PROJECT MANAGEMENT SYSTEM

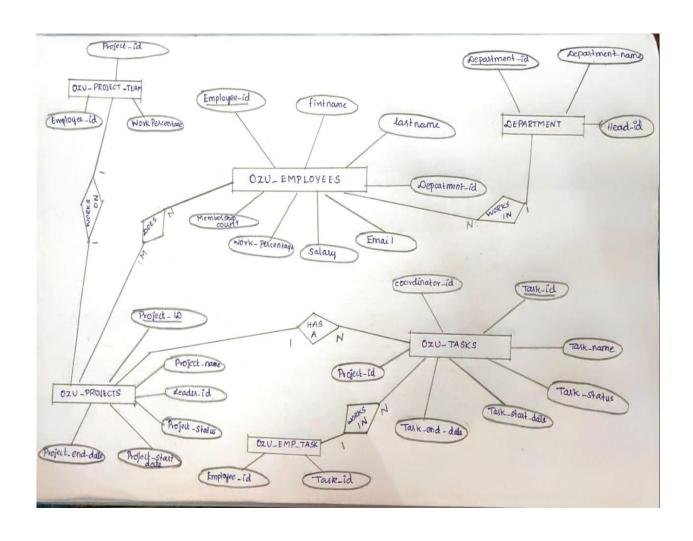
19pt09-HARIPRIYA R

19pt12-LIBIKAA K

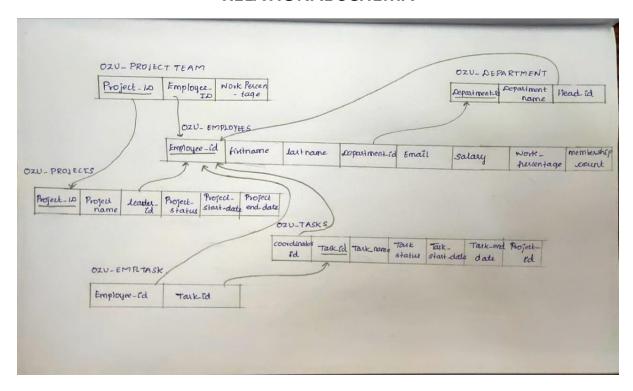
PROBLEM DESCRIPTION

In present scenario every software company works on multiple projects simultaneously so there is a need to manage all these projects efficiently in term of employee management, project design. The main objective of the project on project management system is to manage the details of Employees, Departments, Project, Project teams, Tasks, Employee tasks. The project totally built at administrative end thus only the administrator is guaranteed to access. The purpose of the project is to build an application program to reduce the manual work for managing the Employee, Department, Project and Task. Our project provides searching facilities based on various factors such as Employees, Departments, Project, Project teams, Tasks, Employee tasks. It deals with storing data such as project status, work percentage completed, task status and so on. Editing, adding and deleting of records is improved which results in proper resource management in data.

ER DIAGRAM



RELATIONAL SCHEMA



CREATION OF TABLES IN THE DATABASE:

1.OZU_EMPLOYEES: This table stores information about empoyees along with their total work percentage among projects and total project member count.

```
CREATE TABLE OZU EMPLOYEES (
```

EMPLOYEE_ID NUMERIC NOT NULL CONSTRAINT "OZU_EMP_ID_PK" PRIMARY KEY,

FIRST NAME VARCHAR (20) NOT NULL,

LAST NAME VARCHAR (25) NOT NULL,

EMAIL VARCHAR (45) NOT NULL CONSTRAINT "OZU EMP EMAIL UK" UNIQUE,

SALARY NUMERIC NOT NULL CONSTRAINT "OZU_EMP_SALARY_MIN" CHECK (salary > 0),

TOTAL_WORK_PERCENTAGE NUMERIC NOT NULL CONSTRAINT "OZU_WORK_PER_MAX" CHECK (TOTAL_WORK_PERCENTAGE <= 1 AND TOTAL_WORK_PERCENTAGE >= 0),

MEMBERSHIP_COUNT NUMERIC CONSTRAINT "OZU_MEMBER_MAX" CHECK (MEMBERSHIP_COUNT <= 5 AND MEMBERSHIP_COUNT >= 0),

DEPARTMENT_ID NUMERIC

);

2.OZU_DEPARTMENTS: This table stores information about departments.

CREATE TABLE OZU_DEPARTMENTS (

DEPARTMENT_ID NUMERIC NOT NULL CONSTRAINT "OZU_DEPT_ID_PK" PRIMARY KEY,

```
DEPARTMENT_NAME VARCHAR (25) NOT NULL,
HEAD_ID NUMERIC NOT NULL
);
3.OZU_PROJECTS: This table stores information about projects.
CREATE TABLE OZU_PROJECTS (
 PROJECT_ID NUMERIC NOT NULL CONSTRAINT "OZU_PROJECT_ID_PK" PRIMARY KEY,
 PROJECT NAME VARCHAR(25) NOT NULL,
LEADER ID NUMERIC,
 PROJECT STATUS VARCHAR(1) NOT NULL,
 PROJECT_START_DATE DATE,
 PROJECT_END_DATE DATE
);
4.OZU_PROJECT_TEAMS: This table stores all the employees who work on a particular project.
CREATE TABLE OZU_PROJECT_TEAMS (
 PROJECT_ID NUMERIC NOT NULL,
 EMPLOYEE_ID NUMERIC NOT NULL,
WORK_PERCENTAGE NUMERIC NOT NULL CONSTRAINT "OZU_TEAMS_WORK_PER_CONST"
CHECK (WORK_PERCENTAGE < 1 AND WORK_PERCENTAGE > 0)
);
5.0ZU_TASKS: This table stores information about tasks, which are coordinated by single member
but shared among several employees.
CREATE TABLE OZU TASKS (
            NUMERIC NOT NULL CONSTRAINT "OZU TASK ID PK"
TASK ID
 PRIMARY KEY,
TASK NAME VARCHAR(25) NOT NULL,
TASK STATUS VARCHAR(1) NOT NULL CONSTRAINT "OZU TASK STATUS CONS"
CHECK (TASK_STATUS IN ('C', 'P', 'S', 'F')),
TASK START DATE DATE,
TASK END DATE DATE,
 PROJECT_ID NUMERIC NOT NULL,
 COORDINATOR_ID NUMERIC NOT NULL
```

```
);
6.OZU_EMP_TASKS: This table stores the information on which employee does which task.
CREATE TABLE OZU_EMP_TASKS (
EMPLOYEE_ID NUMERIC NOT NULL,
TASK_ID NUMERIC NOT NULL
);
ALTER TABLE OZU_EMPLOYEES
ADD CONSTRAINT "OZU_EMP_DEPARTMENT_ID_FK"
 FOREIGN KEY (DEPARTMENT_ID) REFERENCES OZU_DEPARTMENTS(DEPARTMENT_ID);
ALTER TABLE OZU_PROJECTS
ADD CONSTRAINT "OZU_PROJ_LEADER_ID_FK"
 FOREIGN KEY (LEADER_ID) REFERENCES OZU_EMPLOYEES(EMPLOYEE_ID);
ALTER TABLE OZU_TASKS
ADD CONSTRAINT "OZU_TASK_PROJECT_ID_FK"
 FOREIGN KEY (PROJECT_ID)
 REFERENCES OZU_PROJECTS(PROJECT_ID);
ALTER TABLE OZU_TASKS
ADD CONSTRAINT "OZU_TASK_EMPLOYEE_ID_FK"
 FOREIGN KEY (COORDINATOR_ID)
 REFERENCES OZU_EMPLOYEES(EMPLOYEE_ID);
ALTER TABLE OZU_DEPARTMENTS
ADD CONSTRAINT "OZU_DEPT_HEAD_ID_FK"
 FOREIGN KEY (HEAD_ID)
 REFERENCES OZU_EMPLOYEES(EMPLOYEE_ID);
ALTER TABLE OZU_PROJECT_TEAMS
ADD CONSTRAINT "OZU_TEAMS_PROJECT_ID_FK"
```

```
FOREIGN KEY (PROJECT_ID)
 REFERENCES OZU_PROJECTS(PROJECT_ID);
ALTER TABLE OZU_PROJECT_TEAMS
ADD CONSTRAINT "OZU_TEAMS_EMPLOYEE_ID_FK"
 FOREIGN KEY (EMPLOYEE_ID)
 REFERENCES OZU_EMPLOYEES(EMPLOYEE_ID);
ALTER TABLE OZU_EMP_TASKS
ADD CONSTRAINT "OZU_EMP_TASKS_EMP_ID_FK"
 FOREIGN KEY (EMPLOYEE_ID)
 REFERENCES OZU_EMPLOYEES(EMPLOYEE_ID);
ALTER TABLE OZU_EMP_TASKS
ADD CONSTRAINT "OZU_EMP_TASKS_TASK_ID_FK"
 FOREIGN KEY (TASK_ID)
 REFERENCES OZU_TASKS(TASK_ID);
PROCEDURES:
/*EMPLOYEE TABLE PROCEDURE FOR INSERT*/
 CREATE OR REPLACE PROCEDURE p_t_ozu_emp_insert(
 v_employee_id
                 IN NUMERIC,
 v_first_name IN VARCHAR,
 v_last_name
                IN VARCHAR,
 v_email IN VARCHAR,
 v_salary
              IN NUMERIC,
 v_total_work_percentage IN NUMERIC,
 v_membership_count IN NUMERIC,
 v_department_id IN NUMERIC
language plpgsql
AS $$
```

```
BEGIN
INSERT INTO OZU_EMPLOYEES(EMPLOYEE_ID, FIRST_NAME, LAST_NAME, EMAIL, SALARY,
TOTAL WORK PERCENTAGE, MEMBERSHIP COUNT, DEPARTMENT ID)
VALUES(v_employee_id,v_first_name,v_last_name,v_email,v_salary,v_total_work_percentage,v_me
mbership_count,v_department_id);
END $$;
/*DEPARTMENT TABLE PROCEDURE FOR INSERT*/
CREATE OR REPLACE PROCEDURE p_t_ozu_depts_insert(v_department_id IN NUMERIC,
v department name IN VARCHAR, v head id IN NUMERIC)
language plpgsql
AS $$
BEGIN
 INSERT INTO OZU DEPARTMENTS (DEPARTMENT ID, DEPARTMENT NAME, HEAD ID)
 VALUES (v_department_id,v_department_name,v_head_id);
END;$$
/*PROJECT TABLE PROCEDURE FOR INSERT*/
CREATE OR REPLACE PROCEDURE p_t_ozu_projects_insert(
 v_project_id
                 IN NUMERIC,
 v_project_name
                   IN VARCHAR,
 v_leader_id
                IN NUMERIC,
 v_project_status IN VARCHAR,
 v_project_start_date IN DATE,
 v_project_end_date IN DATE
)
language plpgsql
AS $$
BEGIN
INSERT INTO OZU PROJECTS(PROJECT ID, PROJECT NAME, LEADER ID, PROJECT STATUS,
PROJECT_START_DATE, PROJECT_END_DATE)
VALUES(v_project_id,v_project_name,v_leader_id,v_project_status,v_project_start_date,v_project_
end date);
END;$$
```

/*PROJECT TEAM TABLE PROCEDURE FOR INSERT*/

```
PROCEDURE p_t_ozu_teams_insert(
 v_project_id IN NUMERIC,
 v_employee_id IN NUMERIC,
 v_work_percentage IN NUMERIC
language plpgsql
AS $$
 BEGIN
 INSERT INTO OZU_PROJECT_TEAMS(PROJECT_ID, EMPLOYEE_ID, WORK_PERCENTAGE)
 VALUES(v_project_id,v_employee_id,v_work_percentage);
END $$;
/*TASK TABLE PROCEDURE FOR INSERT*/
CREATE OR REPLACE PROCEDURE p_t_ozu_tasks_insert(
 v_task_id
             IN NUMERIC,
 v_task_name IN VARCHAR,
 v_task_status IN VARCHAR,
 v_task_start_date IN DATE,
 v_task_end_date IN DATE,
 v_project_id IN NUMERIC,
 v_coordinator_id IN NUMERIC
language plpgsql
AS $$
 BEGIN
 INSERT INTO OZU_TASKS(TASK_ID, TASK_NAME, TASK_STATUS,TASK_START_DATE,
TASK_END_DATE, PROJECT_ID, COORDINATOR_ID) VALUES(v_task_id, v_task_name, v_task_status,
v_task_start_date, v_task_end_date, v_project_id, v_coordinator_id);
END $$;
/*EMPLOYEE TASK TABLE PROCEDURE FOR INSERT*/
CREATE OR REPLACE PROCEDURE p_t_ozu_emp_tasks_insert(v_employee_id IN NUMERIC, v_task_id
IN NUMERIC)
language plpgsql
```

```
AS $$
 BEGIN
 INSERT INTO OZU_EMP_TASKS(EMPLOYEE_ID, TASK_ID)
 VALUES (v_employee_id,v_task_id);
END $$;
/*EMPLOYEE TABLE PROCEDURE FOR DELETE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_emp_delete_emp(v_employee_id IN NUMERIC)
language plpgsql
AS $$
BEGIN
       DELETE FROM OZU_EMPLOYEES WHERE EMPLOYEE_ID = v_employee_id;
END; $$
/*DEPARTMENT TABLE PROCEDURE FOR DELETE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_depts_delete_dept(v_department_id IN NUMERIC)
language plpgsql
AS $$
BEGIN
  DELETE FROM OZU_DEPARTMENTS WHERE DEPARTMENT_ID = v_department_id;
END; $$
/*PROJECT TABLE PROCEDURE FOR DELETE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_projects_del_project(v_project_id IN NUMERIC)
language plpgsql
AS $$
 BEGIN
  DELETE FROM OZU_PROJECTS WHERE PROJECT_ID = v_project_id;
END $$;
/*PROJECT TEAM TABLE PROCEDURE FOR DELETE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_teams_del_team(v_project_id IN NUMERIC)
language plpgsql
AS $$
```

```
BEGIN
 DELETE FROM OZU_PROJECT_TEAMS WHERE PROJECT_ID = v_project_id;
END; $$
/*TASK TABLE PROCEDURE FOR DELETE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_tasks_delete_task(v_task_id IN NUMERIC)
language plpgsql
AS $$
 BEGIN
 DELETE FROM OZU_TASKS WHERE TASK_ID = v_task_id;
 END $$;
/*EMPLOYEE TASK TABLE PROCEDURE FOR DELETE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_emp_tasks_delete(v_employee_id IN NUMERIC,
v_task_id IN NUMERIC)
language plpgsql
AS $$
 BEGIN
 DELETE FROM OZU_EMP_TASKS WHERE EMPLOYEE_ID = v_employee_id AND TASK_ID =
v_task_id;
 END $$;
/*EMPLOYEE SALARY UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_emp_update_salary(v_employee_id IN NUMERIC,
v_salary IN NUMERIC)
language plpgsql
AS $$
 BEGIN
 UPDATE OZU_EMPLOYEES SET SALARY = v_salary WHERE EMPLOYEE_ID = v_employee_id;
END $$;
/*EMPLOYEE TOTAL WORK PERCENTAGE UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_emp_update_total_per(v_employee_id IN NUMERIC,
v_total_work_percentage IN NUMERIC)
language plpgsql
 AS $$
```

```
BEGIN
 UPDATE OZU_EMPLOYEES SET TOTAL_WORK_PERCENTAGE = v_total_work_percentage
 WHERE EMPLOYEE_ID = v_employee_id;
END $$;
/*EMPLOYEE MEMBERSHIP COUNT UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_emp_update_m_count(v_employee_id IN NUMERIC,
v_membership_count IN NUMERIC)
language plpgsql
AS $$
BEGIN
 UPDATE OZU_EMPLOYEES SET MEMBERSHIP_COUNT = v_membership_count
 WHERE EMPLOYEE_ID = v_employee_id;
END $$;
/*EMPLOYEE DEPARTMENT ID UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_emp_update_dept_id(v_employee_id IN NUMERIC,
v_department_id IN NUMERIC)
language plpgsql
AS $$
BEGIN
 UPDATE OZU_EMPLOYEES SET DEPARTMENT_ID = v_department_id
 WHERE EMPLOYEE_ID = v_employee_id;
END $$;
/*DEPARTMENT HEAD UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_depts_update_head(v_department_id IN NUMERIC,
v_head_id
            IN NUMERIC)
language plpgsql
AS $$
BEGIN
 UPDATE OZU_DEPARTMENTS SET HEAD_ID = v_head_id WHERE DEPARTMENT_ID =
v_department_id;
END $$;
```

```
CREATE OR REPLACE PROCEDURE p_t_ozu_projects_update_ldr(v_project_id IN NUMERIC,
v_leader_id IN NUMERIC)
language plpgsql
AS $$
BEGIN
 UPDATE OZU_PROJECTS SET LEADER_ID = v_leader_id WHERE PROJECT_ID = v_project_id;
END $$;
/*PROJECT STATUS UPDATE PROCEDURE*/
v_project_status IN VARCHAR)
language plpgsql
AS $$
BEGIN
 UPDATE OZU_PROJECTS SET PROJECT_STATUS = v_project_status WHERE PROJECT_ID =
v_project_id;
END $$;
/*PROJECT START DATE UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_projects_update_s_date(v_project_id
                                                                     IN NUMERIC,
v_project_start_date IN DATE)
language plpgsql
AS $$
BEGIN
 UPDATE OZU_PROJECTS SET PROJECT_START_DATE = v_project_start_date WHERE PROJECT_ID =
v_project_id;
END $$;
/*PROJECT END DATE UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_projects_update_e_date(v_project_id
                                                                     IN NUMERIC,
v_project_end_date IN DATE)
language plpgsql
AS $$
BEGIN
```

/*PROJECT LEADER ID UPDATE PROCEDURE*/

```
UPDATE OZU_PROJECTS SET PROJECT_END_DATE = v_project_end_date
 WHERE PROJECT_ID = v_project_id;
 END $$;
/*PROJECT TEAM WORK PERCENTAGE UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_teams_update_work_per(v_employee_id IN NUMERIC,
v_project_id IN NUMERIC, v_work_percentage IN NUMERIC)
language plpgsql
AS $$
 BEGIN
 UPDATE OZU_PROJECT_TEAMS SET WORK_PERCENTAGE = v_work_percentage WHERE
EMPLOYEE_ID = v_employee_id AND PROJECT_ID = v_project_id;
 END $$;
/*TASK COORDINATOR ID UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_tasks_update_coor_id(v_task_id IN NUMERIC,
v_coordinator_id IN NUMERIC)
language plpgsql
AS $$
 BEGIN
 UPDATE OZU_TASKS SET COORDINATOR_ID = v_coordinator_id WHERE TASK_ID = v_task_id;
 END $$;
/*TASK STATUS UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t_ozu_tasks_update_stat(v_task_id IN NUMERIC,
v_task_status IN VARCHAR)
language plpgsql
AS $$
 BEGIN
 UPDATE OZU_TASKS SET TASK_STATUS = v_task_status WHERE TASK_ID = v_task_id;
 END $$;
/*TASK START DATE UPDATE PROCEDURE*/
CREATE OR REPLACE PROCEDURE p_t ozu_tasks_update_s_date(v_task_id IN NUMERIC,
v_task_start_date IN DATE)
language plpgsql
```

```
AS $$
BEGIN
```

UPDATE OZU_TASKS SET TASK_START_DATE = v_task_start_date WHERE TASK_ID = v_task_id;

END \$\$;

/*TASK END DATE UPDATE PROCEDURE*/

CREATE OR REPLACE PROCEDURE p_t_ozu_tasks_update_e_date(v_task_id IN NUMERIC, v_task_end_date IN DATE)

language plpgsql

AS \$\$

BEGIN

UPDATE OZU_TASKS SET TASK_END_DATE = v_task_end_date WHERE TASK_ID = v_task_id;

END \$\$;

/*EMP TASK UPDATE PROCEDURE*/

CREATE OR REPLACE PROCEDURE p_t_ozu_emp_tasks_update(v_employee_id IN NUMERIC, v_task_id IN NUMERIC)

language plpgsql

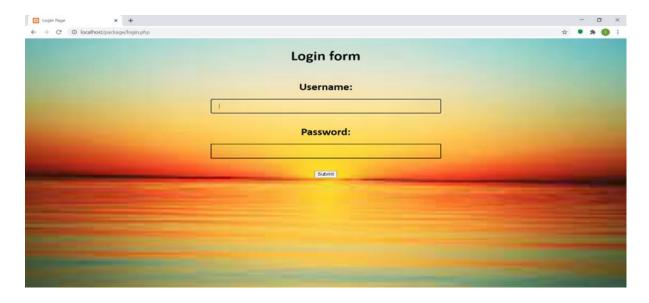
AS \$\$

BEGIN

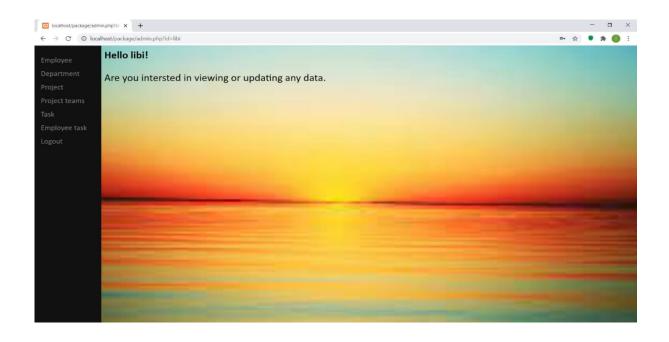
UPDATE OZU_EMP_TASKS SET TASK_ID = v_task_id WHERE EMPLOYEE_ID = v_employee_id;

END \$\$;

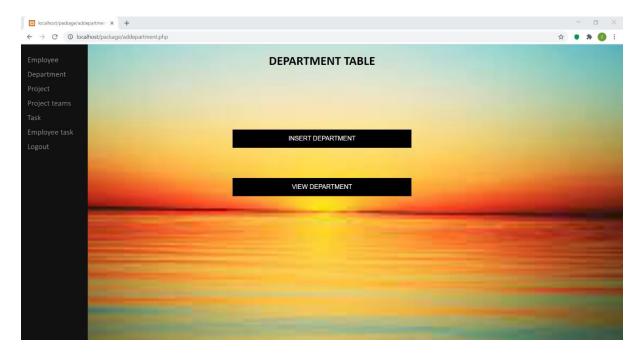
SNAPSHOTS OF PROJECT MANAGEMENT SYSTEM LOGIN PAGE



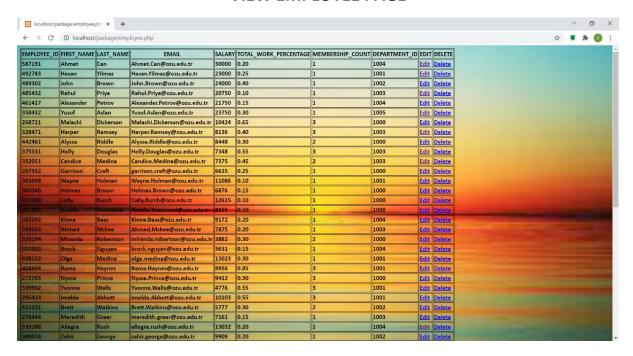
HOME PAGE



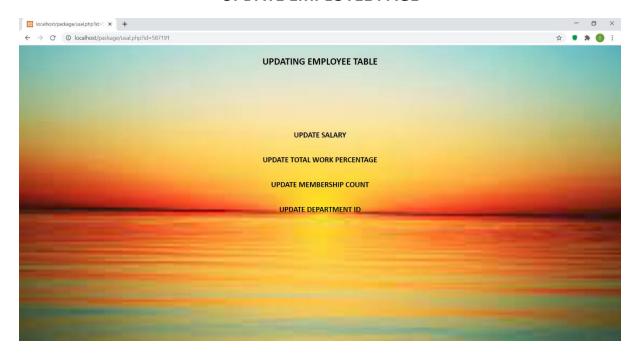
DEPARTMENT PAGE



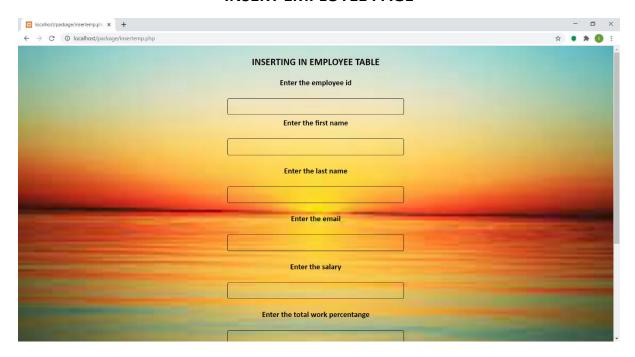
VIEW EMPLOYEE PAGE



UPDATE EMPLOYEE PAGE



INSERT EMPLOYEE PAGE



EMPLOYEE PAGE

