Report

On

Bangladesh University Employee Management System

Department of CSE

Batch: 52th (Day)

Group- D

Course Name: System Analysis and Design Lab

Course Code: CSE- 4205

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Abstract

This report is made to provide a clear concept about an Employee management system. This report shows about the information about users of this system, detailed activities of the users, requirement analysis, a helpful use case model, ER diagram to understand the entity relationships, a user interface along with input control chart of the system. All of the parts are very important to create a full-fledged Employee management system. The users play important roles because they use the system actively. But there are different types of users, so their roles are also different. Thus, the activities of the users will vary in this point and here many sides of this system can be visible easily by the usability of the users. As a result, the requirement analysis will also be diverse. This Employee management system report will cover all of those stated points including detailed Idea of an Employee management system.

Table Of Content:

Introduction:

Bangladesh University is an educational institution. Its main campus is located in Mohammadpur near the Jatiyo Sang shad Bhaban in Dhaka, Bangladesh. They have four more campuses. The university has 10 numbers of department and more than two thousand employees which are having many problems managing. They want a system to manage employees, which will contain all employee information. It will include all department employee's information, adding new employees, notices for employees, and leave information for employees. When the world is digital, the university wants all its employees to be managed in an online system. It requires an employee management system. An employee management system is a software, that helps employees to give their best efforts every day to achieve the goals of organization. It guides and manages employee's efforts in the right direction. It also securely stores and manages personal and other work-related details for employees.

List Of Users and Activities:

This system includes many types of users at many levels of the system. Each user leads an important role in the whole system. Actually here, a user is incomplete without another. Here three types of users can be found in employee management systems. They are employee, supervisor and admin. a summarized view about all of their role is given below.

1. **Employee**
   - View Employee profile
   - View All Department information
   - Create leave
   - View Notice all information
2. **Admin**
   - Department Management section
   - User Management section
   - Staff Leave Management section
   - Staff Notice Management section
   - Receive and Send Mail
3. **Supervisor**
   - Department Management section
   - User Section View
   - Staff Leave section View
   - Staff Notice View

Information with Activities:

In this section, we will identify the information of the activities of defined users. How they work, what is the working level and what are the specific needed information, everything is written down below:

Employee:

- **View Employee Profile:** Here employee can see their details information such as their bio-data, job position, working hour, salary, joining date and etc.
- **View All Department:** Here employee can see all department information.
- **View Staff Notice:** Here user employee can see all notice for staff which provides admin.
- **Create Leave:** Here employee can create their leave application.

Admin:

- **Department Management Section:** Here admin can create new department, edit department section, delete department and at the same time see all department information.
- **User Management Section:**

  1.Role management: Here admin can view roles, edit roles, delete roles and create roles for employee.

  2.User management: Here admin can create users' profile, edit users' profile, delete users' profile and view users all information.

  3.Permission Management: Here admin can create permission for others, delete permission, edit permission and view permission section all information. At the same time, admin has permission for edit, create, delete and view over all section activities.
- **Staff Leave Management Section:** Here admin can create leave application, delete leave application and approve leave application for employee.

- **Staff Notice Management section:** Here admin can create notice for all employee, edit notice, delete notice and also view notice section information.

Supervisor:

- **Department management Section:** Here supervisor can create new department, edit department section, delete department and at the same time see all department information like admin.
- **User section view:**

  1.Role view: Here supervisor can only view roles for employee.

  2.User view: Here supervisor can view only users all information.

  3.Permission view: Here supervisor can view only all permission section information and also view other section information but cannot edit, delete and create other section activities.
- **Staff Leave section view:** Here supervisor can only view leave application for employee.

- **Staff Notice section view:** Here supervisor can view only notice section information.

Requirement Analysis:

- **Website**
- **Hardware Requirement:** This website does not need a higher configure pc or mobile. All kind of minimum hardware users can use this website.
- **Software Requirement:**
  - 1.HTML5
  - 2.CSS3
  - 3.Bootstrap 5
  - 4.JavaScript
  - 5.PHP
- **Internet Technology Requirement:** User have must a good connection of internet.
  - a. **Mobile Network:** Any Operator(4g/3g).
  - b. **Wi-fi:** Any Version Of Wi-fi Connection.
- **Database Requirement:** MySQL.
- **Domain:** bangladeshuniversity.edu.bd
- **Hoisting:** 2 GB.

Employee Management System Use Case Model:
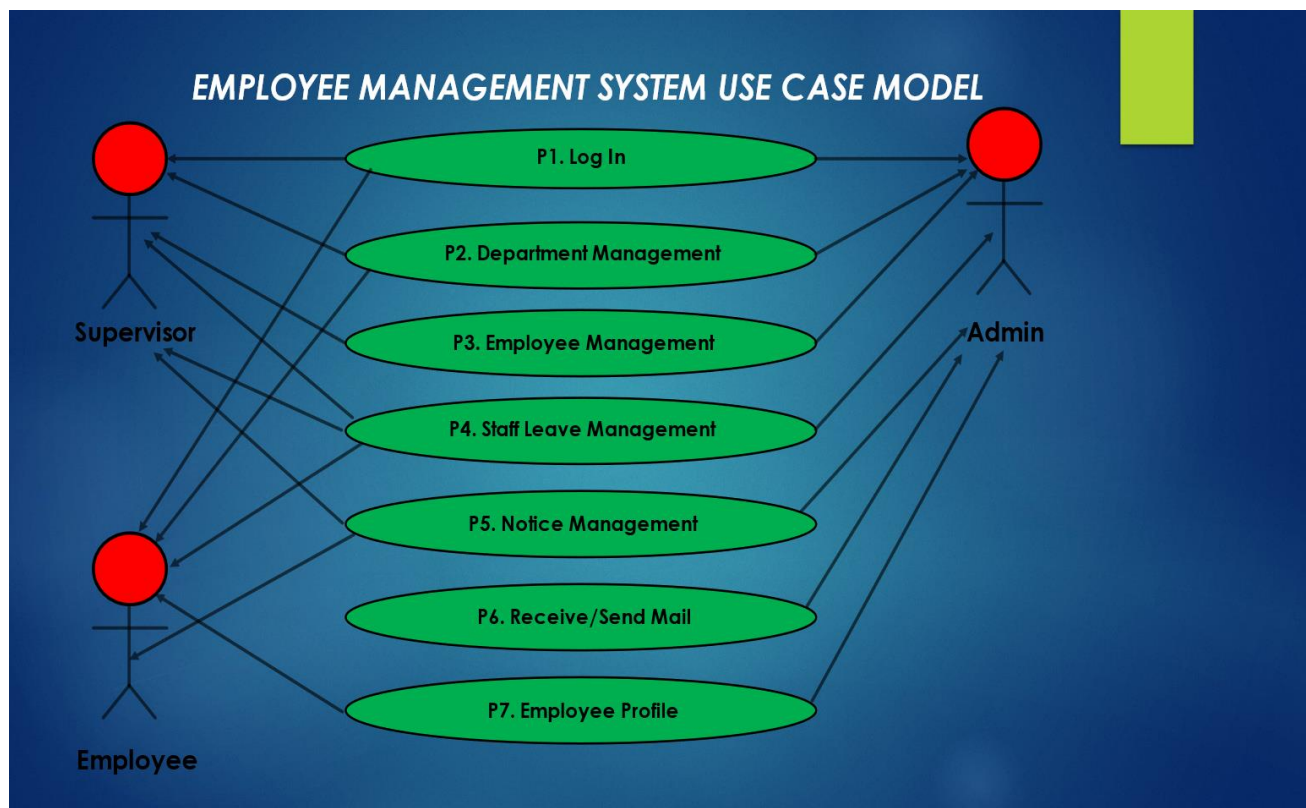
User And Activities: -

=>P1:1: Check Authentication
=>P2:2: User Recovery

P1:1: Check Authentication

P2:2: User Id Or Password Recovery

Admin

Supervisor
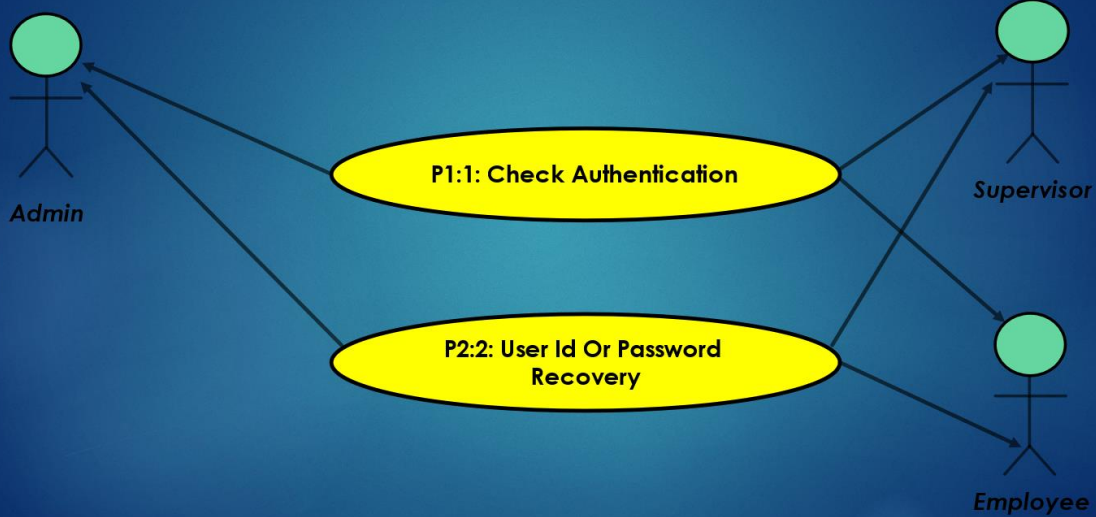
Employee

P2: Department Management: -

P2:1: Create Department

P2:2: View Department

P2:3: Delete Department

P2:4: Update Department
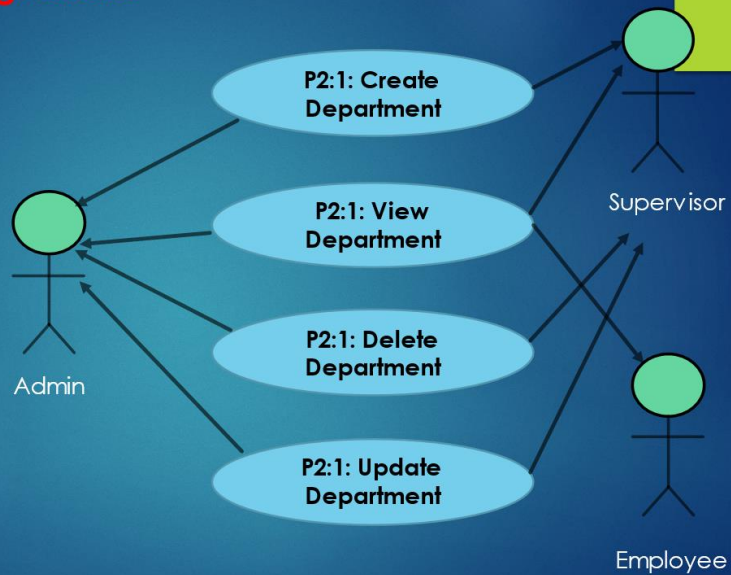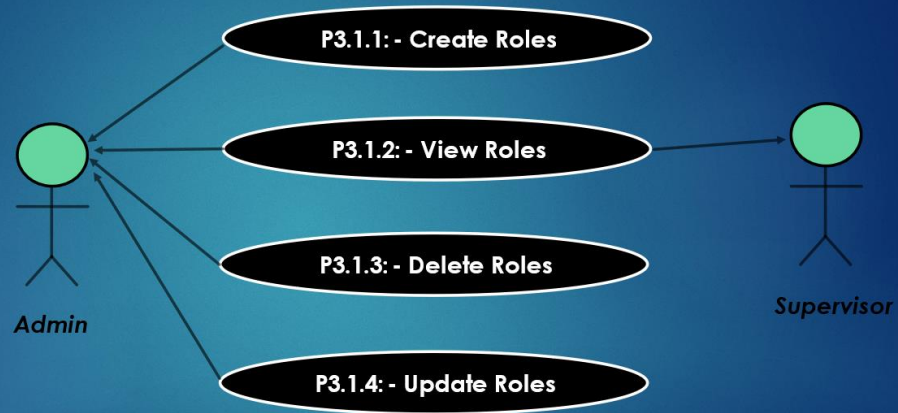
P2:1: Create Department

P2:1: View Department

P2:1: Delete Department

P2:1: Update Department

Admin

Supervisor

Employee

P3.1.1: - Create Roles

P3.1.2: - View Roles

P3.1.3: - Delete Roles

P3.1.4: - Update Roles

P3.1.1: - Create Roles

P3.1.2: - View Roles

P3.1.3: - Delete Roles

P3.1.4: - Update Roles

Admin

Supervisor

P3.2.1: - Create Employee Profile

P3.2.2: - View Employee Profile

P3.2.3: - Delete Employee Profile

P3.2.4: - Update Employee Profile

P3.2.5: - Search Employee Profile

P3.2.1: - Create Employee Profile

P3.2.2: - View Employee Profile

P3.2.3: - Delete Employee Profile

P3.2.4: - Update Employee Profile

P3.2.5: - Search Employee Profile

Admin

Supervisor

P3.3.1:- Create Permission

P3.3.2:- Update Permission

P3.3.3:- Delete Permission

P3.3.4:- View Permission

P3.3.5:- Give Permission

P3.3.1: - Create Permission

P3.3.2: - Update Permission

P3.3.3: - Delete Permission

P3.3.4: - View Permission

P3.3.5: - Give Permission

Admin

Supervisor
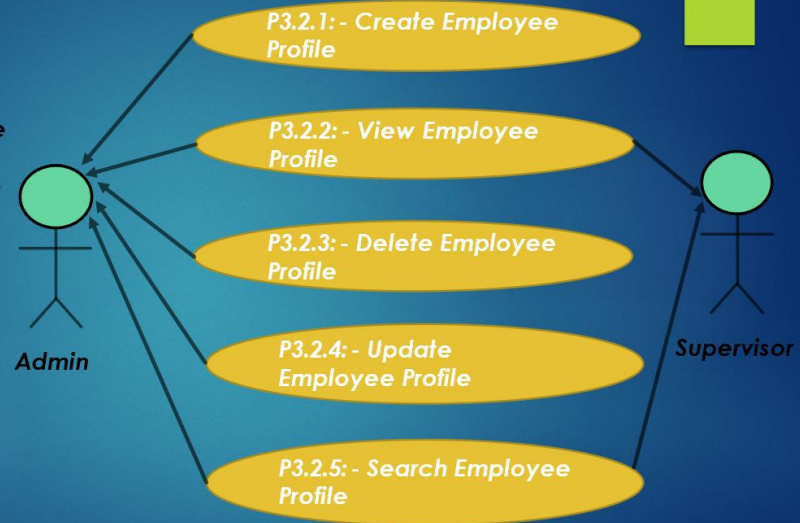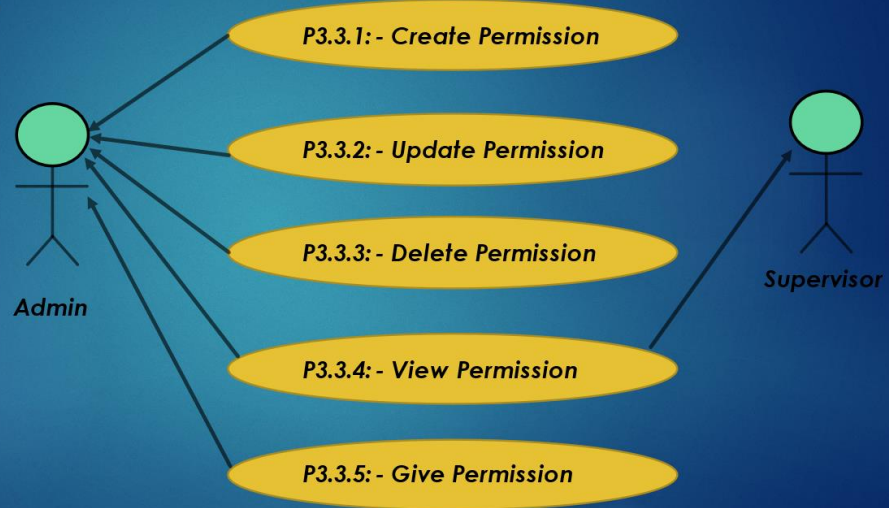
P4: Staff Leave Management:-

P4.1: Create Leave

P4.2: Delete Leave

P4.3: Approve Leave

P4.4: View Leave

P4.1: - Create Leave

P4.2: - Delete Leave

P4.3: - Approve Leave

P4.4: - View Leave

Admin

Supervisor
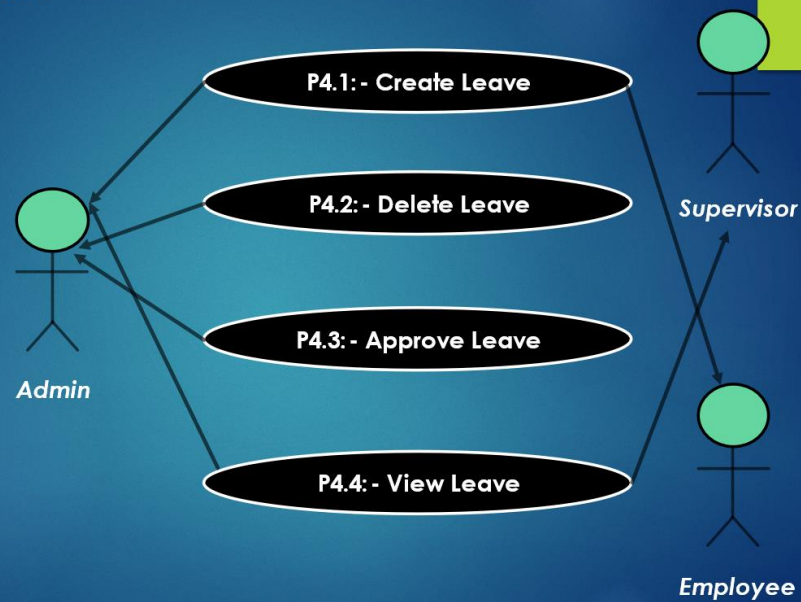
Employee

P5:- Notice Management

P5.1: Create Notice

P5.2: View Notice

P5.3: Delete Notice

P5.4: Update Notice

P5.1: - Create Notice

P5.2: - View Notice

P5.3: -Delete Notice

P5.4: - Update Notice

Supervisor

Admin
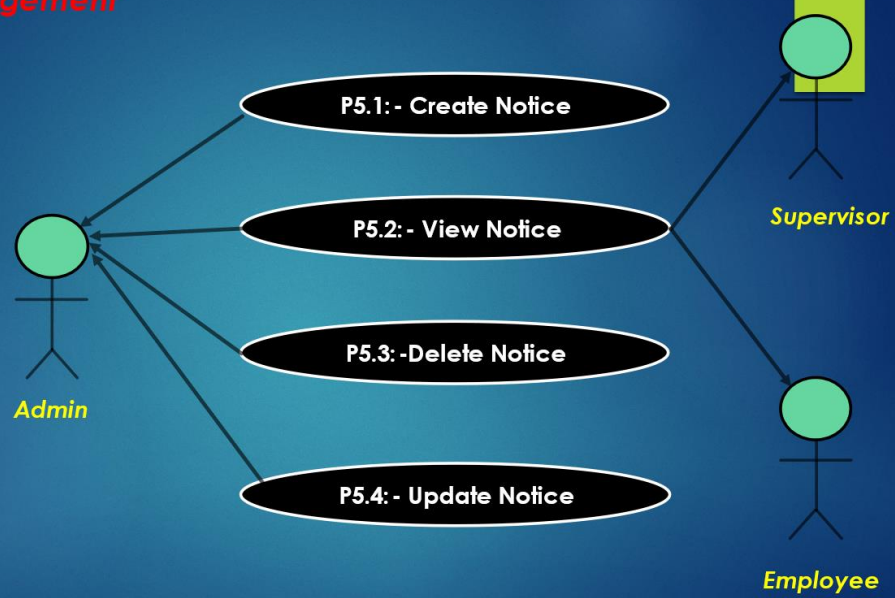
Employee

P6: Receive And Send Mail :-

P6.1: Receive Mail

P6.2: Send Mail

P6.1: Receive Mail

P6.2: Send Mail

Admin

P7: Employee Profile:-

P7.1: View Employee Profile

P7.1: View Employee Profile

Admin
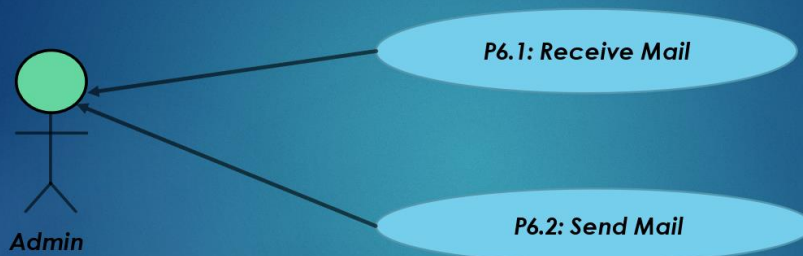
Employee
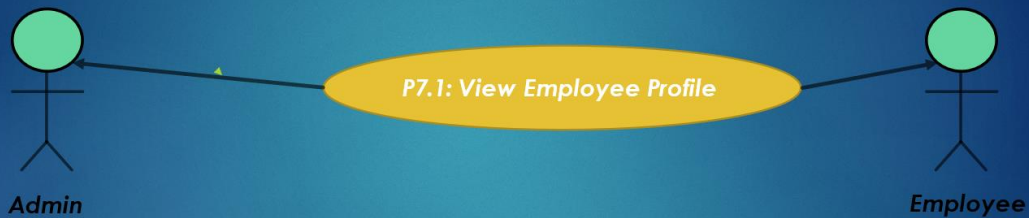
Normalization:

Normalization is a database design technique that reduces data redundancy and eliminates undesirable characteristics like Insertion, Update and Deletion Anomalies. Normalization divides the larger table into smaller table and links them using relationship. The purpose of normalization in SQL is to eliminate redundant data and ensure data is stored logically.

Database:-

❑ **Database Name: dbemployee**

➢ **Table Name:-**

❖ **tbuser:**

▪ user_ID(PK)

▪ Password

▪ Email

❖ **tbdepartment**:

- d-id(PK)

- d-name

- Description

- Tne(total number of employee)

tblemployee

- emp_id(pk)

- name

- gender

- date of birth

- address

- role_id(pk)

- picture

- email

- password

❖ **tbrole**

○ role_id(pk)

○ role_type

○ status

○ salary_range

❖ **tbleave**

○ leave_id(pk)

○ employee-id(fk)

○ leave-title

o   reason

o   approve-status

o   starting-date

o   ending-date

tbnotice:

o   Notice_id(pk)

o   title

o   description

o   date

o   status

Data Dictionary:

Tbuser

Field name	Data type	Field size	Prescription	Example	Nullable
User Id(pk)	Int	20	Unique id	234	Not null
Password	var	20	Unique password	a@gm	Not null
Emaiil	var	20	Unique email id	a@gmail.com	Not null

Tbldepertment

Field name	Data type	Field size	Description	Example	Nullable
D_id	Int	20	Unique D_id	202	Not null
D_Name	Char	20	D_Name	Cse	Not null
Description	Char	50	Deescription of department	Computer science and engineering	Not null
TNE	Int	20	Total number of employe	35	Not null

Tblemployee

Field Name	Date type	Field Size	Description	Example	Nullable
Emp_id(pk)	Int	21	Unique employee id	201	Not null
Emp_Name	Char	20	Employee name	Foysal	Not null
Gender	Char	20	Gender of employee	Male/Female	Not null
Date of birth	Var	21	Employee date of birth	15.09.200	Not null

Field name	Data Type	Field size	Description	Example	Nullable
Address	Var	21	Employee addressee	Dhaka	Not null
Role id(fk)	Var	21	Unique role id	R -3002	Not Null
Picture	img	200	Employee picture		Not null
Email	var	30	Unique employee email	ab@gmail.com	Not null
Password	var	30	Unique pass	1344ab	Not null

Tblrole

Field name	Data Type	Field size	Description	Example	Nullable
Role id(pk)	Var	21	Unique role id	R -343	Not null

Role type	Char	21	Employee's role type	Manager	Not null
Status	Char	21	Role status	Active	Not null
Salary_range	Int	230	Salary range	87000	Not null

Tbl-leave

Field name	Data type	Field size	Description	Example	Nullable
Leave id(pk)	Var	21	unique leave id	L-334	Not null
Employee id(pk)	Int	21	Unique employee id	453453	Not null
Leave title	char	21	Employee leave title	Medical leave	Not null
Reason	Char	50	Leave reason	Medical appointed	Not null
Approve status	Char	50	Leave approve status	Approve	Not null
Starting date	Var	24	Leave starting date	23.09.2021	Not null
Ending date	Var	24	Leave ending date	23.10.2021	Not null

Tbl notice

Field name	Data type	Field size	Description	Example	Nullable
Notice id	Var	21	Unique notice id	4534	Not null
Title	char	40	Notice title	Travel	Not null
Description	Char	250	Notice information	Travel Issue	Not null

Date	Var	18	Notice date	20.09.2022	Not null
Status	char	20	Notice status	active	Not null

ER Diagram:

An Entity-relationship model (ER model) describes the structure of a database with the help of a diagram, which is known as Entity Relationship Diagram (ER Diagram). An ER model is a blueprint of a database. The main component of E-R model is: entity set and relationship set. An ER diagram shows the relationship among entity sets. An entity is represented as rectangle and a relationship is represented by diamond shape in ER diagram.

Employee		Leave
Employee_Id (PK)	apply	Leave_Id (PK)
Name	m	
Gender		Employee_Id (FK}
Date Of Birth	identify Role	Leave_Title
Address	Role Id (PK)	Reason
Role_Id (FK)	m Role_Type	
Picture	Status	Approve Status
Email	1 Salary_range	Starting_Date
Password		Ending_Date
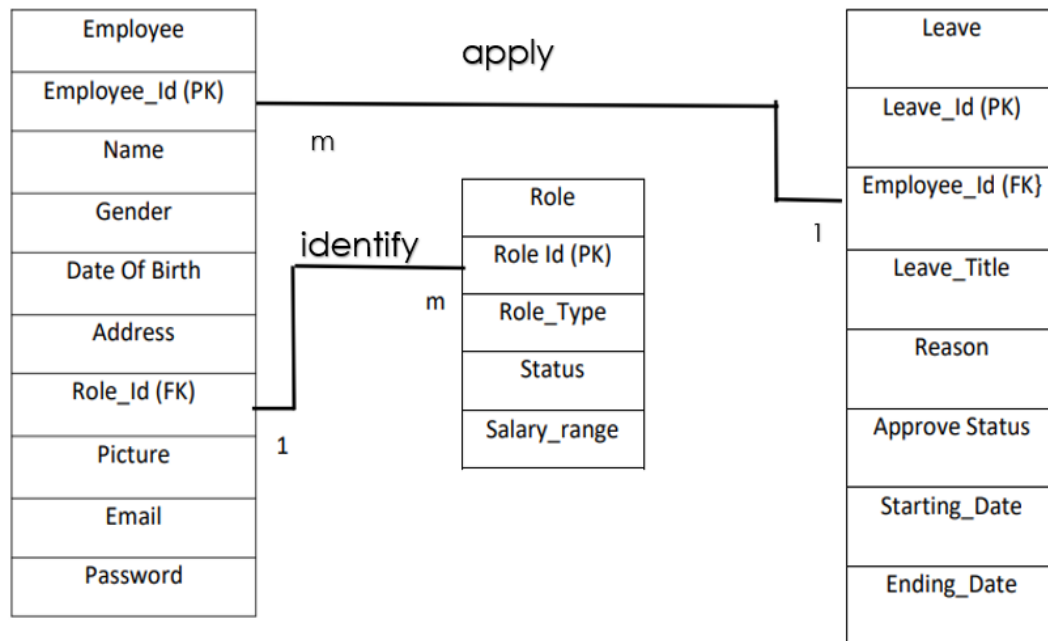
Hierarchical Input Process Output (HIPO)

HIPO model (short for hierarchical input process output model) is a systems analysis design aid and documentation technique from the 1970s, used for representing the modules of a system as a hierarchy and for documenting each module. It was used to develop requirements, construct the design, and support implementation of an expert system to demonstrate automated rendezvous. Verification was then conducted systematically because of the method of design and implementation.

- User : Admin

- User : Supervisor

- User : Employee

User : Admin

User : Supervisor

Home page : login

Dashboard

- Department management
  - create
  - update
  - Delete
  - view
- User management
  - Role management
    - view
  - Employee management
    - view
- Leave management
  - approve
  - update
  - delete
  - view
- Notice management
  - view

User : Employee

Home page: Login

Dashboard

- Department management
  - view
- Employee profile
  - View
  - Update request
- Leave management
  - view
  - Create
  - Delete
  - Update request
- Notice management
  - view
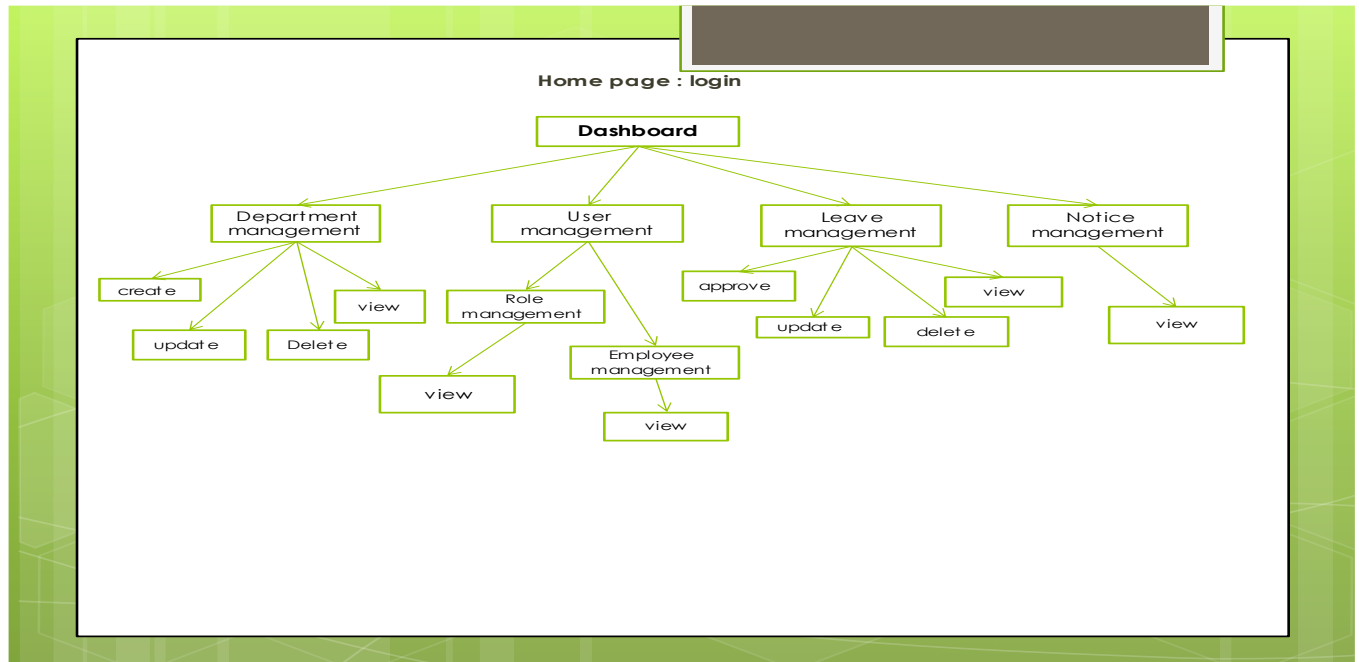
User Interface

Admin: LOGIN PAGE

LOGO	Banner

User ID
Password

Submit

Password Recovery

Admin: Password Recovery Page

Logo

Banner

User Email

Phone Number

Send OTP

Admin: After Submitting OTP Page

Logo

Banner

New Password

Confirm Password

Submit

Admin: Dashboard

Logo	Banner

Department management	User management	Leave management	Notice management
View	Role management	Create	Create
Create	Employee management	Approve	Update
Update		Update	Delete
Delete		View	View
		Delete	
		Search	

Back

ADMIN: Role Management

Logo	Banner

Role management

Create Role Page

Update

Delete

View

Back

Admin: Create role

Logo	Banner

Role id

Role type

Status

Salary

Back

Create role

Admin : View role

Logo	Banner

Role id

Role type

Status

Salary

Back   Update   Delete

Admin : Update Role Page

Logo	Banner

Role id

Role Type

Status

Salary

Back   Update

Admin : Update Role Page

Logo	Banner

Your Role Information Updated Successfully

Back To Role   Back To Dashboard

Admin : Role Delete Page

Logo	Banner

Role id

Salary

Back   Delete

Admin : Role Delete Page

Logo	Banner

Role information is deleted successfully..

Back to Dashboard

ADMIN : Employee Management

Logo	Banner

Employee management

Create

Update

View

Delete

Search

Back

Logo	Banner

Add Img

Employee name:

Employee Id:

Gender :

Date of birth :

Address:

Designation :

Email :

Password:

Back

Create profile

Admin: View profile page

Logo	Banner

Img

Employee name:

Employee id:

Gender :

Date of birth :

Address:

Designation :

Email :

Password

Back   Update   Delete

Admin: Update Profile Page

Logo	Banner

Add Img

Employee name:

Employee Id:

Gender :

Date of birth :

Address:

Designation :

Email :

Password:

Back   Update

Admin: Update profile page

Your profile is updated successfully.

Back to profile   Back to dashboard

Admin: Delete Page

Logo	Banner

Add Img

Employee name:

Employee Id:

Gender :

Date of birth :

Address:

Designation :

Email :

Password:

Back   Delete

Admin: Delete page

| Logo | Banner |

Your profile is deleted successfully.

Back to Dashboard

Admin : Department Management

| Logo | Banner |

Department management

View

Create

Update

Delete

Back

Admin : Create department

Logo	Banner

Department name

Department id

Department description

Total number of employee

Back   Create department

Admin: View department page

Logo	Banner

Department name

Total number of employee

Department Description

Total Number Of Employees

Back   Update   Delete

Admin: Update department page

Logo	Banner

Department name

Department Id

Department Description

Total Number Of Employees

Back   Update

Admin: Update department page

Logo	Banner

Department information is update successfully

Back to department

Back to dashboard

Admin: Delete page

Logo	Banner

Department name

Department Id

Description

Total number of employees

Back   Delete

Admin: Delete page

Logo	Banner

Department information is deleted successfully

Back to dashboard

Admin: Leave management

Create

Approve

Update

Delete

View

Back

Admin: Create leave page

Logo	Banner

Leave id

Employee id

Leave title

Reason

Approve status

Starting date

Ending date

Baack
Create leave

Admin: Approve leave page

Logo	Banner

Leave id

Employee id

Leave title

Reason

Approve status

Starting date

Ending date

Baack
Approve leave

Admin: Update page

Logo	Banner

Leave id

Employee id

Leave title

Reason

Approve status

Starting date

Ending date

Back	Update	Delete

Admin : Update page

Logo	Banner

Leave information is update successfully..

Back to leave	Back to dashboard

Admin: Delete page

Logo	Banner

Leave id

Employee id

Leave title

Reason

Approve status

Starting date

Ending date

Back

Delete

Admin: Delete page

Logo	Banner

Leave information is deleted successfully

Back to leave

Back to dashboard

Admin: Create notice management

Logo	Banner
Create	
Update	
View	
Delete	

Back

Admin : Create notice page

Logo	Banner
Notice id	
Notice title	
Description	
Date	
Status	

Back   Create

Admin : View notice page

Logo	Banner
Notice id	
Notice title	
Description	
Date	
Status	Back Update Create

Admin : Update Notice

Logo	Banner
Notice id	
Notice title	
Description	
Date	
Status	Back Update Create

Admin : Update page

Logo	Banner

Notice information is updated successfully

Back to notice   Back to dashboard

Admin : delete page

Logo	Banner

Notice id

Notice Title

Description

Date

Status

Back   Delete

Admin : delete page

Logo	Banner

Notice information is deleted successfully

Back to notice   Back to dashboard

Supervisor: login page same as admin login page

Supervisor: Password Recovery Page same as admin password recovery page

Supervisor: After Submitting OTP Page same as admin submitting OTP Page

Supervisor : Dashboard

Logo	Banner

Department management	Employee user management	Leave management	Notice management
View	Role management	Approve	View
Create	Employee management	Update	
Update		View	
Delete		Delete	

Back

Supervisor: Department management same as admin Department management

Supervisor: user management

Logo	Banner

User management

Role management

Employee management

Back

Supervisor: role management

Logo	Banner

View

Back

Supervisor : employee management

Logo	Banner

View

Back

Supervisor: leave management

Logo	Banner
Create	
Approve	
Update	
Delete	
	Back

Supervisor: approve leave page

Logo	Banner
Leave id	
Ending date	
	Back Approve leave

Input controls:

Input control is a control chart about which input in valid and which is not for this system. Input controls are the interactive components in our app's user interface.

Input Field Name	Input Type	Description	Control	Sample	Length	Required?	Error Report
ID	Text	Admin,Supervisor User ID	Only Number Are Allowed	201831052067	10	Yes	Error Input Type
Password	Password	Admin,Supervisor User Password	At Least 8 Character	+123%75@67	15	Yes	Invalid Password Type
Email	Text	Admin,Supervisor User Email	Must Contain A Valid Email Address From,No Capital Letters Or" "	mdifti76@gmail.com	25	Yes	Invalid Email Type
Name	Text	Admin,Supervisor User Name	Only letters and " " is allowed	Ishtiaq Rahman Ifti	30	Yes	Please Enter Your Name
Gender	Ratio	User Gender	Only One Value Is Checked	Male/Female/Other	10	Yes	Please Enter Your Gender
Date Of Birth	Calender	User Date Of Birth	Only letters and " " is allowed	22-06-2000	30	Yes	Your Date Format Is Not Correct
Address	Text	User Address	Only Text And Number Allowed	Chatkhil,Noakhali	30	Yes	Please Enter Your Address
Time And Date	Calender	Leave Date And Notice Date	Only letters and " " is allowed	12:00 PM 11-4-2022	40	Yes	Your Date Format Is Not Correct
Roll-Type	Drop Down List	User Roll-Type	Only One Value Is Checked	Manager	20	Yes	Please Select Your roll-Type
Image	File	User Image	Only jpg,PNG,Vector,SVG,GIF Is Allowed		512Kb	Yes	Your File Size Or File Type Does Not Match

Conclusion: In this report, actually describes initial investigation on employee management system which organization is Bangladesh university. A system analysist can initial investigate over the organization by some basic steps such as knows about the organization, many types of users of organization, many kinds of activities of different type of users, broad description of their activities and requirement of this organization. Employee management systems also offer solutions to increase employee engagement and ultimately impact retention. We're able to work with employees to establish goals, make them feel valuable and develop a path for their success.

As a future work, some additional staff could be implemented and integrated into the application code making it much more reliable and flexible, especially what concerns a pay-roll module, for instance.

>>>>The End<<<<