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A mini Project Report on

"EMPLOYEE LEAVE MANAGEMENT SYSTEM"

Submitted by

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To the Visvesvaraya Technological University during the academic year 2019-2020
in partial fulfillment for the subject

WEB TECHNOLOGY AND ITS APPLICATIONS
(VII SEMESTER)
in
COMPUTER SCIENCE AND ENGINEERING

Under the Guidance of

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CERTIFICATE

Certified that the **mini project work** entitled **"EMPLOYEE LEAVE MANAGEMENT SYSTEM"** is carried out by **Mr. UZAIR AHMED [4RA16CS102]** and **Ms. ZEBA ALEEM [4RA16CS106]** respectively, a bonafide student of **RAJEEV INSTITUTE OF TECHNOLOGY, Hassan** in partial fulfillment for the subject **WEB TECHNOLOGIES AND ITS APPLICATIONS LAB (15CSL77)** in **COMPUTER SCIENCE AND ENGINEERING** of Visvesvaraya Technological University, Belagavi during the year 2019-2020. The mini project report has been approved as it satisfies the academic requirements in respect of mini project work prescribed for the said degree.

Mrs. Sangeetha S	**Dr. H.N PRAKASH**	**Dr. A.N RAMAKRISHNA**
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DECLARATION

We Uzair Ahmed and Zeba Aleem students of 7th sem B.E in Computer Science and Engineering, Rajeev Institute of Technology, Hassan, hereby declare that the work being presented in the dissertation entitled "EMPLOYEE LEAVE MANAGEMENT SYSTEM" embodies report of our mini project work carried out independently by us under the guidance of Sangeetha S, Assistant Professor, Computer Science and Engineering, Rajeev Institute of Technology, Hassan, as partial fulfillment of requirement for the award of B.E degree. This mini Project has not been submitted for the award of any other degree in any other University.

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ABSTRACT

The Employee Leave Management System is used to automate the work flow of leave applications and their approvals. It mainly deals with details of all employees of various departments and also their leave maintenance. An employee can submit a leave with specific reason and category. The admin verifies the submitted leave and checks the available leave balances for accepting or rejecting the leave. This system is being developed to convert a normal employee leave automation system into a web based system where multi user access is allowed. This mini project is being developed to achieve error free tabulation and calculation of leaves in the best way possible. As the world is being developed with the new technologies, discovering and manipulating new ideas and concepts of taking everything online are rapidly changing. Employee leave management application will reduce paper work and maintains record in more efficient way.

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CHAPTER 1

INTRODUCTION

1.1 Introduction to Web

The concept of the web was perfected at CERN (European Organization for Nuclear Research) in 1991 by a group of researchers which included Tim-Berners Lee, the creator of hyper link, who is today considered the father of the Web.

Web consists of billions of clients and server connected through wires and wireless networks. The web clients make request to web server. The web server receives the request, finds the resources and return the response to the client. When a server answers a request, it usually sends some type of content to the client. The client uses web browser to send request to the server. The server often sends response to the browser with a set of instructions written in HTML (Hyper Text Markup Language). All browsers know how to display HTML page to the client. The principles of the web is based on using hyperlinks to navigate between documents (called web pages) with a program called browser. A web page is a simple text file written in a markup language (called HTML) that encodes the layout of the document, graphical elements, and links to other documents, all with help of tags. Beside the links which connect formatted documents to one another, the web uses the HTTP protocol to link documents hosted on distant computers. On the internet, documents are identified with a unique address, called a URL, which can be used to locate any resources on the internet, no matter which server may be hosting it.

1.2 Advantages of Web

- The program runs on a web server, rather than on the PC, or local server for traditional applications.
- Web application pages interact and responds with users requests, unlike basic website pages where pages are all preformatted. The most common example is shopping application.
- Most commercial web applications utilize a database to store permanent information such as product description/costs, and customer orders.

1.3 Project Description

Employee Leave Management system is a web based sharing and management system where it mainly deals with details employees of various departments and also their leave maintenance. A staff can submit a leave by checking his current leave balances. The admin verifies the submitted leave and checks the available leave balances for accepting or rejecting the leave. This system is being developed to convert a normal staff leave automation system into a web based system where multi user access is allowed.

In existing system every company follows manual or email procedure in which faculty should enter in time and out time in a record book. At the end of each month Head of department will calculate leaves of every faculty member which is a time taking process and there is chances of losing records. This mini project is being developed to achieve error free tabulation and calculation of leaves in the best way possible. Employee leave management application will reduce paper work and maintains record in more efficient way.

This project will be divided into following separate components

- The Admin Management.
- The Staff Leave Maintenance

1.4 Objective of the proposed system

- To reduce manual paperwork.
- Reduced sharing and distribution time.
- Increased reliability.
- Increased operational efficiency.
- Data security.

This Leave Management System can be readily used by non-programming personal avoiding human handled chance of error. This mini project is used by two types of users

i. Employees
ii. Administrators

Employees can update their details, Change their password and apply for leaves

Administrator is must be an authorized user who will keep track of all the applied leaves and their status and manage users as well through the admin panel.

New features can be added to the system as per requirements.

1.5 Advantages of proposed system

- Easy and secure user log in and registration.
- No Need to do Paper Work.
- To save the environment by using paper free work.
- To increase the efficiency of the work flow.
- Management of all applied leaves and their status.
- Easy password recovery through employee id.

CHAPTER 2

REQUIREMENTS SPECIFICATION

2.1 Hardware requirements

- Processor : Intel core Pentium
- Processor Speed : 1.5 GHz
- RAM : 2 GB
- Hard Disk : 100 MB of free space in disk
- Key Board : Standard windows keyboard

2.2 Software requirements

- Operating System : Windows
- Language : HTML, java script, PHP
- Front end : HTML with PHP
- Back end : PHP with MySQL server

2.3 Feasibility study

After doing the mini project , study and analyzing all the existing or required functionalities of the system, the next task is to do the feasible study for the project. All projects are feasible-given unlimited resources and infinite time.

Feasibility study included consideration of all the possible ways to provide a solution to the given problem. The proposed system should satisfy all the user requirements and should be feasible enough so that future changes can be easily done based on the future upcoming requirements.

2.3.1 Technical Feasibility

The System of operation which was functioning earlier was totally manual, with no kind of automation or computerization. All the departments were maintaining separate registers for keeping various records. Due to expansion of workloadmore workspace and it appears a tedious task to maintain with specifying equipment and software that Eployee Leave Management system mini project report will successfully support the tasks required. As a result the computerized system is

technically feasible as it is efficient, less time consuming, can produce outputs faster, can input large amount of data in limited time scale and easier to use in operation.

2.3.2 Operational Feasibility

The ultimate users i.e. the people who are supposed to use the system are trained for a period of one month so as to get familiar with the new system and its operation. They are taught about the new skills and the new technology and how the technology will be useful to them in their functioning. Operational feasibility is concerned with human, organizational and political aspects. General impression of these factors is gained from the corporate appraisal.

2.3.3 Economical Feasibility

The computerized system is economically feasible in the sense the cost of the hardware and software and the cost to training of personnel of the company to operate the system and the installation cost is less than the cost of maintaining the registers. This book shopping system project may not be a big sum in the long run of the school business. Also the time taken for the entire process of formulation, checking, studying and installation of the project has been equal to one working month of the school. As a result, there has been no hesitation on pert of the management in adopting the new system.

CHAPTER 3

SYSTEM DESIGN

3.1 Data Flow Diagram (DFD)

Data Flow Diagram (DFD) show how data moves in a System and where it is stored.

The data flow shows the flow of information from a source to its destination. Data flow is represented by a line, with arrowheads showing the direction of flow. Information always flows to or from a process and may be written, verbal or electronic. Each data flow may be referenced by the processes or data stores at its head and tail, or by a description of its contents.

Data store

A data store is a holding place for information within the system: It is represented by an open ended narrow rectangle. Data stores may be long-term files such as sales ledgers, or may be short-term accumulations: for example batches of documents that are waiting to be processed. Each data store should be given a reference followed by an arbitrary number.

3.1.1 Register DFD

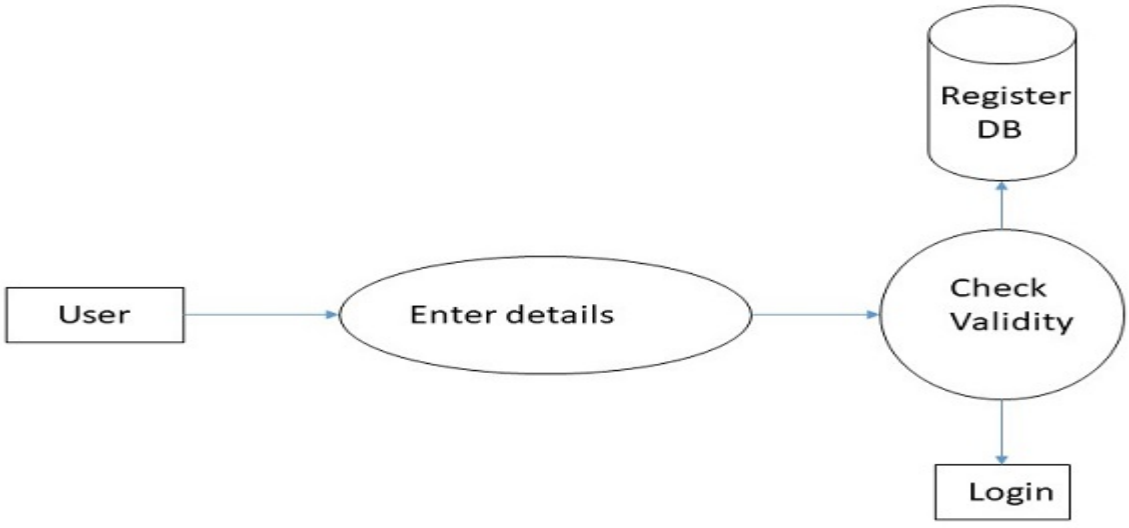


Fig. 3.1: Register DFD

3.1.2 Login DFD

Fig. 3.2: Login DFD

It's a basic overview of the whole login system or process being analysed or modelled. It's designed to be an at a glance view of the Authentication and login showing the system as a single high level process, with its relationship to external entities of username, password and register. It should be easily understood by a wide audience, including username and register in the DFD of the login system.

Login system shows how the system is divided into sub system, each of which deals with one or more of the data flows to or from an external agent, and which together provide all of the functionality of the login system as a whole. It also identifies internal data stores of login, authentication, register that must be present in order for the login system to do its job and shows the flow of data between the various parts of username, register, authentication, login of the system.

3.2 Database Design

File design refers to how the logical data structure is to be physically stored in the storage device. The design of the file includes decision making on the nature and content of the file such that it is to be used for storing details, transaction details or reference information. The other type of files include input file, transfer file, output file etc. Various factors are considered during the file design phase of the system analysis.

3.3 Entity Relationship Diagram (E-R diagram)

An entity-relationship (ER) diagram is a specialized graphic that illustrates there relationships between entities in a database. ER diagrams often use symbols to represent three different types of information. Boxes are commonly used to represent entities. Diamonds are normally used to represent relationships and ovals are used to represent attributes.

3.4 Use case Diagram

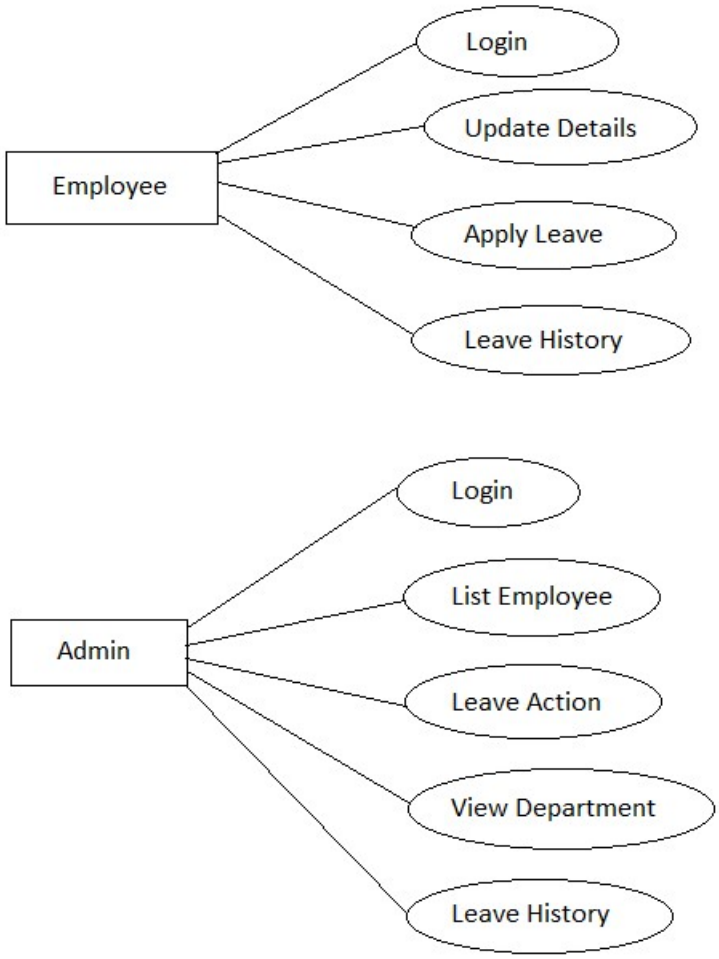


Fig 3.3: Use case diagram

A use case diagram is a graphic depiction of the interactions among the elements of a system. A use case is a methodology used in a system analysis to identify, clarify, and organize system requirements.

UML used case diagrams. Use case diagrams are usually referred to as behavior diagrams used to describe a set of actions that some system or systems should or can perform in collaboration with one or more external users of the system.

The fig shows the over view of how by using the two logins the restaurant is working on. The given diagram consists of registered user in the manager login who can order the items get the bill and can give the feedback from the manager login.

And in the admin login side new insertion of items booking details will be present. And also the can have the billing details and the feed backs of customers.

3.5 Table Design

Table Name: Employees

Register table, it is used by the user to register to site.

Sl No	Field	Type	Size	Description
1	Id	Int	11	Identity Number
2	EmpId	Varchar	120	Employee Id
3	FirstName	Varchar	120	User First Name
4	LastName	Varchar	120	User Last name
5	EmailId	Varchar	120	User Email id
6	Password	Varchar	120	User Password
7	Gender	Varchar	120	User Gender
8	Department	Varchar	120	User Department
9	PhoneNum	Char	11	User Phone number
10	Status	Int	1	Status of leave
11	ReqDate	Timestamp	12	Date of Request

Table 3.5.1: Employee table description

Table Name: Leaves

This table is used to search the different categories of books available.

Sl No	Field	Type	Size	Description
1	Id	Int	11	Id
2	LeaveType	Varchar	120	Leave Type
3	ToDate	Varchar	120	Till date
4	FromDate	Varchar	120	From date
5	Description	Text	500	Reason for leave
6	PostingDate	Time Stamp	120	Request date
7	AdminRemark	Text	500	Remarks
8	AdminRemarkDate	Time Stamp	120	Remarks Date
9	Status	Int	1	Status of Leave
10	IsRead	Int	1	Status of Read
11	EmpId	Int	11	Employee Id

Table 3.5.2: Leave table description

CHAPTER 4

IMPLEMENTATION

4.1 XAMPP

XAMPP is a free and open source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M) (formerly MYSQL), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes. Everything needed to set up a web server – server application (Apache), database (MariaDB), and scripting language (PHP) is included in an extractable file. XAMPP is also cross-platform, which means it works equally well on Linux, Mac and Windows. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server extremely easy as well.

Features of XAMPP

XAMPP is regularly updated to the latest releases of Apache, MariaDB, PHP and Perl. It also comes with a number of other modules including OpenSSL, phpMyAdmin, MediaWiki, Joomla, WordPress and more. Self-contained, multiple instances of XAMPP can exist on a single computer, and any given instance can be copied from one computer to another. XAMPP is offered in both a full and a standard version (Smaller version).

4.2 HTML

HTML is the standard markup language for creating Web pages.HTML stands for Hyper Text Markup Language.HTML describes the structure of Web pages using markup.HTML elements are the building blocks of HTML pages.HTML elements are represented by tags.HTML tags label pieces of content such as "heading", "paragraph", "table", and so onBrowsers do not display the HTML tags, but use them to render the content of the page. All HTML documents must start with a document type declaration: <!DOCTYPE html>.The HTML document itself begins with <html> and ends with </html>. The visible part of the HTML document is between <body> and </body>.

HTML headings are defined with the <h1> to <h6> tags. <h1> defines the most important heading. <h6> defines the least important heading.HTML paragraphs are defined with the <p> tag.HTML links are defined with the <a> tag. The link's destination is specified in the href attribute. Attributes are used to provide additional information about HTML elements. You will learn more about attributes in a later chapter.HTML images are defined with the <img> tag. The source file (src), alternative text (alt), width, and height are provided as attributes.HTML buttons are defined with the <button> tag. HTML lists are defined with the <ul> (unordered/bullet list) or the <ol> (ordered/numbered list) tag, followed by <li> tags (list items).

4.3 PHP

PHP stands for Hypertext Pre-processor (no, the acronym doesn't follow the name). It is an **open source**, **server**-side, scripting language used for the development of web applications. By scripting language, we mean a program that is script-based (lines of code) written for the automation of tasks.

Web pages can be designed using HTML. With HTML, code execution is done on the user's browser (client-side). On the other hand, with PHP server-side scripting language, it's executed on the server before it gets to the web browser of the user. PHP can be embedded in HTML, and it's well suited for web development and the creation of dynamic web pages for web applications, e-commerce applications, and database applications. It's considered a friendly language with abilities to easily connect with MySQL, Oracle, and other databases.

4.3.1 Uses of PHP

PHP scripts can be used on most of the well-known operating systems like Linux, Unix, Solaris, Microsoft Windows, MAC OS and many others. It also supports most web servers including Apache and IIS. Using PHP affords web developers the freedom to choose their operating system and web server.

In PHP, server-side scripting is the main area of operation. Server-side scripting with PHP involves:

- PHP Parser: a program that converts source and human readable code into a format easier for the computer to understand.
- Web server: the program that executes files that from web pages from user requests.
- Web browser: An application used to display content on the World Wide Web.

4.3.2 Supported features

Create, browse, edit, and drop databases, tables, views, columns, and indexes. Display multiple results sets through stored procedures or queries. Create, copy, drop, rename and alter databases, tables, columns and indexes. Maintenance server, databases and tables, with proposals on server configuration execute. Edit and bookmark any SQL-statement, even batch-queries. Load text files into tables. Create and read dumps of tables. Export data to various formats: CSV, XML, PDF, ISO/IEC 26300 - OpenDocument Text and Spreadsheet, Microsoft Word 2000, and LATEX formats. Import data and MySQL structures from OpenDocument spreadsheets, as well as XML, CSV, and SQL files. Administer multiple servers. Add, edit, and remove MySQL user accounts and privileges. Check referential integrity in MyISAM tables. Using Query-by-example (QBE), create complex queries automatically connecting required tables. Create PDF graphics of your database layout. Search globally in a database or a subset of it. Transform stored data into any format using a set of predefined functions, like displaying BLOB-data as image or download-link. Track changes on databases, tables and views. Support InnoDB tables and foreign keys. Support MySQL, the improved MySQL extension. Create, edit, call, export and drop stored procedures and functions. Create, edit, export and drop events and triggers. Communicate in 80 different languages

4.4 JavaScript

JavaScript is a high-level, interpreted programming language. It is a language which is also characterized as dynamic, weakly typed, prototype-based and multi-paradigm. Alongside HTML and CSS, JavaScript is one of the three core technologies of the World Wide Web.

JavaScript is most commonly used as a client side scripting language. This means that JavaScript code is written into an HTML page. There is no reason why JavaScript couldn't be used to write real, complex programs. However, this site exclusively deals with the use of JavaScript in web browsers.

JavaScript is most commonly used as a client side scripting language. This means that JavaScript code is written into an HTML page. When a user requests an HTML page with JavaScript in it, the script is sent to the browser and it's up to the browser to do something with it. Importance Of JavaScript: JavaScript, an object scripting language which is used in web pages along with markup language HTML. JavaScript is very

popular and adopted universally by every web browser for its support which allows dynamic content to get execute in a webpage.

4.4.1 JavaScript Advantages

The biggest advantages to a JavaScript having an ability to produce the same result on all modern browsers. Client-Side execution: No matter where you host JavaScript, Execute always on client environment to save a bandwidth and make execution process fast.

4.4.2 Features of JavaScript

JavaScript is an object-based scripting language. Giving the user more control over the browser. It Handling dates and time. It detecting the user's browser and OS. It is light weighted. JavaScript is a scripting language and it is not java. JavaScript is interpreter based scripting language.

4.5 CSS

CSS stands for Cascading Style Sheets.CSS describes how HTML elements are to be displayed on screen, paper, or in other media. CSS saves a lot of work. It can control the layout of multiple web pages all at once**.** External style sheets are stored in CSS filesCSS is the language for describing the presentation of Web pages, including colors, layout, and fonts. It allows one to adapt the presentation to different types of devices, such as large screens, small screens, or printers. CSS is independent of HTML and can be used with any XML-based markup language.

Cascading-Style Sheet or CSS is not a programming language. It is a markup language used with HTML to design the user interface of a website (the style is applied to the markup language throughout the same sections of similar parts).

CSS is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.

HTML was NEVER intended to contain tags for formatting a web page!

HTML was created to describe the content of a web page, like:

<h1>This is a heading</h1>

This is a paragraph

When tags like <font>, and color attributes were added to the HTML 3.2 specification, it started a nightmare for web developers. Development of large websites, where fonts and color information were added to every single page, became a long and expensive process.

4.6 MySQL

MySQL is an Oracle-backed open source relational database management system (RDBMS) based on Structured Query Language (SQL). ... Although it can be used in a wide range of applications, MySQL is most often associated with web applications and publishing. SQL stands for Structured Query Language, and it is a programming language designed for querying data from a database. MySQL is a relational database management system, which is a completely different thing.

MySQL is a relational database management system based on SQL – Structured Query Language. The application is used for a wide range of purposes, including data warehousing, e-commerce, and logging applications. The most common use for MySQL however, is for the purpose of a web database. MySQL is the most popular Open Source Relational SQL Database Management System. MySQL is one of the best RDBMS being used for developing various web-based software applications. This tutorial will give you a quick start to MySQL and make you comfortable with MySQL programming.

Advantages of Using MySQL

- Data Security.
- On-Demand Scalability.
- High Performance
- Round-the-clock Uptime.
- Comprehensive Transactional Support.
- Complete Workflow Control.
- Reduced Total Cost of Ownership.
- The Flexibility of Open Source.

4.7 Module Description

Book shopping provides a user friendly interface and performs operations according to the user's request. Almas allows the user to view any type of books available, searching for a particular book based on name, and the user can also purchase books based on his/her requirement. In order to purchase a particular book, the user should have an account. The user can register directly to our site by filling a registration form. After registration, the user can log in to the site by using the username and password created during registration. Only the registered user have the permission to purchase books from Book shopping site.

The main five modules included in the mini project

- Login
- Update details
- Apply for leave
- Grant or deny leave

4.7.1 Login

In this module the user has to login into the site, it will validate the user by name and password, which was entered at the time of registration. It will proceed the user to add the books as their wish, it also allows the user to view the cart, then if the user wishes to buy the products which were in the cart it will proceed to enter the card details and the delivery address, these are all done if the user is log into the site.

4.7.2Update details

If the user is wants to alter or update his/her detailsin the site, he/she can login to his/her account. A user can change password when forgot using the employee id.

4.7.3 Apply for leave

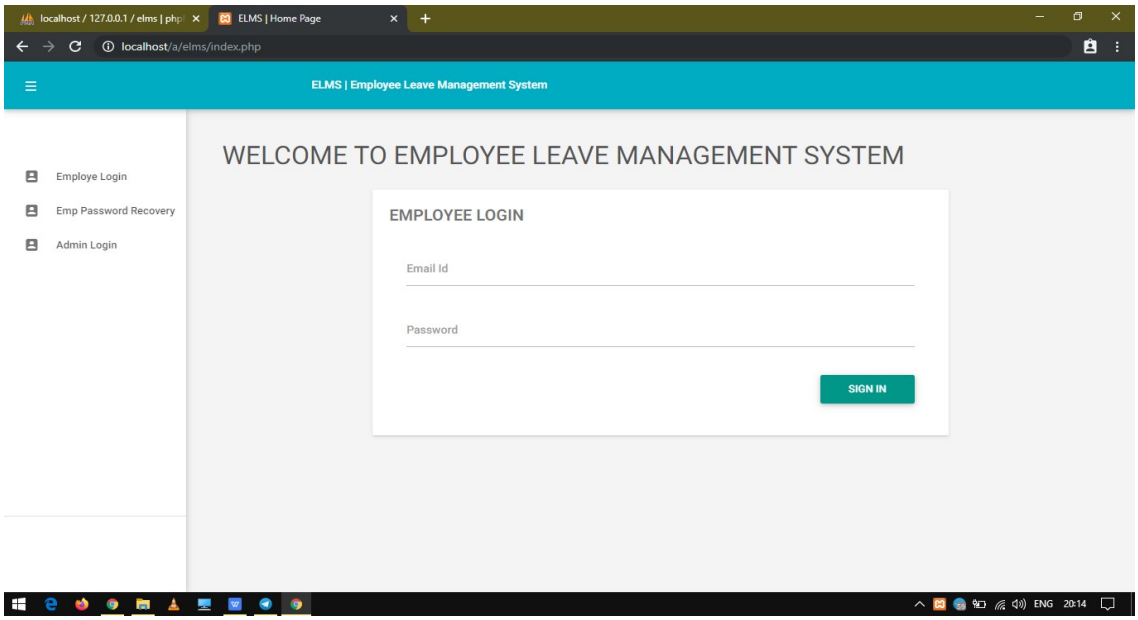
If the user is wants to applyfor leave in the site, he/she can login to his/her account. Then he can apply for leave with relevant reasons and check his status.

4.7.3Grant or deny leave

The admin can check who and all have applied for leaves, read their request and can either grant or deny the leave of which status will be updates in employees account.

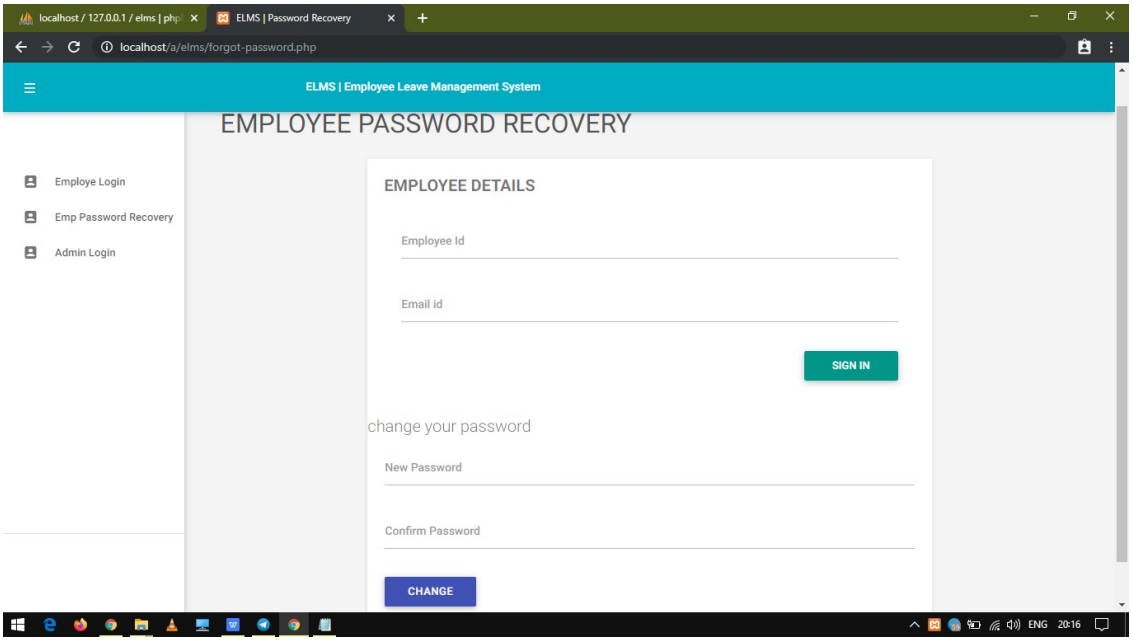
CHAPTER 5

SNAPSHOTS



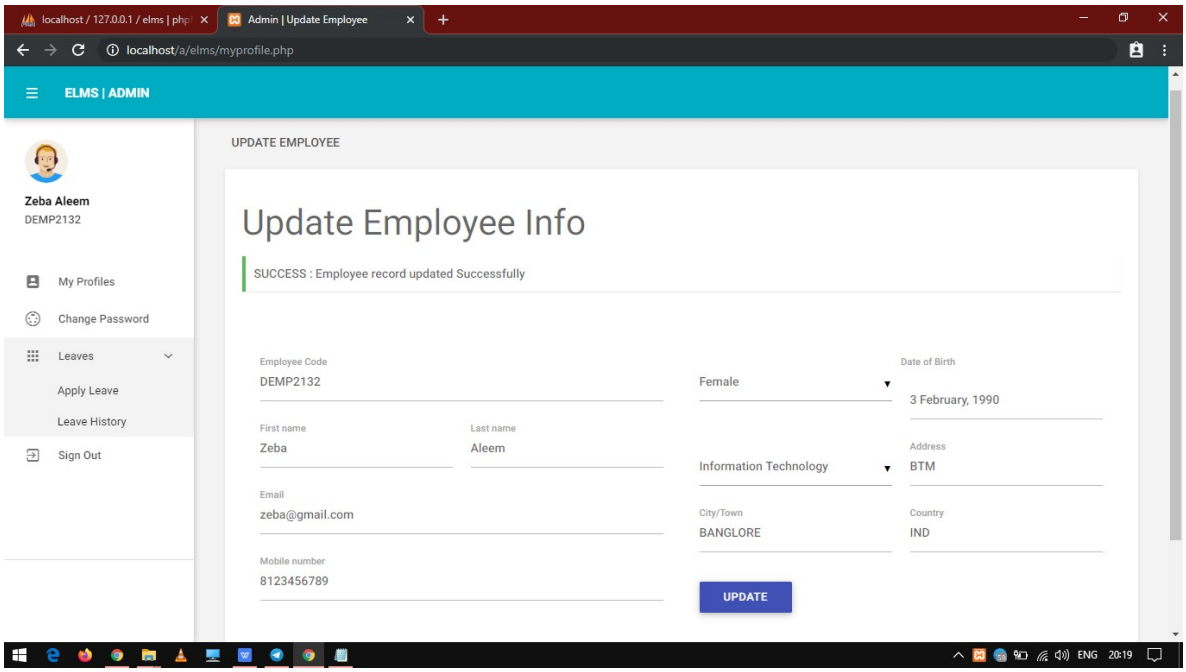
Snapshot 1: Login page for employees.

- Here a user has to enter Email-Id and password to authenticate himself for further purpose.



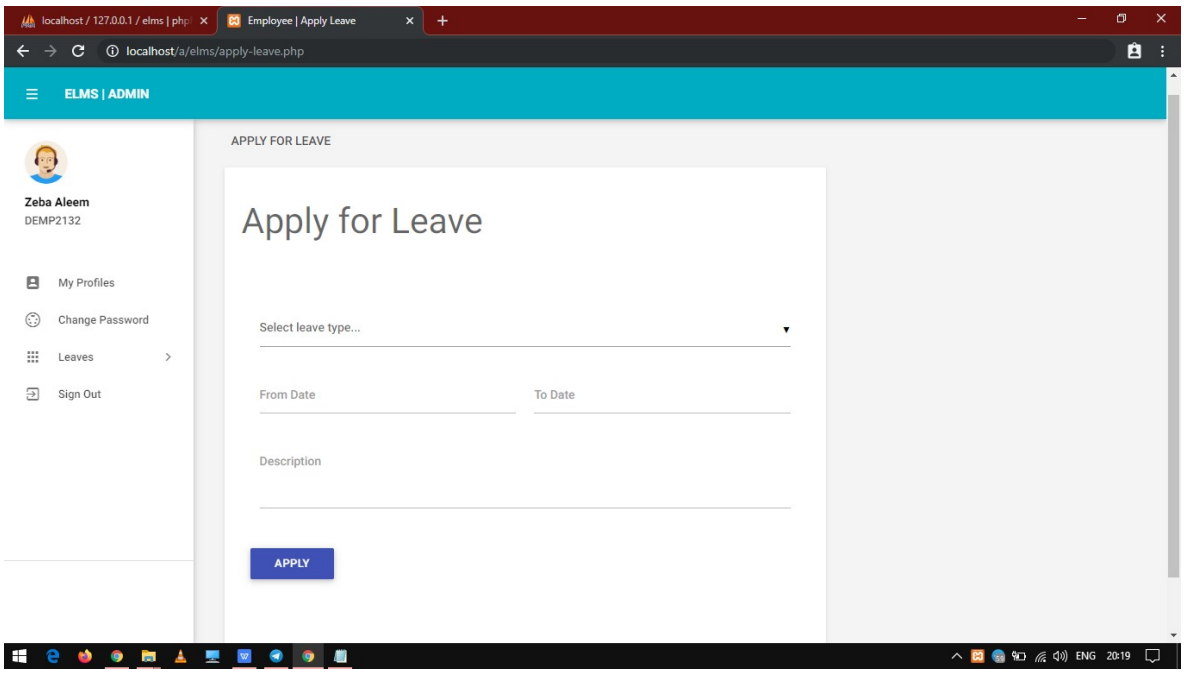
Snapshot 2: Password Recovery pagefor employees.

- Here a user can recover password using Email-Id and Employee-Id.



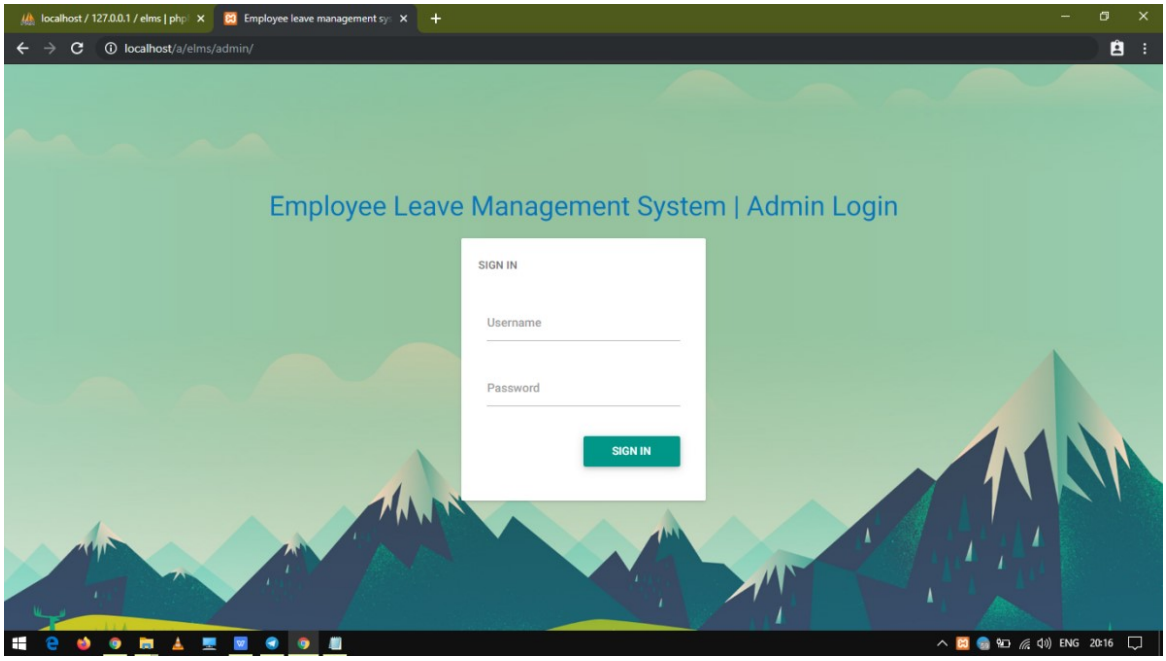
Snapshot 3: Employee details updating page.

- Here a user can update his or her details.



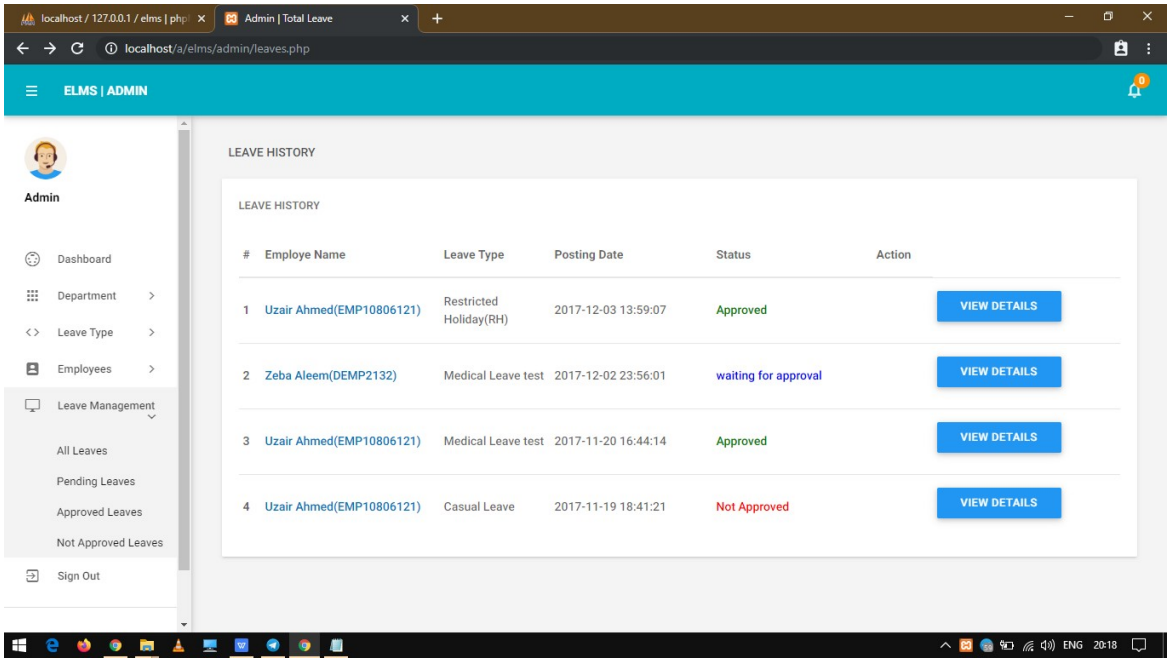
Snapshot 4: Leave applying page for employees.

- Here a user can Apply for Leave with specific category and description.



Snapshot 5: Admin login page.

- Here a Admin has to enter Id and password to authenticate himself for further purpose.



Snapshot 6: Leave management page for admin.

- Here a Admin can check who and all have applied for leave and read the message and can either approve or reject leave requests.

CONCLUSION

The application concludes information about the who and all have applied for leave and for what reason is simplified using the categories. With the technology help, an interaction internet system is designed and built. The theoretical processes involve in database design have been practically implemented. This min project provides user friendly interface or the users to interact with the database. All database operations including insertion, deletion and retrievals are supported. By this mini project automation of the entire system improves the efficiency. It provides a friendly graphical user interface which proves to be better when compared to the existing system. This mini project is being developed to achieve error free tabulation and calculation of leaves in the best way possible. Employee leave management application will reduce paper work and maintains record in more efficient way. The system has adequate scope for modification in future if it necessary.

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