Department of Computer Science & Engineering
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LEAVE MANAGEMENT SYSTEM

(Course Code: CS 200)

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Abstract

Leave Management System is a user-friendly system that mimics the workflow of the traditional paper leave application in an Online platform. It can gain access using a login Id (enrollment Id officially provided by the institute) and password. It can be accessible by the Users or Admin head (Action taking Authority). Only Super Admin can add data into the Database. The interface is very user-friendly and Smooth, easily accessible from any device (Laptop/Mobile). The User record data are well protected can only be seen by the User and Head, which speed up the processing time. The User login enables users to view their Leave Balance (Non-Teaching/Teaching) and the Leave records with Status. They can also apply for the leave easily. Admin or Head login enables them to take action on Applications appeal by their respective section users. They can either Approved or Decline the user's leave include with Message. Users cannot apply for more leaves when their leave balance outreached the minimum limit.This project has developed using Php/Html, Javascript language as a front end, and back end as MySQL.

Index Terms - Leave-Management, Approval-Decline-Process, Php-Html, Javascript, MySQL, RDMS

Chapter 1

Introduction

World is changing from traditional pen-paper system to Digital system.Every institution, whether big or small, has challenges to overcome and manage the information of staff leave, student leave, leave reason and leave status.This Online based leave management system has been developed to override the problems prevailing in the practicing of manual system.

This Leave Management System provides a beautiful graphical user interference with a user-friendly environment for the User so they only concentrate on their activity rather on rules, balance and records. It also a fast, reliable management System.Many times in the traditional approach we have to first gather all resources like a pen, paper, and calendar, etc then procced. From this Digital approach, there is nothing need for resources just need a web-platform with internet speed.

The main objective of the system is to manage the leave details of staff and students.The application deals with leave apply, leave Approve/Decline, leave balance, leave records.The project is totally build at administrative end and thus only adminstrator is guranteed the wholeaccess to maintain the database.All authorized users will be having unique login Id (Enrollment ID officially provided by the Institute) and password to grant access into the System.The User records data are designed to only view and access by the User or Admin(Head.

The User Login enables users to view their Leave Balance (Non-Teaching/Teaching) and the check the Status of the leave records. They can also apply for the leave easily.If the User (Teaching/Non-teaching) is also a supervisor Hostel Warden they can act as admin for Phd and Student also. Admin or Head login enables them to take action on Applications appeal by their repective section users.They can either Approved or Decline the user's leave include with Message.

The language used in front end is Html,CSS, Javascript and back end as PHP,MySQL.

- Staff Module
  - Teaching
  - Non-Teaching
- Student Module
  - PHD
  - Student
- Admin/HOD Module

1.1 Problem statement

The use of a pen-paper leave management system could lead to human error, may end up in the wrong hands, and not forgetting the fact that this is time-consuming.The problem can tackle by designing and implementing a web-based leave management system.

1.2 Motivation behind selection of the project

I was motivated to choose the Online leave management System Project because of an encounter, through experience. As I witness the people apply for his leave through a vigorous process, despite the health status and also with the unavailability of the desired authority. This creates a thought of developing an online system that will help to accomplish this task within the Unit.

1.3 Roadmap

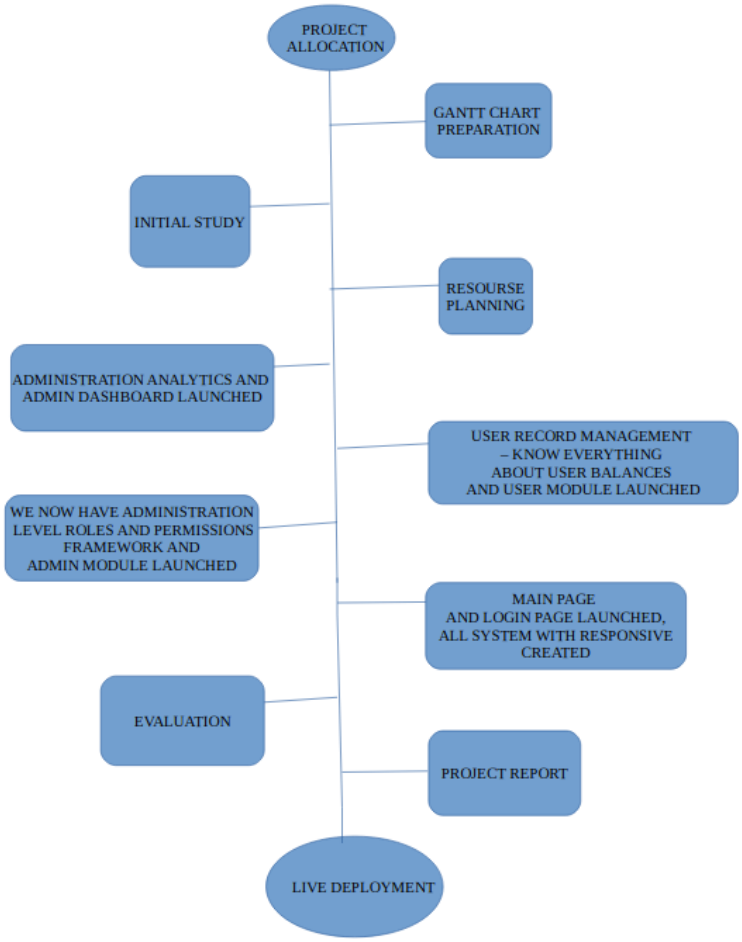

Figure 1.1: RoadMap

1.4 Your contribution

- Design a new approach for the problem on hand, which improvises the design model and can be automated.
- Develop a new design method to increase the efficiency of the system.
- Develop a web-based infrastructure to decrease the manual resource cost.
- Develop a process which improved the performance especially to execution time.
- Improve the design with User desired functionalities.

1.5 System/Software used

- Web Server (preferably Apache)
- Php (at least 5.2)
- MySQL

1.6 Implementation plan

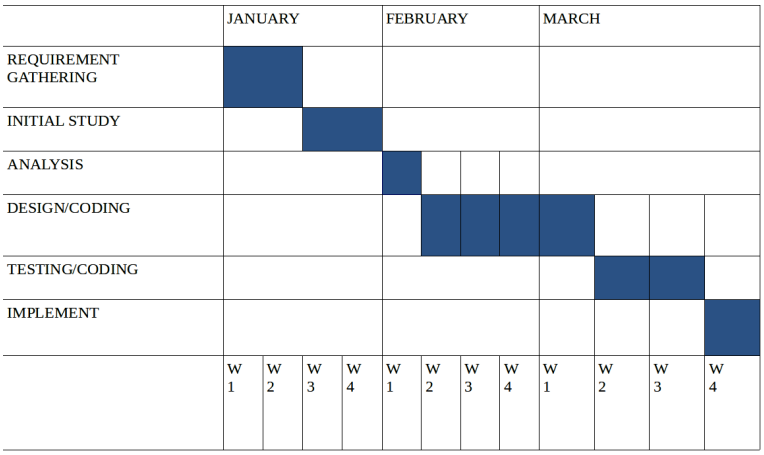

Figure 1.2: Gantt Chart

- Html,CSS and Javascript as front end
  - HTML is used to provide platform and save web document
  - JavaScript is a programming language, commonly use along side web browsers for function.
  - Cascading Style Sheets (CSS) Create attractive Layout for web page.
- MySQL and PHP as back end
  - MySQL is at present the most reliable and secure RDMS. tool.It has many important features that make excellent database server choice for client/server database computing.
  - Hypertext Preprocessor (PHP) one of the most popular development platform for web based system that is efficient for web programming.

Chapter 2

Related work

In the existing Leave management system, It usually follows the manual procedure in which staff/student needs to submit their leaves manually to their respective authorities and leave are maintained using the attendance registers/records for staff by the academic department. For calculating the leave nature balance, they collect all the records at the end of each month/Period, which is a time taking process and there are chances of losing data or errors in the records. Maintaining notices in the records also increases the paperwork.

- Submit the leave manually in person to their respective authorities.
- Leave maintained using the attendance register.
- Always availability of the authority for taken the applications.
- Records are packet in bundles and leave balance is calculated at the end of each month/Periods.
- Notices in the records increase the paperwork.

2.1 Comparative analysis

Limitations of the existing systems.

- Needs for extra manual effort.
- In existing system is standalone process normal User cannot track their Leave status.
- Less Accuracy Danger of losing some files.
- Some time authorities are not available.
- Lack of storage of the records and also take time for searching the particular records.

Proposed System Analysis

- Submission and apply all automated and simple.
- User can track their records and leave status.
- All record store in the database, No loss of Records.
- Authorities not available in-campus their can access through laptop and mobile also.
- Balance will auto calculated at every submission.

2.2 Summary

The proposed system is designed to eliminate all the drawbacks of the existing Leave management system .The System shall be responsible for maintaining information about the User, thus their personal profile.The system shall incorporate leaves management all the way from application to Approve/Decline of leave requests.

Chapter 3

System Design

3.1 System design

Design a system that fulfills the User requirements, considering that, System Design divide in two-phase :

- Module Design
  - Developed the system with Five access levels, which are Teaching/Non-Teaching, Ph.D./Student, Admin, or Head.
  - All users access the same login interface.
  - Design the form of inputs and outputs of the system.
  - Specify details and Messages in Interface for better interaction with the Users.
- Database Design
  - Developed the database structure with Five Tables, which are account, leave applied records, leave balance, sectionHead, User detail.
  - Patently, for this purpose, the necessary primary and foreign keys should be defined into the responding tables.
  - The so defined structure made up in conformity with the user's needs and demands.

3.1.1 Architecture

A. Description of entities in the Table :

1. Account

#	Name	Type	Collation	Attributes	Null	Default
1	**userid**	varchar(10)	latin1_swedish_ci		No	*None*
2	**emailid**	varchar(30)	latin1_swedish_ci		No	*None*
3	**name**	varchar(1000)	latin1_swedish_ci		No	*None*
4	**password**	varchar(10)	latin1_swedish_ci		No	*None*
5	**createdon**	timestamp		on update CURRENT_TIMESTAMP	No	CURRENT_TIMESTAMP

Figure 3.1: Account

- PRIMARY KEY as emailid, userid
- UNIQUE KEY as userid

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2. Leave Applied

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	**lid**	int(255)			No	*None*		AUTO_INCREMENT
2	**userid**	varchar(10)	latin1_swedish_ci		No	*None*		
3	**Nature**	varchar(30)	latin1_swedish_ci		Yes	*NULL*		
4	**Departuredate**	varchar(100)	latin1_swedish_ci		No	*None*		
5	**Departuretime**	varchar(100)	latin1_swedish_ci		No	*None*		
6	**Arrivaldate**	varchar(100)	latin1_swedish_ci		No	*None*		
7	**Arrivaltime**	varchar(100)	latin1_swedish_ci		No	*None*		
8	**NOD**	decimal(11,1)			Yes	*NULL*		
9	**ROL**	varchar(1000)	latin1_swedish_ci		No	*None*		
10	**AnswerSLP**	varchar(100)	latin1_swedish_ci		Yes	*NULL*		
11	**fromSLP**	varchar(100)	latin1_swedish_ci		Yes	*NULL*		
12	**toSLP**	varchar(100)	latin1_swedish_ci		Yes	*NULL*		
13	**status**	varchar(1000)	latin1_swedish_ci		No	Pending for Approve		
14	**remark**	varchar(1000)	latin1_swedish_ci		No	No Remark from Admin		
15	**AppliedOn**	timestamp(6)		on update CURRENT_TIMESTAMP	No	CURRENT_TIMESTAMP(6)		ON UPDATE CURRENT_TIMESTAMP(6)
16	**section**	varchar(1000)	latin1_swedish_ci		Yes	*NULL*		
17	**Designation**	varchar(1000)	latin1_swedish_ci		Yes	*NULL*		
18	**Supervisor**	varchar(1000)	latin1_swedish_ci		Yes	No Supervisor		

Figure 3.2: Leave Applied

- PRIMARY KEY as lid, userid
- CONSTRAINT fkleaveapplied FOREIGN KEY userid REFERENCES account userid

3. Leave Balance

#	Name	Type	Collation	Attributes	Null	Default
1	**userid**	varchar(100)	latin1_swedish_ci		No	*None*
2	**lvType**	varchar(100)	latin1_swedish_ci		No	*None*
3	**count**	decimal(11,1)			Yes	*NULL*
4	**balance**	decimal(11,1)			Yes	*NULL*
5	**max**	int(255)			Yes	*NULL*

Figure 3.3: Leave Balance

- PRIMARY KEY as userid, lvType
- CONSTRAINT fkBal FOREIGN KEY userid REFERENCES account userid

4. Section Head

#	Name	Type	Collation	Attributes	Null	Default
1	**sectionID**	varchar(10)	latin1_swedish_ci		Yes	*NULL*
2	**sectionHeadID**	varchar(10)	latin1_swedish_ci		Yes	*NULL*

Figure 3.4: Section Head

- CONSTRAINT fksectionHead FOREIGN KEY sectionHeadID REFERENCES account userid

2

5. User Detail

#	Name	Type	Collation	Attributes	Null	Default
1	**userid**	varchar(10)	latin1_swedish_ci		Yes	*NULL*
2	**fname**	varchar(100)	latin1_swedish_ci		Yes	*NULL*
3	**lname**	varchar(100)	latin1_swedish_ci		Yes	*NULL*
4	**dob**	date			Yes	*NULL*
5	**doj**	date			Yes	*NULL*
6	**gender**	varchar(10)	latin1_swedish_ci		Yes	*NULL*
7	**section**	varchar(100)	latin1_swedish_ci		Yes	*NULL*
8	**designation**	varchar(15)	latin1_swedish_ci		Yes	*NULL*
9	**Supervisor**	varchar(1000)	latin1_swedish_ci		Yes	No Supervisor
10	**HOSTELWARDEN**	varchar(3)	latin1_swedish_ci		Yes	NO

Figure 3.5: User Detail

- CONSTRAINT fkUserdetail FOREIGN KEY userid REFERENCES account userid

B. Data flow Diagram of the System :

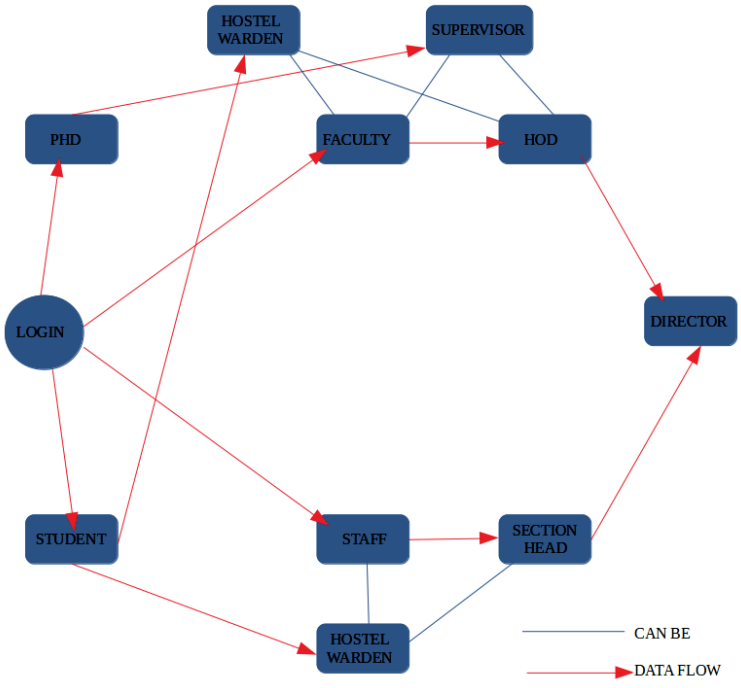

Figure 3.6: DATA FLOW DIAGRAM

C. ER Representation of the System :

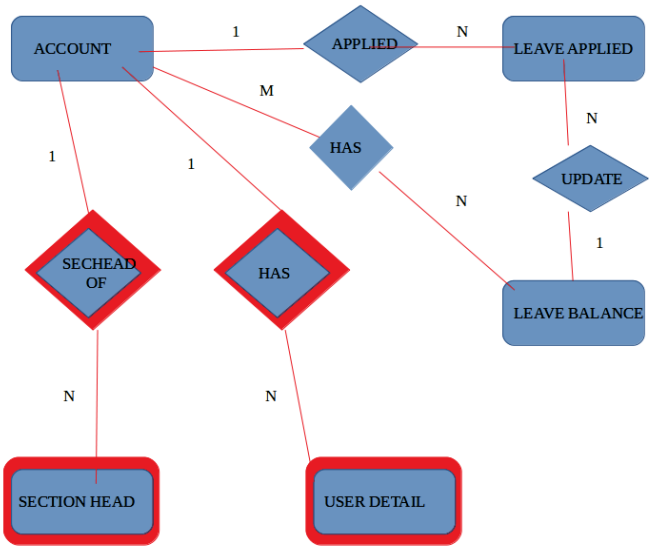

Figure 3.7: ER DIAGRAM

ER Representation or Entity Relation Representation of the System where BLUE RECTANGLE ACCOUNT and LEAVE APPLIED Represent the Strong Entity, BLUE RECTANGLE LEAVE BALANCE Represent the Multivalue Entity, RED BLUE RECTANGLE SECTION HEAD and USER DETAIL Represent the Weak Entity.

In Account, User has User detail and can be a Section Head of Section. The user applied for leave store in the Leave applied. User has Leave Balance. Leave applied update the Leave Balance.

Attributes of all the Entity has shown in Section A of Section 3.1.1 Architecture.

Chapter 4

Implementation

4.1 Experimental set-up description

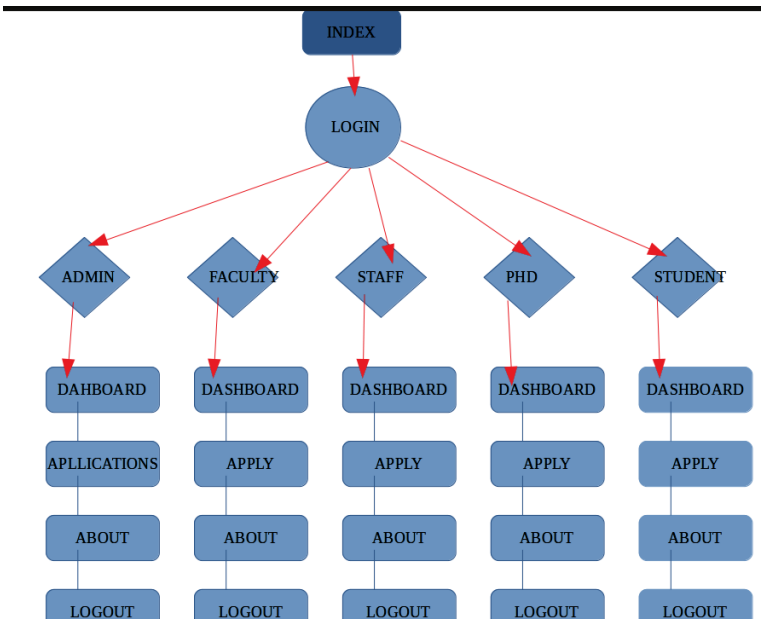

Figure 4.1: CONTROL FLOW DIAGRAM

All users are presented with the Index Page consist of User Manual, Rule Book, and Login Redirection.

All the user has the same login interface.

Users must log in to the system using a valid enrollment ID provided by the Institute and password.

After access granted to the system, the admin can view the dashboard where all the pending user leaves applications present. Admin can also saw about themself. The admin can monitor all activity logs into the system.

A user granted to the system, view the dashboard where all the applied records are there where they can check the Status. Users can apply for leave by filling in a form and submit the same. Users can view themself also.

Logout for the Session ends.

4.1.1 Function/Module/Class description

1. Admin View

All the Admins to whom the section users are reporting can view the Admin Module. When they log in, they directly come to the Admin Dashboard.

2.1 Admin Dashboard

2.1.2 The Admin Dashboard where Admin can view detailed Tree-like representation of all the employee and student under his/her Vision .

2.1.3 Admin can also view all the Total number of form, Number of Approved/Decline form .

2.2 User leave Applications

2.2.1 Admin is able to see the leave application of their employees. After Clicking the User Leave Applications.

2.2.2 Supervisor section and Hostel warden section can only be accessed if the admin has any Ph.D. under him/her And if the admin has the role of hostel warden also.

2.2.3 Admin can access the Action Page for Approval/Decline on clicking the Approve or Decline button for the particular form.

2.2.4 Admin can also view the particular form on clicking the View form.

2.3 About The Admin

2.3.1 Showing the detailed information of logged Users in Fig.4 after clicking the About.

2.4 Action For Leave Approval or Decline

2.4.1 Admin have the authority to reply to these applications by approving or decline them. Click Submit.

Note: In case of leave rejection, it is mandatory for the Admin to provide appropriate reasons for the same.

2.5 Application View

Detailed leave form page after clicking the View Form in Section 2.2.

3. User View

3.1 User Dashboard

3.1.1 Dashboard page wherein showing all the records of leaves (14).

3.1.2 Hostel Warden Section and Supervisor section are only be showing to the applicable authority.

a) Supervisor section : If the User supervise any PHD.(PHD)

b) Hostel Warden section: If User is a Hostal Warden.(Student)

3.1.3 Leave balance sheet for Teaching and Non-Teaching Users.

Note :

3.1.4 Supervisor and Hostel warden have the same authority to reply to these applications by approving or decline them.

3.1.5 The supervisor and Hostel warden can also view the applications.

3.2 How to apply for Leave

On the Basis of available leave balance user can apply for their leave by filling up the desired information as mentioned in the form. Click Submit.

Note:

The User is required to submit the leave request prior to commencement of the leave.

Station Leave is not applicable for the Student and PHD.

4.2 Obtained result

No Error is found And User can easily apply for the Leave and Check Status.Admin can easily Approve/Decline the leave Applications.

Chapter 5

Result analysis and Testing

During systems testing, the system is used experimentally to ensure that the software does not fail. In other words, we can say that it will run according to its specifications and in the way users expect. Special test data are input for processing, and the results examined.

The importance of system testing is that the system is expected to run according to the member's requirement before delivering it to the customer.

- Preparation of the test cases.
- Preparation of the possible test data with all the validation checks.
- Complete code review of the module.
- Actual testing is done manually.
- Actual testing is done manually.
- Modification is done for the errors found during testing.
- Prepared the test result scripts.

The final result is to have no Error.

Users can easily generate records.

Chapter 6

Conclusion and Future work

Overall, the system is useful for all users to maintain information at various levels. It connects admin and user and thus easy the maintain. Users can apply for leave. It has been a great pleasure for me to work on this exciting project. This project proved good for us as it provided a practical knowledge of not only programming in PHP, HTML, CSS, and Oracle MySQL Server Developer working of web-based application, but also about all handling procedures related to Advance and new technology. It also provides knowledge about the latest technology used in developing web-enabled applications and client-server technology that will be great demand in the future. This will provide better opportunities and guidance in the future in developing projects independently[3].

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