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Leave Management System

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Abstract: Employee leave management system combine number of processes and systems to automate and easily manage employee data, leave request, track and grant leave. In many institution staff are entitled to different types of leave, these leave are granted according to institution policy. Administrative department is mostly responsible for managing and granting leave request. This method is time consuming, prone to error, require more paper work and difficult to manage. Hence the need for an automated leave management system that is faster, error free, less paper work and easy to manage. The System is implemented using technologies which include Java, Oracle and Struts technology – MVC Framework and runs on Windows operating system. The overall functionality of the system shows that it work satisfactory and the result obtained shows that the system is error free, faster and allows staff to request for leave in a timely manner. Hence the system can be used by both academic staff and administrative department of an institution for effective and efficient management of employee leave.
Keywords: Employee, Leave Management System, Leave request, Institution.

Index Terms **– Leave Management System.**

I. INTRODUCTION

Employee leave management is a web based application that can be easily accessible by staff and management of an institution. It makes it easy for an employee to request and track their own leave. Administrative department of an institution on the other hand can easily allocate, grant and manage all leave requests. The system will also notify other members of staff that are required to know. This will enable administrative department to administer leave or note to the next applicant, to track and manage the employee leave. For every leave requested by an employee, the system will automatically deduct the applicant leave from total leave and notify all parties involve the total leave taken, the remaining balance and when next the leave will be taken according to policy of an institution.

2. PROBLEM STATEMENT:

Challenges are faced when handling employee record manually. This is evident in procedures such as leave management where an employee is required to fill in a form which may take several weeks or months to be approved. Another challenge is that most of the organizations have their employee records kept at the big file room in the admin block of the organization and due to that an employee can put a wrong time that he/she arrived at the organization and making it difficult to access the employee information remotely when needed at short notice. The above identified problems can be resolved using the employee management system. The system will store and maintain employee record in a database with privacy only accessed by the admin.

The project “Employee management system” seeks to develop a system that will maintain the day-to-day attendance of staffs. The aim for developing this app is to create a computerized method of leave and attendance management instead of the existing manual paper process which will help to minimize storage space and keep all saved records in the computer for future use. At the end of the implementation, the app shall deliver a good functionality providing efficiency and accuracy over the paper-based system. It is designed to achieve the following objectives :

• To provide users with user-friendly interface

• To develop a robust database for employees records

• Easy access to employee information.

• To make it easy for employees to write a leave letter instead of the long paper process.

• Automate the approval of leave.

• To make it easy for the admin to view the attendance of staffs & also for staffs to sign in and out systematically.

3. Design Methodology

An Architecture of e-leave management system

Fig. 3.1: An Architecture of e-leave management system

The steps involved in the implementation of e-leave management system are :
Step 1: Login to e-leave
Step 2: Check leave entitlement
Step 3: See who is on leave daily/weekly
Step 4: Staff apply for leave
Step 5: Supervisor will be notified via e-mail
Step 6: Staff will then receive the e-mail notification as well
Step 7: Details will be updated to the e-leave system
Step 8: Staff can check his/her leave balance online.
Step 9: Staff can check the view of his/her leave application
Step 10: Supervisor can also login to the e-leave system

- To approve or reject pending leave
- View action history
- Generic report of his/her subordinates
- Apply on-behalf of subordinates
- Check his/her own leave entitlement and apply for leave as normal employee

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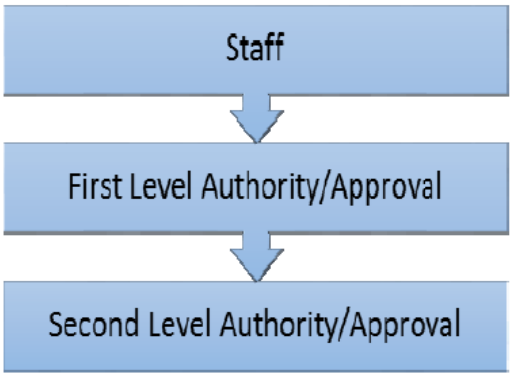
3.1 Hierarchical Structural Concepts of Authority

The e-leave management system has 2 level structure concept of authority as shown below



The hierarchical structural concepts of authority defined the levels of leave approval. When a staff apply for leave, his/her leave application passes through first and second level authority and in each of the level of approval/rejection, the staff concern will be notified via email.

3.2 The flow chart of e-leave management system

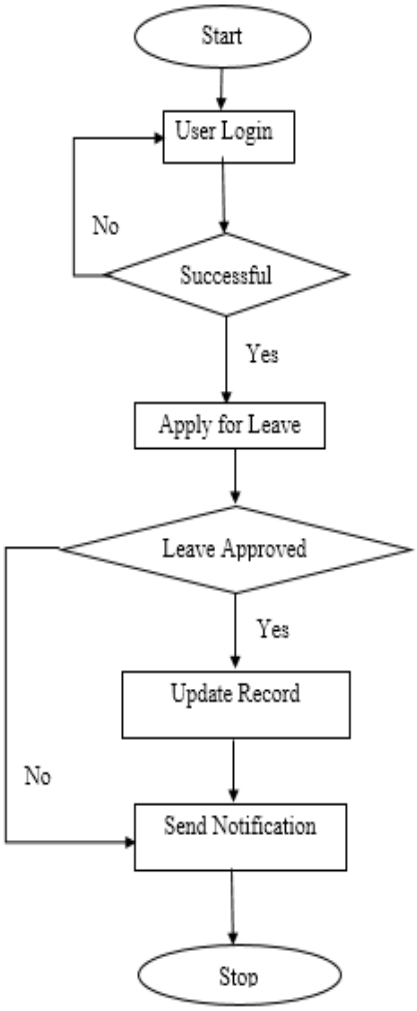


Fig. 3.2.1: The Flow Chart of E-leave Management System for Staff.

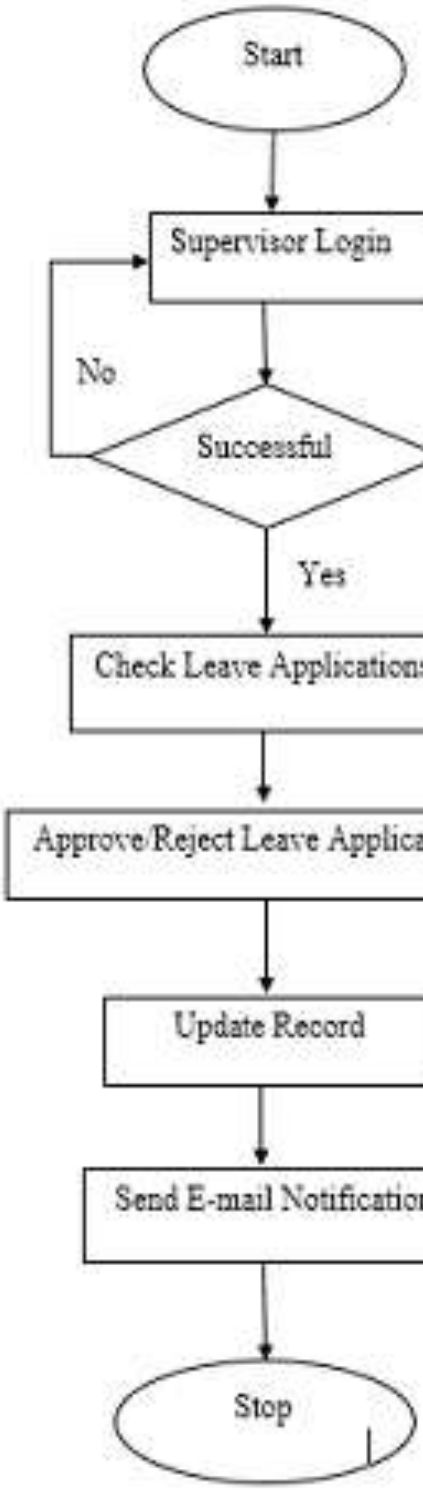


Fig. 3.2.2: The Flow Chart of E-leave Management System for Supervisor.

4. Proposed System

The Proposed Employee Management System is a desktop application using Microsoft SQL Server as the database in which the application serves as a bridge between the users and the database, where all data is stored. It is designed to allow the admin to create and save employee details and records. The application also carries out the leave management system task that keeps leave record of all the employees in the organization, it enables quick retrieval of information without any intervention and allow managers to manage the leave of its staffs and mark their leave dates. In addition, it will eliminate the paper/file system which will overcome the challenges of the current system. This proposed system also include the Attendance management system that stores the presence of staffs systematically so that management of attendance becomes easy. The Attendance management interface was designed to use fingerprint to mark your presence using a fingerprint device. The system automates the whole attendance process by generating the staff information automatically from the database and creates an immediate report upon the staff's signing out which will mark his/her presence for the day. Therefore, in a case where the staff signed in and forgot to sign out, the system will not mark his presence for the day. Finally, it is brought to light that this system will not only automate the whole process but also saves time of the admin, which can be well utilized for his institute.

4.1 Details of Software and Hardware

Hardware Requirements:

- Laptop
- Ram: 1TB
- Mouse: Dell mouse

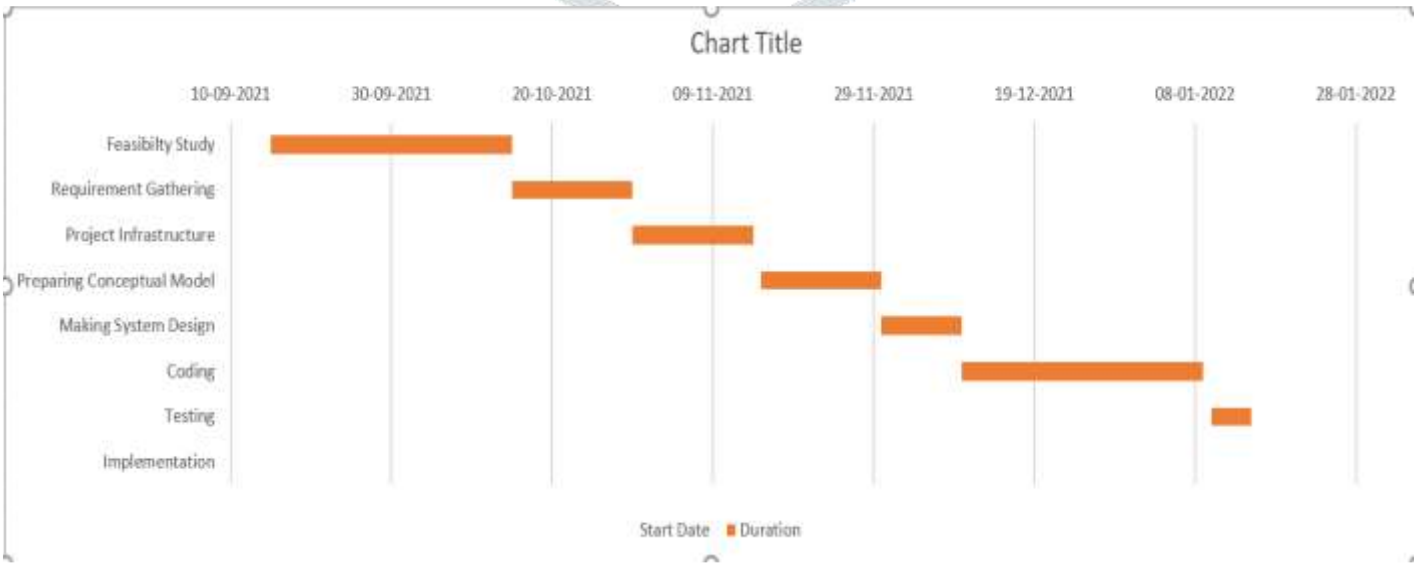
Software Requirements:

- Operating System: Windows 10
- Database: Oracle server
- Technologies used: Eclipse - Java 6 or 7
- UI: Apache Tomcat - Struts technology – MVC Framework

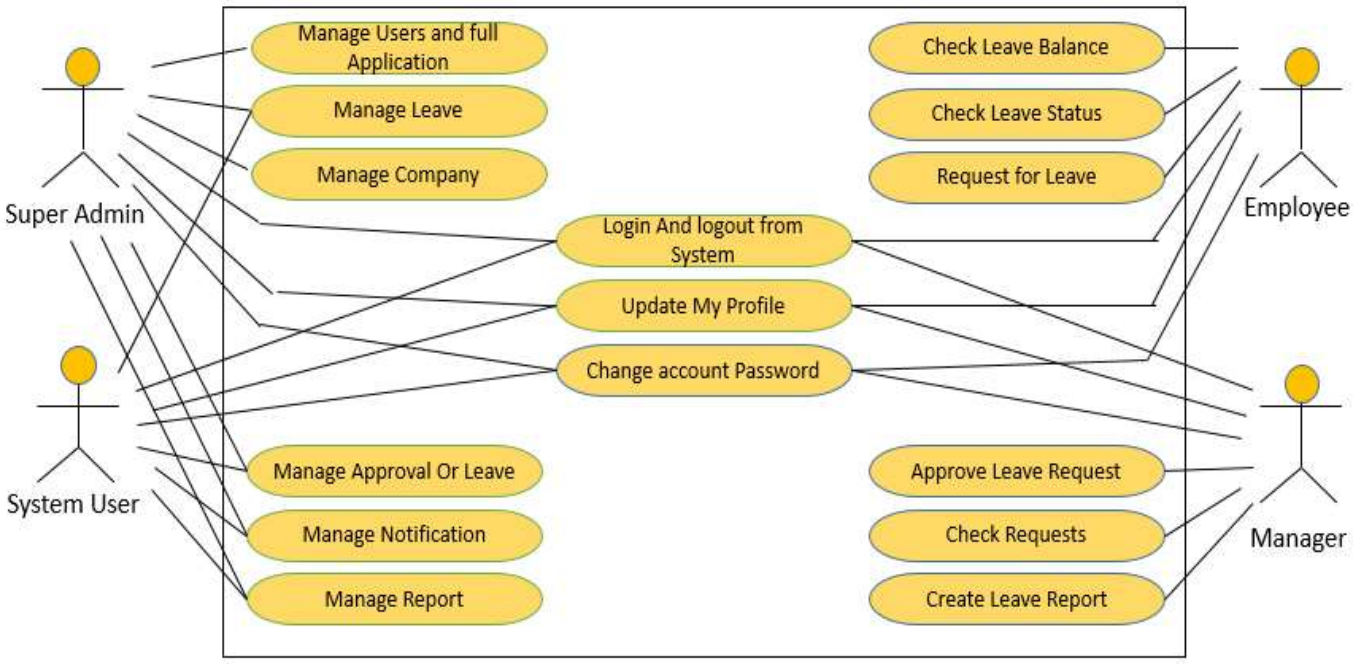
5. Implementation

Implementation is a realization of technical specification, software component through Gantt Chart, ER Diagram, Use Case Diagram.

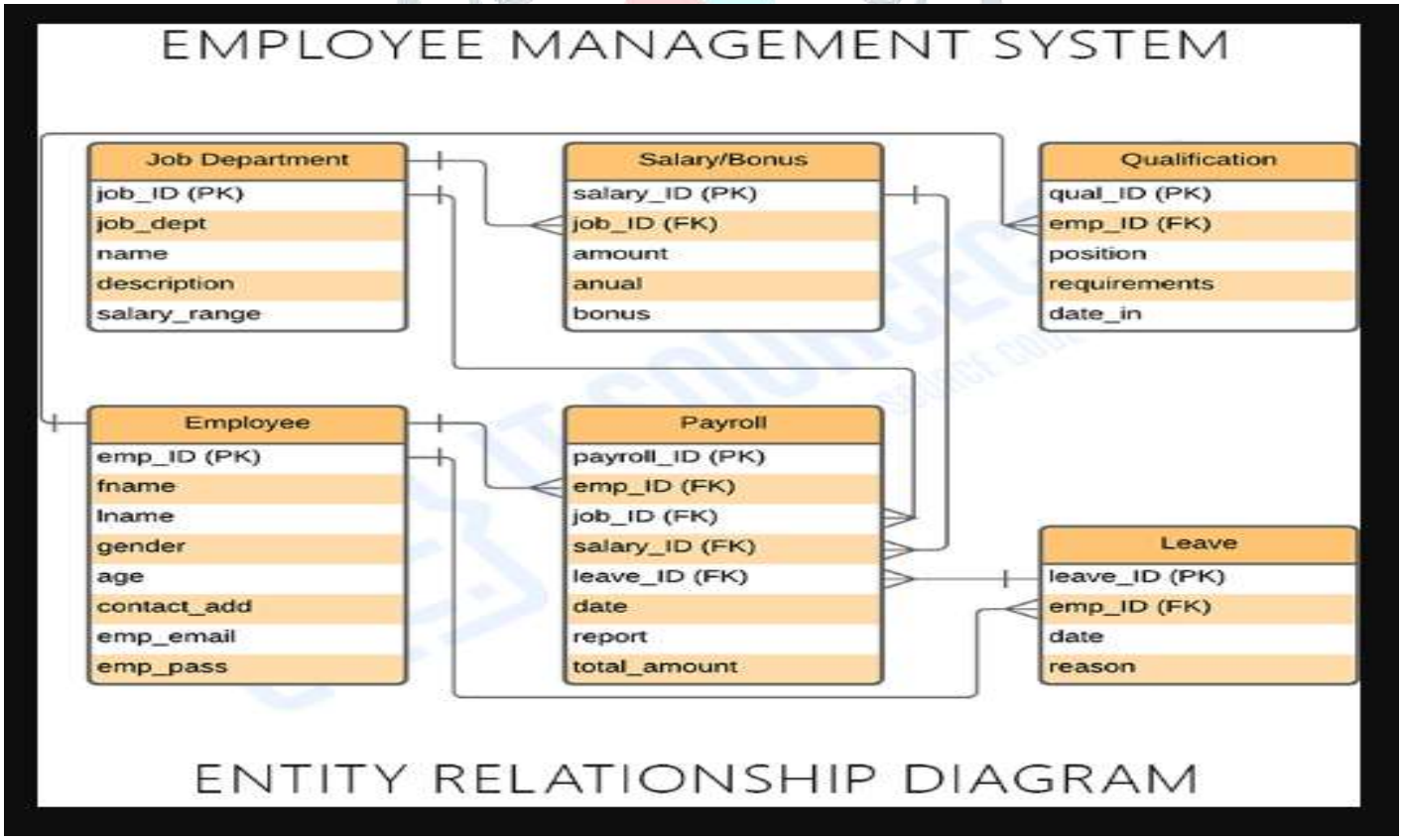
5.1 Gantt Chart



5.2 Use Case Daigram



5.3 ER Diagram



6. Conclusion:

In this paper, the development of an EMS was carried out to reduce the stress of paper based method in managing attendance and leave request process with the use of computerized software. The project was implemented using Java programming language and Oracle Server for database and it starts with a login interface which contains staff and admin login. The system was developed after analyzing and reviewing the current manual system at the fact-finding stage and a Use Case diagram was used to understand the actors of the system.

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