### **DBMS MINI PROJECT**

## TIME MANAGEMENT SOFTWARE

**TANYA GUPTA** 

181627099

**Section-B** 

Batch - B1

ICAS,CS

SWATHI ANNAMANENI

181627125

Section-B

Batch - B1

ICAS,CS

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### OVERVIEW

The company needs to develop a **time management system** for its executives. The software should let the executives register their daily appointment schedules. The information to be stored includes person(s) with whom meeting is arranged, venue, the time and duration of the meeting, and the purpose (e.g. for a specific project work). When a meeting involving many executives, and arrange a meeting (i.e. make relevant entries in the diaries of all the concerned executives) at that time. It should also inform the concerned executives about the scheduled meeting through e-mail. If no common slot is available, TMS should help the secretary to rearrange the appointments of the executives in consultation with the concerned executives for making room for a common slot. To help the executives check their schedules for a particular day the system should have a very easy-to-use graphical interface. Since the executives and the secretaries have their own desktop computers, the time management software should be able to serve several remote request simultaneously. Many of the executives are relative novices in computer usage. Everyday morning the time management software should e-mail every executive his appointments for the day. Besides registering their appointments and meeting, the executives might mark period for which they plan to be on leave. Also, executives might plan out the important jobs they need to do on any day at different hours and post it in their daily list of engagements. Other features to be supported by the TMS are the following: TMS should be able to provide several types of statistics such as which executive spent how much time on meetings. For which project how many meetings were organized for what duration and how many man-hours were devoted to it. Also, it should be able to display on the whole during any given period of time what fraction of time on the average each executive spent on meetings.

### **DATBASE:**

Create database TMS;

Use TMS;

### **Table Description:**

Following are the tables along with constraints used in Time Management Database:

### 1.EXECUTIVE TABLE :

This table consists of details of all the executives in the company. The information stored in this table includes the personal details of the executives.

Constraint: Executive ID (Eid) will be unique for each executive.

create table Executive(

Eid int primary key,

Ename varchar(20),

Email varchar(50),

Contact int(10),

DOJ date,

NumberofProjectsDone int);

insert into Executive values (1, 'Harry', 'Harry1@gmail.com',11111111111,'2010-09-20',0);

insert into Executive values (2, 'Sam', 'Sam2@gmail.com', 1000000000, '2009-08-07', 1);

insert into Executive values (3,'Rocky','Rocky3@gmail.com',1000999000,'2010-09-25',0);

mysql>	select '	* from executive;	·	L	
Eid	Ename	Email	Contact	DOJ	NumberofProjectsDone
1   2   3	Harry   Sam   Rocky	Harry1@gmail.com   Sam2@gmail.com   Rocky3@gmail.com	111111111 1000000000 1000999000	2010-09-20 2009-08-07 2010-09-25	0   1   0
3 rows in set (0.00 sec)					

### 2. APPOINTMENT TABLE

This table stores the information for a Daily Appointment made by the Executive. Executives are referred to by their IDs. When an executive makes an Appointment, an appointment number(AppNo) is generated which acts as a primary key.

create table Appointment(

Eid int not null,

```
AppNo int primary key,

Email varchar(20) not null,

Time varchar(20),

Date date,

Foreign key (Eid) references Executive(Eid));
```

```
mysql> desc appointment;
                       | Null | Key | Default | Extra
 Field | Type
 Eid
          int(11)
                        NO
                               MUL
                                     NULL
 AppNo
         int(11)
                        NO
                               PRI
                                     NULL
 Email
          varchar(20)
                        NO
                                     NULL
 Time
          varchar(20)
                        YES
                                     NULL
 Date
         date
                       YES
                                     NULL
5 rows in set (0.00 sec)
```

### 3. LOE TABLE

This Table contains the List Of Engagements of the Executives.

create table LOE(

Eid int not null,

Day date,

Time varchar(20),

job varchar(30),

Duration varchar(30),

Foreign key (Eid) references Executive (Eid));

insert into LOE values (1,'2020-10-01','10:00','FINISH THE REPORT 5','50 MINUTES');

insert into LOE values (1,'2020-10-01','11:00','PROOF-READ THE REPORT 5','30 MINUTES');

insert into LOE values (1,'2020-10-01','11:30','MAIL THE REPORT 5','50 MINUTES');

### **4. LEAVE TABLE**

The record in this table is created when an Executive applies for a leave.

Create table L(

Ename varchar(20),

Eid int not null,

Start\_date date,

Return\_date date,

Reason varchar(70),

Foreign key (Eid) references Executive(Eid));

```
mysql> desc L;
                             | Null | Key | Default | Extra
 Field
              Type
                varchar(20)
 Ename
                              YES
                                            NULL
 Eid
                                      MUL
                int(11)
                              NO
                                            NULL
 Start_date
                date
                              YES
                                            NULL
 Return date
                date
                              YES
                                            NULL
                varchar(70) | YES
                                            NULL
  Reason
5 rows in set (0.00 sec)
```

### **5. PROJECT TABLE**

This table consists of the details of the projects the Executives have worked on.

Create table project(

P\_ID int primary key,

P\_name varchar(20),

Ename varchar(20),

Meetings\_Scheduled int,

P\_Status varchar(20));

insert into project values(171,'WebDev','Sam',2,'Completed');

```
mysql> select * from project;

+----+

| P_ID | P_name | Ename | Meetings_Scheduled | P_Status |

+----+

| 171 | WebDev | Sam | 2 | Completed |

+----+

1 row in set (0.00 sec)
```

### **6. SECRETARY TABLE**

This Table holds the information for all the secretaries assigned to the executives in the company.

Create table Sec(

Eid int not null,

S\_Name varchar(20),

S\_email varchar(30),

S\_Contact varchar(10),

Foreign key(Eid) references Executive(Eid));

insert into Sec values(1,'Tom','Tom22@gmail.com','9812345666');

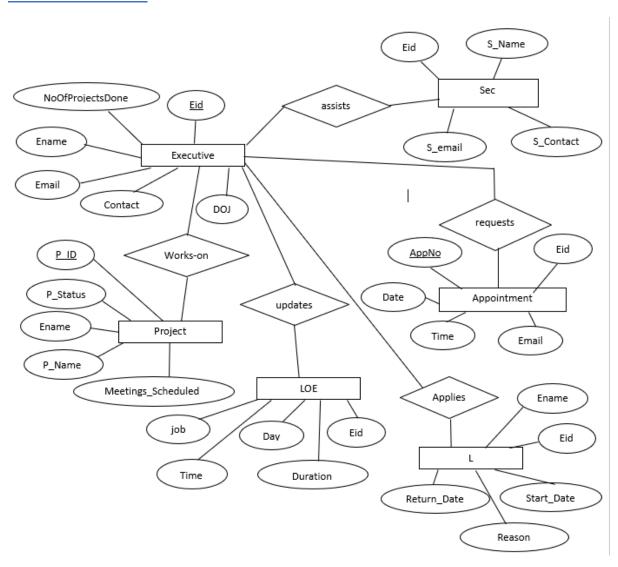
insert into Sec values(2, 'Sara', 'SaraS@gmail.com', '9811111111');

insert into Sec values(3,'Penny','PP@gmail.com','9811199991');

### **RELATIONAL DATABASE SCHEMA FOR CASE STUDY:**

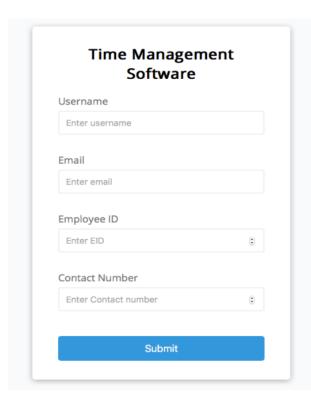
- 1. EXECUTIVE( <u>EID</u>, ENAME, EMAIL, CONTACT, DOJ, NOOFPROJECTSDONE)
- 2. APPOINTMENT( EID, APPNO, DATE, TIME, EMAIL)
- 3. LOE( EID, DAY, TIME, JOB, DURATION)
- 4. L( EID, ENAME, START\_DATE, RETURN\_DATE, REASON)
- 5. PROJECT( P\_ID, P\_NAME, P\_STATUS, ENAME, MEETINGS\_SCHEDULED)
- 6. SEC( EID, S\_NAME, S\_EMAIL, S\_CONTACT)

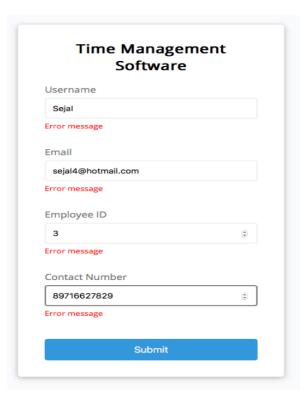
### **E-R DIAGRAM**



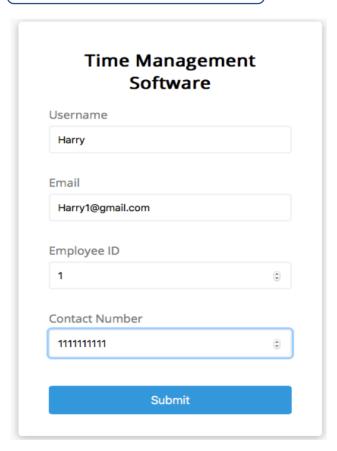
### **FRONT END:**

### **ENTERING RANDOMN DETAILS:**

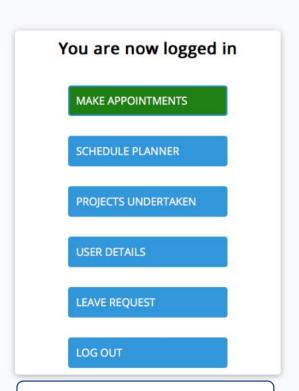




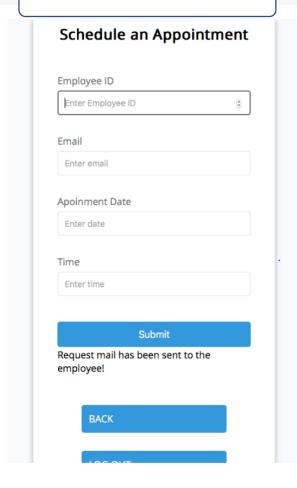
### **ENTERING EXECUTIVE DETAILS:**



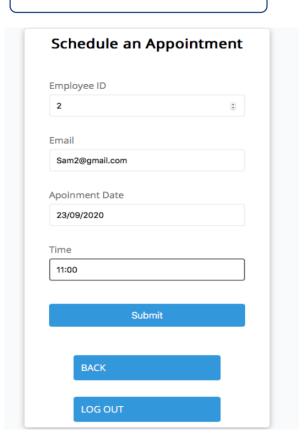
### **MAKING AN APPOINTMENT:**

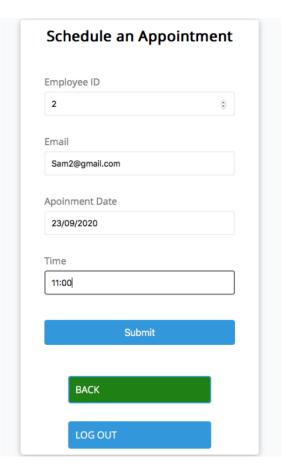


### **AFTER SUBMIT BUTTON IS CLICKED:**



### **ENTERING APPOINTMENT DETAILS:**



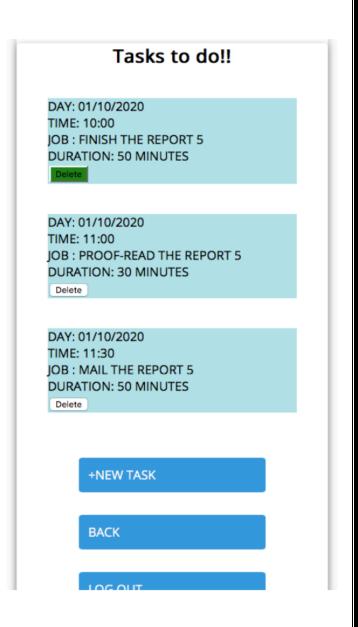


### CORRESPONDING CHANGES IN THE DATABASE:

**SCHEDULE PLANNER:** 

LIST OF DAILY ENGAGEMENTS:

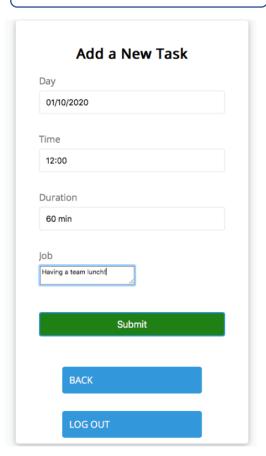
# You are now logged in MAKE APPOINTMENTS SCHEDULE PLANNER PROJECTS UNDERTAKEN USER DETAILS LEAVE REQUEST LOG OUT



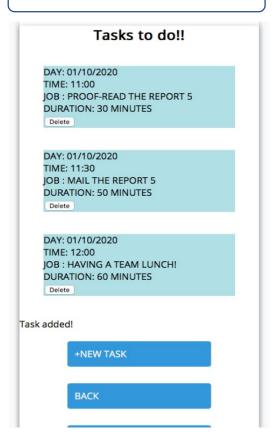
### **AFTER DELETING A TASK:**

## Tasks to do!! DAY: 01/10/2020 TIME: 11:00 JOB: PROOF-READ THE REPORT 5 DURATION: 30 MINUTES Delete DAY: 01/10/2020 TIME: 11:30 JOB: MAIL THE REPORT 5 DURATION: 50 MINUTES Delete Task deleted! +NEW TASK BACK

### **ADDING A NEW TASK:**



### **AFTER ADDING A NEW TASK:**



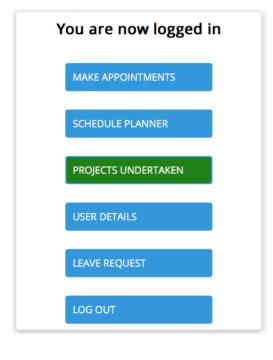
### CORRESPONDING CHANGES IN THE DATABASE:

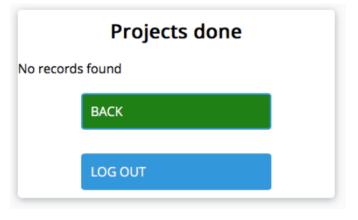
### **AFTER DELETION:**

### AFTER ADDING A NEW TASK:

PROJECTS UNDERTAKEN:

THIS SHOWS THE PROJECTS DONE(IF ANY):





**USER DETAILS:** 

You are now logged in

MAKE APPOINTMENTS

SCHEDULE PLANNER

PROJECTS UNDERTAKEN

USER DETAILS

**LEAVE REQUEST:** 

**LEAVE REQUEST** 

LOG OUT

You are now logged in

MAKE APPOINTMENTS

SCHEDULE PLANNER

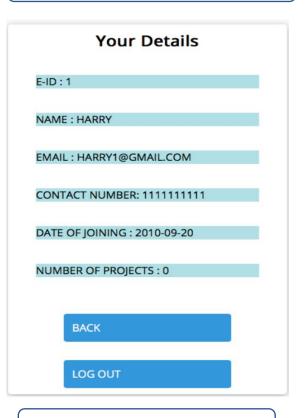
PROJECTS UNDERTAKEN

USER DETAILS

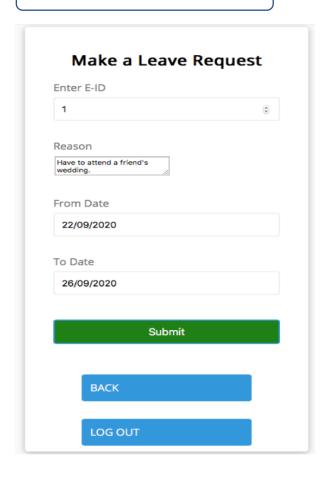
LEAVE REQUEST

LOG OUT

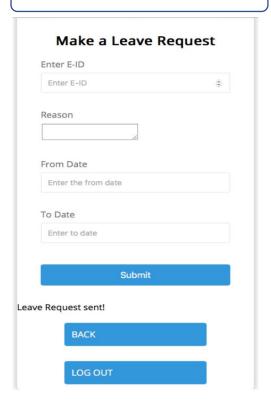
SHOWS THE DETAILS OF THE EXECUTIVE:



**MAKING A LEAVE REQUEST:** 



### **AFTER THE REQUEST IS MADE:**



### **CORRESPONDING CHANGES IN THE DATABASE:**

```
mysql> select * from L;

+-----+

| Ename | Eid | Start_date | Return_date | Reason |

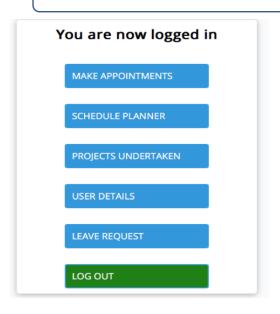
+-----+

| Harry | 1 | 2020-09-22 | 2020-09-26 | Have to attend a friends wedding. |

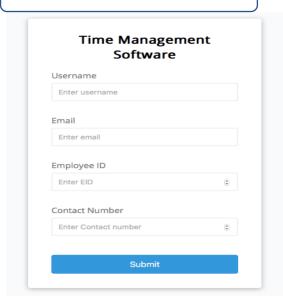
+-----+

1 row in set (0.00 sec)
```

### LOGOUT:



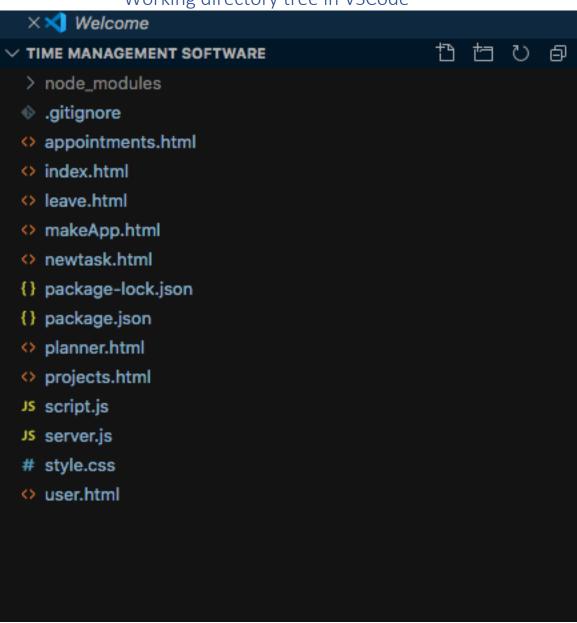
### **REDIRECTS BACK TO EMPTY FORM:**



### **SOURCE CODE**

HTML and CSS have been used to create the interactive UI. There are six HTML pages as seen below, all of which are linked to one style.css file which provides the design for TMS. Moreover, run-time interaction of the browser DOM is utilised to print the user-friendly messages in the script.js file which provides functionality to all the HTML pages. Server.js file finally connects the front-end to the 'TMS' mySQL database using express.js dependency provided to us by node.js framework, all of which have been downloaded into the package.json file using npm register.Due to the very lengthy files in the node-modules directory, a snapshot of the working directory tree of our project developed using Visual Studio Code is attached below. However, the main codes containing the design of the UI and connectivity to the database are included.

Working directory tree in VSCode



### Index.html:

```
<!DOCTYPE html>
<html /ang="en">
<head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<meta http-equiv="X-UA-Compatible" content="ie=edge" />
<link re/="stylesheet" href="style.css" />
<title>Welcome to Time Management Software</title>
</head>
<body>
<div class="container">
<form method="POST" id="form" class="form" method="post" action="/check-login">
<h2> Time Management Software </h2>
<div class="form-control">
<label for="username">Username</label>
<input type="text" id="username" placeholder="Enter username" />
<div class="error-message">Error message</div>
</div>
<div class="form-control">
<label for="email">Email
<input type="text" id="email" placeholder="Enter email" />
<div class="error-message">Error message</div>
</div>
<div class="form-control">
<label for="E-ID">Employee ID</label>
<input type="number" id="E-ID" placeholder="Enter EID" />
<div class="error-message">Error message</div>
</div>
<div class="form-control">
<label for="Contact">Contact Number</label>
<input type="number" id="number" placeholder="Enter Contact number"</pre>
<div class="error-message">Error message</div>
</div>
<button type="submit" value="check-login">Submit/button>
<div class="error-message">Error message</div>
</div>
 </body>
</html>
```

### makeapp.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<meta http-equiv="X-UA-Compatible" content="ie=edge" />
<link re/="stylesheet" href="style.css" />
<title>Welcome to Time Management Software</title>
</head>
<body>
<div class="container">
   <h2>You are now logged in</h2>
    <div class="button"><a href="./appointments.html">Make Appointments</a></div>
    <div class="button"><a href="./planner.html">Schedule Planner</a></div>
    <div class="button"><a href="./projects.html">Projects Undertaken</a></div>
    <div class="button"><a href="./user.html">User Details</a></div>
    <div class="button"><a href="./leave.html">Leave Request</a></div>
    <div class="button"><a href="./index.html">Log Out</a></div>
  </div>
<script src="script.js"></script>
 </body>
</html>
```

### Appointments.html

```
<body>
      <div class="container">
      <h2>Schedule an Appointment</h2>
       <form id="form" class="form" method="POST" action="submit">
       <div class="form-control">
       <label for="E-ID">Employee ID</label>
       <input type="number" id="E-ID" placeholder="Enter Employee ID" />
       </div>
       <div class="form-control">
      <label for="email">Email</label>
      <input type="text" id="email" placeholder="Enter email" />
       </div>
      <div class="form-control">
        <a href="label">Apointment Date</a>
        <input type="date" id="date" placeholder="Enter date" />
        </div>
        <div class="form-control">
         <label for="Time">Time</label>
         <input
          type="time"
          id="time"
          placeholder="Enter time"
         </div>
        <button type="submit">Submit
  </form>
     <div class="button" > <a href="./makeApp.html">Back</a> </div>
   <div class="button" > <a href="./index.html">Log Out</a> </div>
   </div>
  </body>
</html>
```

### **User.html:**

```
<!DOCTYPE html>
<html lang="en">
 <head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <meta http-equiv="X-UA-Compatible" content="ie=edge" />
  <link re/="stylesheet" href="style.css" />
  <title>Welcome to Time Management Software</title>
 </head>
 <body>
  <div class="container">
    <h2>Your Details</h2>
    <div class="details">E-ID : <span class"value"> </span> </div>
    <div class="details">Name : <span class"value"> </span> </div>
    <div class="details">Email : <span class"value"> </span> </div>
    <div class="details">Contact Number: <span class"value"> </span> </div>
    <div class="details">Date of Joining : <span class"value"> </span> </div>
    <div class="details">Number of projects : <span class"value"> </span> </div>
   <div class="button"> <a href="./makeApp.html">Back</a> </div>
   <div class="button"> <a href="./index.html">Log Out</a> </div>
  </div>
</body>
</html>
```

### Leave.html

```
<!DOCTYPE html>
<html lang="en">
 <head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<meta http-equiv="X-UA-Compatible" content="ie=edge" />
<link re/="stylesheet" href="style.css" />
<title>Welcome to Time Management Software</title>
</head>
 <body>
<div class="container">
<form id="form" class="form" action=/submit" method="POST" >
<h2>Make a Leave Request</h2>
        <div class="form-control">
     <label for="E-ID">Enter E-ID</label>
         <input type="number" id="E-ID" placeholder="Enter E-ID" />
      </div>
        <div class="form-control">
     <a href="reason">Reason</a>/label>
         <textarea for="Reason" placeholder="enter your reason"></textarea>
      </div>
        <div class="form-control">
         <label for="from-date">From Date</label>
         <input type="date" id="from-date" placeholder="Enter the from date" />
      </div>
        <div class="form-control">
         <label for="to-date">To Date</label>
         <input type="date" id="to-date" placeholder="Enter to date" />
      </div>
        <button type="submit">Submit
       </form>
<label class="error-message" >Leave Request sent!
<div class="button"><a href="./makeApp.html">Back</a> </div>
<div class="button"> <a href="./index.html">Log Out</a> </div>
</div>
</body>
</html>
```

### Planner.html

```
<!DOCTYPE html>
<html lang="en">
 <head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <meta http-equiv="X-UA-Compatible" content="ie=edge" />
  <link re/="stylesheet" href="style.css" />
  <title>Welcome to Time Management Software</title>
 </head>
 <body>
  <div class="container">
     <h2>Tasks to do!!</h2>
      <div class="tasks">
     <div class="detail">Day: <span class"value"> </span> </div>
     <div class="detail">Time: <span class"value"> </span> </div>
     <div class="detail">Job : <span class"value"> </span> </div>
     <div class="detail">Duration: <span class"value"> </span> </div>
     <button> Delete </button>
     </div>
      <label class ="error-message">Task deleted!</label>
       <div class="button"> <a href="./newtask.html">+New Task</a> </div>
    <div class="button"><a href="./makeApp.html">Back</a></div>
    <div class="button"><a href="./index.html">Log Out</a></div>
  </div>
 </body>
</html>
```

### NewTask.html

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<meta http-equiv="X-UA-Compatible" content="ie=edge" />
<link re/="stylesheet" href="style.css" />
<title>Welcome to Time Management Software</title> </head>
<body>
<div class="container">
       <form id="form" class="form" action="/submit" method="POST">
        <h2>Add a New Task</h2>
        <div class="form-control">
        <label for="day">Day</label>
         <input type="day" id="day" placeholder="Enter the day" />
         </div>
        <div class="form-control">
         <label for="time">Time</label>
         <input type="time" id="time" placeholder="Enter the time" />
         </div>
        <div class="form-control">
         <label for="duration">Duration/label>
         <input type="text" id="duration" placeholder="Enter the duration" />
         </div>
        <div class="form-control">
         <label for="Job">Job</label>
         <textarea id="Job" placeholder="Enter the task" ></textarea>
       </div>
        <button type="submit">Submit
<div class="button"><a href="./planner.html">Back</a> </div>
<div class="button"> <a href="./index.html">Log Out</a> </div>
</div>
</body>
</html>
```

### Style.css

```
@import url('https://fonts.googleapis.com/css?family=Open+Sans&display=swap');
 { box-sizing: border-box;
body { background-color: #f9fafb;
 font-family: 'Open Sans', sans-serif;
 display: flex;
 align-items: center;
 justify-content: center;
 min-height: 100vh;
 margin: 0; }
 container { background-color: #fff;
 border-radius: 5px;
 box-shadow: 0 2px 10px rgba(0, 0, 0, 0.3);
 width: 400px; }
h2 { text-align: center;
margin: 10px 0 20px;
 color:black;
 text-emphasis:bold; }
 form { padding: 30px 40px; }
 form-control { margin-bottom: 10px;
 padding-bottom: 20px;
 position: relative; }
 form-control label { color: #777;
 display: block;
 margin-bottom: 5px; }
 form-control input { border: 2px solid #f0f0f0;
 border-radius: 4px;
 display: block;
 width: 100%;
 padding: 10px;
 font-size: 14px; }
```

```
.error-message { color: red;
 position: absolute;
 bottom: 0;
 left: 0;
 visibility: hidden; }
showerror{ visibility: visible; }
a { text-decoration: none;
 color:white;
 text-transform:uppercase; }
form button , a:link ,a:visited{  cursor: pointer;
 background-color: #3498db;
 border: 2px solid #3498db;
 border-radius: 4px;
 color: #fff;
 display: block;
 font-size: 16px;
 padding: 10px;
 margin-top: 20px;
 width: 100%; }
a:hover,button:hover{ background-color: green; }
button{ margin:0 20% 10px;
padding:0;
display:flex;
justify-content: center;
align-items: center; }
details, tasks{ text-shadow: papayawhip;
 text-transform: uppercase;
 font-size: 18;
 margin:40px;
 background-color: powderblue;
 height:10%; }
calcproj{ margin :0 auto; }
```

### Server.js

```
Module dependencies.
var express = require('express')
 routes = require('./routes')
 user = require('./routes/user')
 http = require('http')
 path = require('path');
||var methodOverride = require('method-override');
var session = require('express-session');
var app = express();
var mysql
            = require('mysql');
var bodyParser=require("body-parser");
var connection = mysql.createConnection({
host: 'localhost',
user : 'root',
password: ",
database: 'tms'
       });
connection.connect();
global.db = connection;
app.set('port', process.env.PORT | 8080);
app.set('views', __dirname + '/views');
app.set('view engine', 'ejs');
app.use(bodyParser.urlencoded({ extended: false }));
app.use(bodyParser.json());
app.use(express.static(path.join(__dirname, 'public')));
app.use(session({
        secret: 'keyboard cat',
        resave: false,
        saveUninitialized: true,
         cookie: { maxAge: 60000 }
}))
app.get('/', routes.index);//call for main index page
app.get('/submit', user.makeApp);
app.post('/appointment', user.sendMail);
app.get('/task', routes.submit);
app.post('/login', user.login);
app.get('/home/dashboard', user.dashboard);
app.get('/home/logout', user.logout);
app.get('/home/profile',user.profile);
// Middleware
app.listen(8080)
```

### **SQL QUERIES:**

1.TO FIND THE EXECUTIVES WHO HAVE COMPLETED A PROJECT

```
mysql> Select Ename from Project where P_Status='Completed';
+-----+
| Ename |
+-----+
| Sam |
+-----+
1 row in set (0.00 sec)
```

2.TO FIND THE EXECUTIVES WHO JOINED AFTER 1ST JAN 2010

3.TO FIND THE SECRETARY DETAILS OF THE EXECUTIVE WITH ID=3

```
mysql> Select S_name,S_email from sec where Eid=3;

+-----+

| S_name | S_email |

+-----+

| Penny | PP@gmail.com |

+-----+

1 row in set (0.10 sec)
```

4.TO FIND THE JOB TO BE DONE BY AN EXECUTIVE AT 11:00

6. FIND THE CONTACT AND NAME OF THE SECRETARY CONTAINING 'A'

```
mysql> SELECT S_NAME,S_CONTACT FROM SEC WHERE S_NAME LIKE "%A%";

+-----+

| S_NAME | S_CONTACT |

+----+

| Sara | 981111111 |

+-----+
```

7. FIND THE JOB WHICH TAKES MAXIMUM TIME BY THE EMPLOYEE WITH EID=1

8.TO FIND THE NUMBER OF LEAVE REQUESTS MADE BY EXECUTIVE WITH EID=1

```
mysql> SELECT COUNT(ENAME) FROM L WHERE EID=1;

+-----+

| COUNT(ENAME) |

+-----+

| 1 |

+-----+

1 row in set (0.00 sec)
```

9. TO FIND THE TASKS PENDING BY AN EXECUTIVE WITH EID=1

10.TO FIND THE NUMBER OF EXECUTIVES IN THE COMPANY

```
mysql> SELECT COUNT(EID) FROM EXECUTIVE;

+-----+

| COUNT(EID) |

+-----+

| 3 |

+-----+

1 row in set (0.00 sec)
```