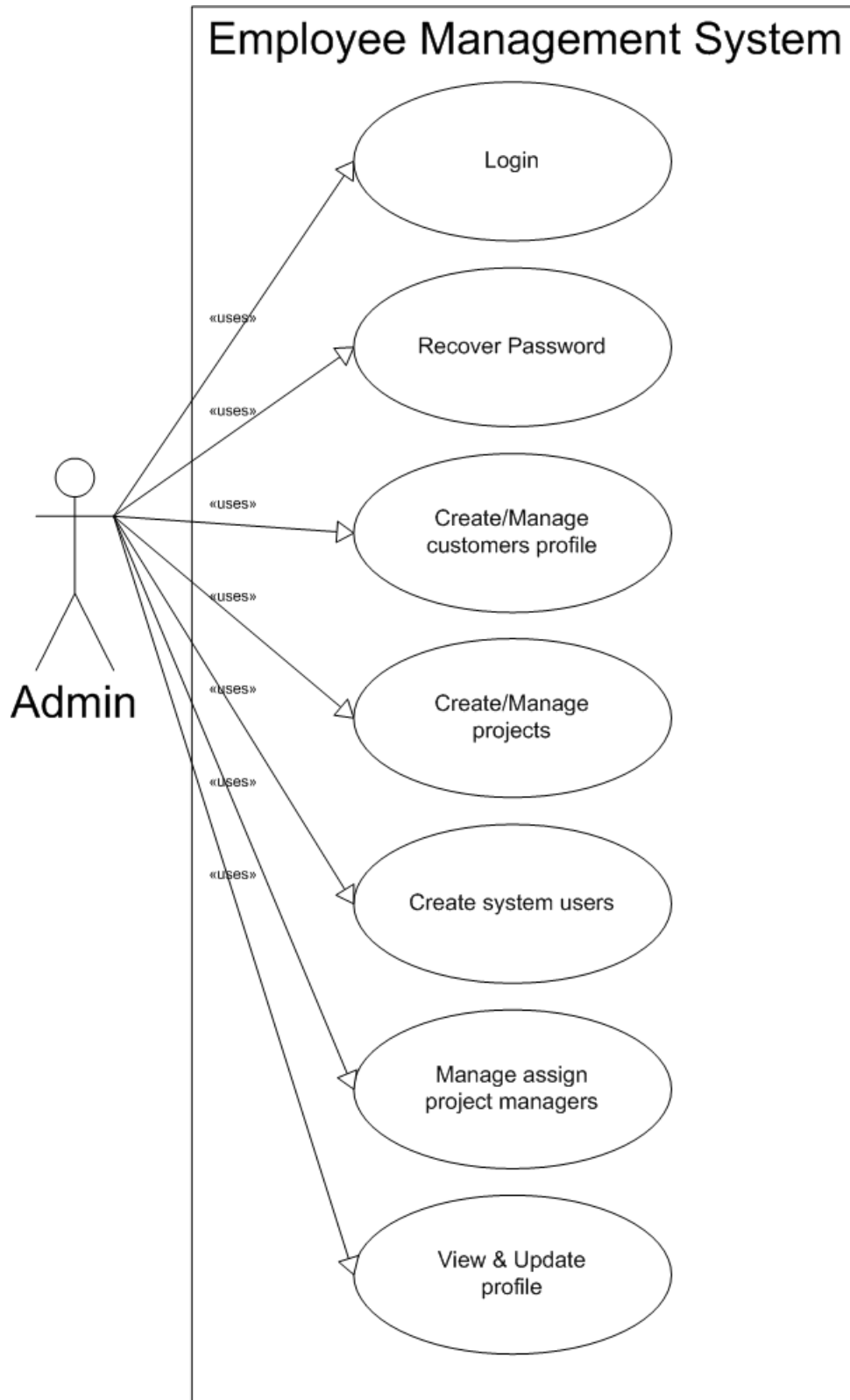
**2. Use-Case Diagram For Employees Information Module:-**
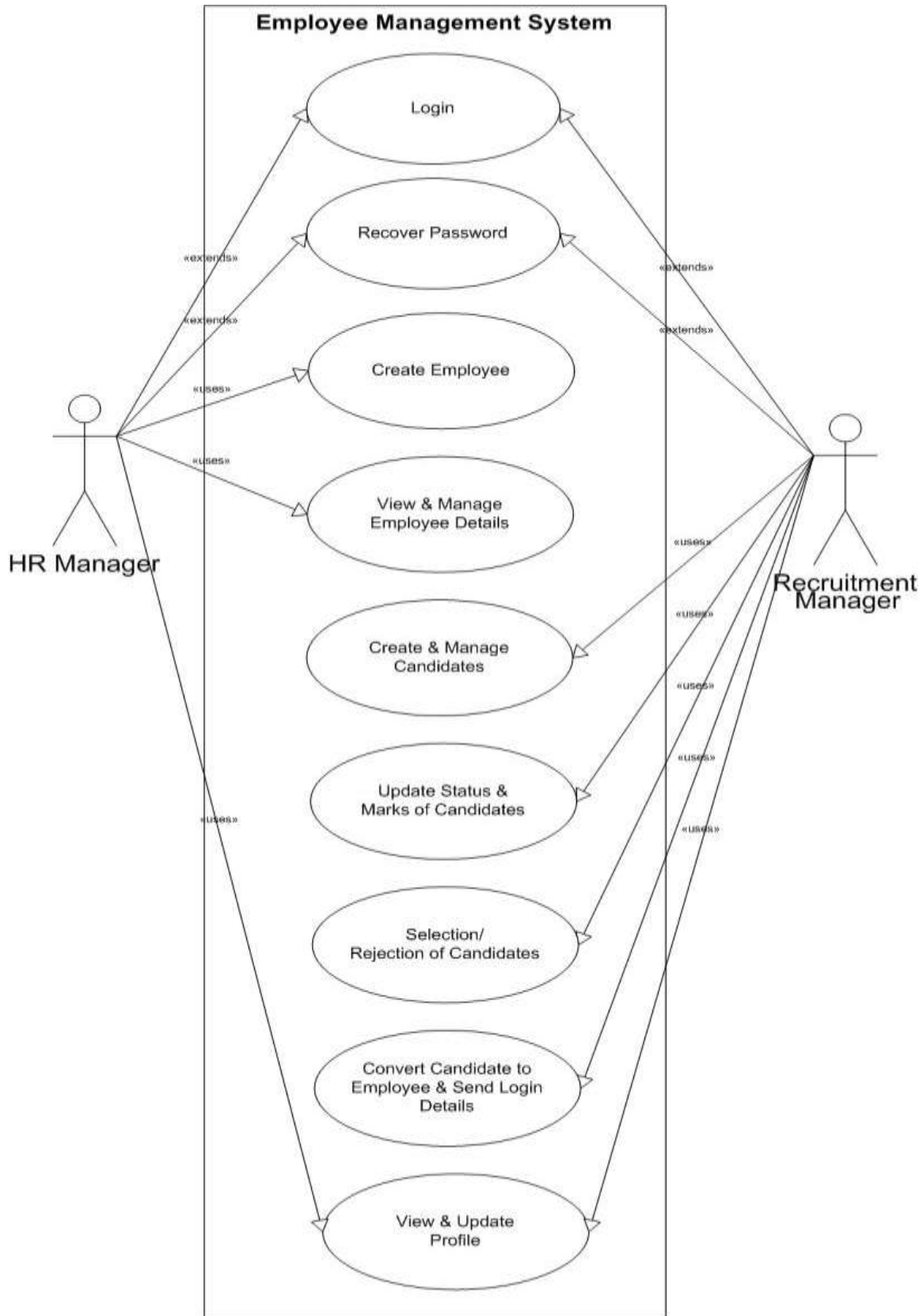
3. Diagram For Project Management Module:

Database Design

The database for this application is used to characterize all objects within the system, as well as the associations between these objects. For example, information needs to be stored to define all of the

paths within the system and all of the steps within the system, as well as to define which steps make up which paths. The database for this application is based on several primary objects: employee, path, step, step instance (a particular offering of a step), and step milestone. Each of these objects has a corresponding table in the database, with data fields corresponding to the attributes necessary to define the object.The so defined systems differentiate to each other and their development comprises a great variety of tasks to be resolved and implemented. The basic idea can be depicted on the Figure below:
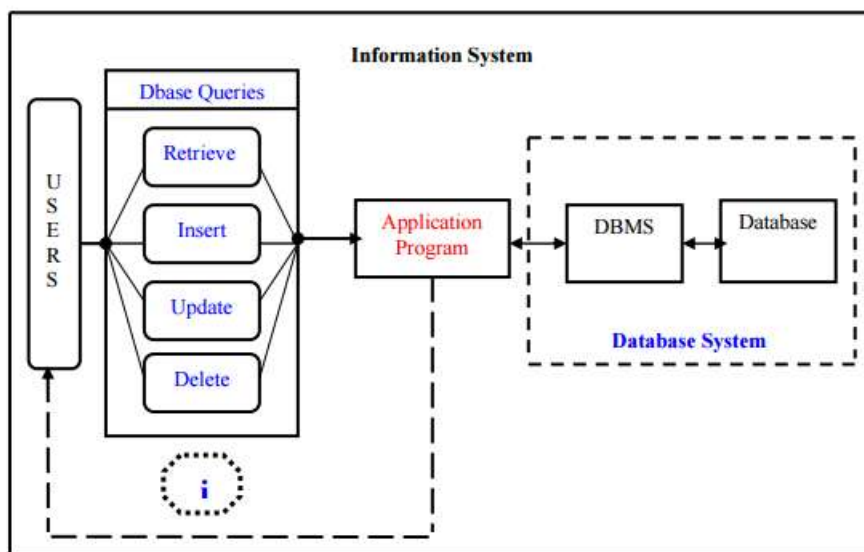
Figure 7. Data Base Information System .

Information system suggests a computer technology to be used in order to provide information to users in an organization (for instance), as for the purposes of data transformation into useful information; computer hardware and software are designed and used . A particular case is the Employees Management Information System development. This kind of systems are responsible for storing data of the staff within an organization and generating reports upon request.
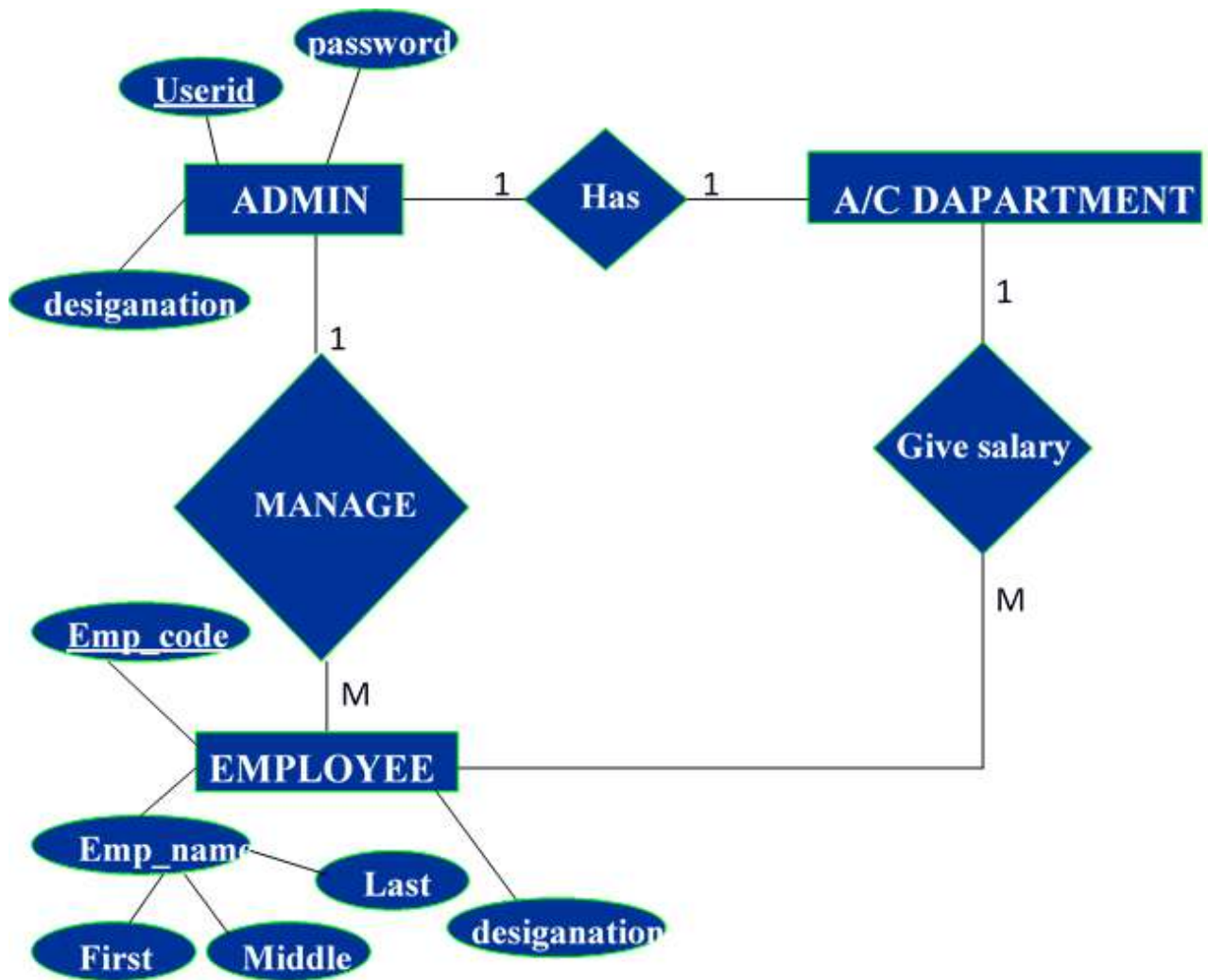
Database design :

Database for the employee management system is shown in the following figure :
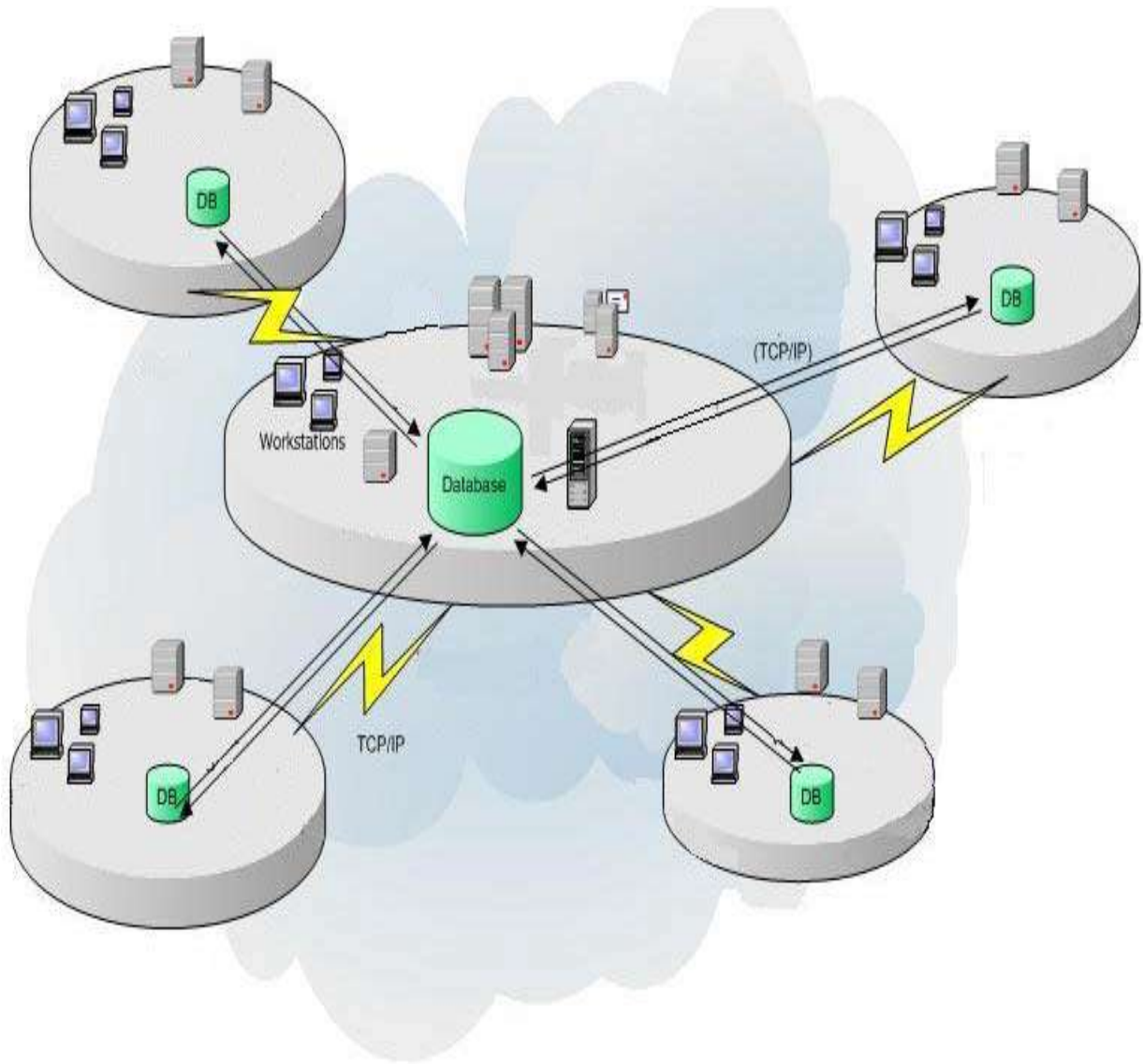
Figure 8. System Database .
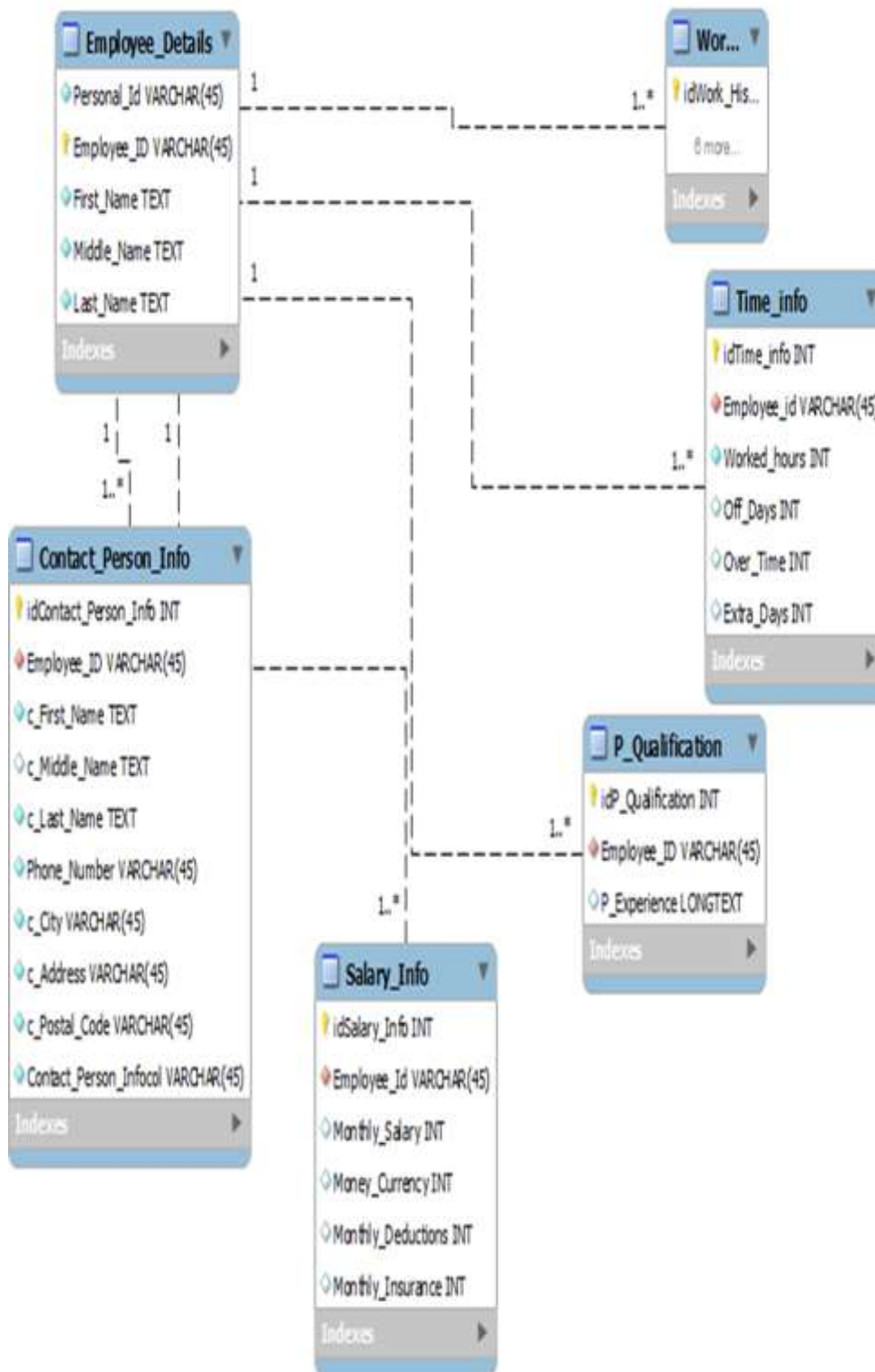
We can present example for database such as :

1. Login Table :

1)Login   Table contains user name and password

Field Name	Data Type/Size	Description
UNAME	Varchar(20)	User name
PASSWORD	Varchar(20)	Password

2. ADD Department Table :

DEPMT   Table contains details of different departments

Field Name	Data Type/Size	Description
DEPTID	Number	Department id
DEPT	Varchar(20)	Department
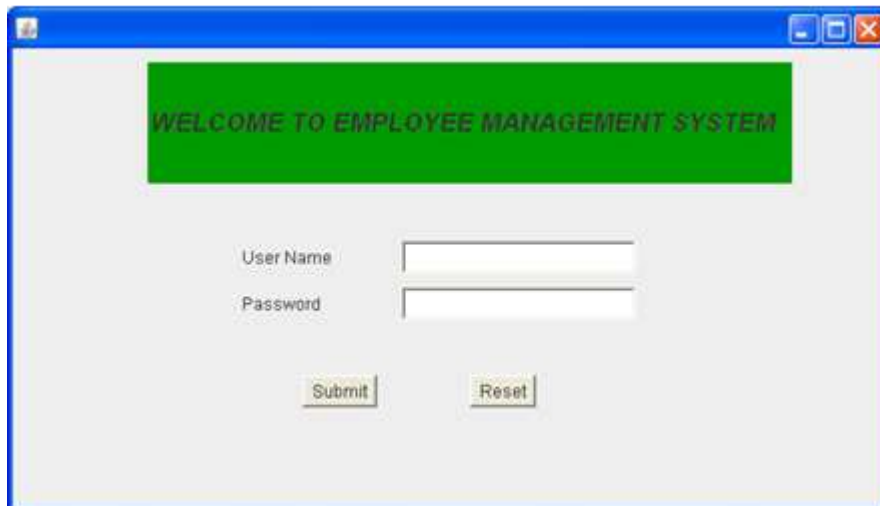
3. Add Employee Table :

Field Name	Data Type/Size	Description
EID	Number	Employee id
DEPT	Varchar(20)	Department
DESIG	Varchar(20)	Designation
ENAME	Varchar(20)	Employee name
GENDER	Varchar(20)	Gender
DOB	Varchar(20)	Date of birth
ADDRESS	Varchar(50)	Address
MAIL	Varchar(20)	Email address
CONT	Varchar(20)	Contact number
CATEGORY	Varchar(20)	Category
JD	Varchar(20)	Joining date
VALIDDATE	Varchar(20)	Valid date
DEPTFROM	Varchar(20)	Deputation from
DEPTTO	Varchar(20)	Deputation to
WORKAREA	Varchar(20)	Work area
REPTTO	Varchar(20)	Reporting to

 Test Cases

Test case for Jazan University

1. Login page :

This form show the process of login by user by enter username and password .then click submit to join system , or reset to cancel .
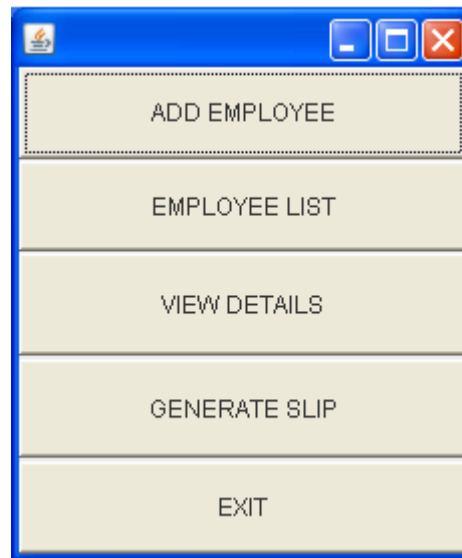
2. **Employee Screen Page :**

This is the window will be visible to each employee when he places his tag. Example is show with details appearing when employee, Omima places his tag.

3. **Admin Login Window page :**

This window is to validate where person to access records is ADMIN or not. Here username and password is asked to enter.

4. **New Employee registration Form :**

This form has many choose , when you choose the bottom ADD EMPLOYEE you go to the next page as :

you fill your information as the following form

This window is accessible to **admin only**. It shows New employee Entry form with various field to be entered. Upon successfully making the entry into the database a window with the message "successfully" will be displayed.

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