Software Requirements Specification

for

ONLINE LEAVE MANAGEMENT SYSTEM

Version 1.0 approved

Prepared by;

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Revision History:

Name	Date	Reason For Changes	Version
All Team Members.	09-09-2022	No changes, initial version of the project, developed by team members.	1.0

The following section provides an overview of the derived Software Requirements Specification (SRS) for the subject leave management System (LMS). To begin with, the purpose of the document is presented and its intended audience outlined. Subsequently, the scope of the project specified by the document is given with a particular focus on what the resultant software will do and the relevant benefits associated with it. The nomenclature used throughout the SRS is also offered. To conclude, a complete document overview is provided to facilitate increased reader comprehension and navigation.

1.1 Purpose:

The purpose of this SRS is to outline both the functional and non-functional requirements of the subject LMS. In addition to said requirements, the document also provides a detailed profile of the external interfaces, performance considerations and design constraints imposed on the subsequent implementation. It is the intention that the presented set of requirements possesses the following qualities; correctness, unambiguousness, completeness, consistency, verifiability, modifiability and traceability. Consequently it should act as a foundation for efficient and well-managed, Project completion and further serve as an accurate reference in the future.

1.2 Intended Audience and Reading Suggestions:

- The primary audience of this SRS document will be the development team employed to implement the specified LMS. It will not only provide an extensive capacity for project planning and progress assessment but it will further assist with developer/stakeholder interactions.
- The secondary document audience comprises the stakeholders of the project, that is, LMS ADMIN AND DIRECTOR. To this audience group, this SRS should convey and confirm the required functionality and represent a contractual agreement between the involved parties.
- The professors who would review the document.

1.3 Scope:

In today's era of Internet, the process of leave management can be automated to enhance the efficiency of work . The Online Leave Management Application (OLMA) is an website based application which can be used to help the members of faculty in optimizing the time and effort spent in the whole process of availing a leave. This site automates the workflow of leave applications and their approvals by means of mobile phones. To use this app, the members of faculty need to get themselves registered in the app. The registered members of faculty can login into the app for applying leaves by specifying from and to dates, type of leave and reason.. The leave request thus generated is sent to the admin and director concerned. Then the admin and director is supposed to accept or reject the leave request of members of faculty by considering the details specified in the leave application. If the leave request is accepted, by admin it is forwarded to the director for further approval. The director too follows the same procedure to take the further action. The members of faculty can track the status and cancel their leave application at any time during this process. Moreover, the members of faculty are allowed to check their leave balance. Admin and director can also avail the benefits of this website for applying leave. The leave request thus generated by admin is sent to the director which can be accepted or rejected. The admin and the director have privileges to view the leave reports

1 The members of faculty can check their leave status.

2Reduces a lot of time and effort.

3Reduces paper work.

4 Friendly User Interface

5 Enhances security Flexible to retrieve the information.

1.4 References:

Papers:

Online Leave Management System Tulasi Sai Shweta[1] ,C Saketh Gupta[2] Student,SRM University,Ramapuram,Chennai,India

Books:

Software Engineering: Principles and Practice, Hans van Vliet – 3rd edition, 2010.

Software Engineering (A practitioner's approach), Roger S Pressman - 6th edition, McGraw Hill 2005.

IEEE Recommended Practice for Software Requirements Specification, IEEE Standard 830, 1998.

2 OVERALL DESCRIPTION

2.1 PRODUCT PERSPECTIVE :
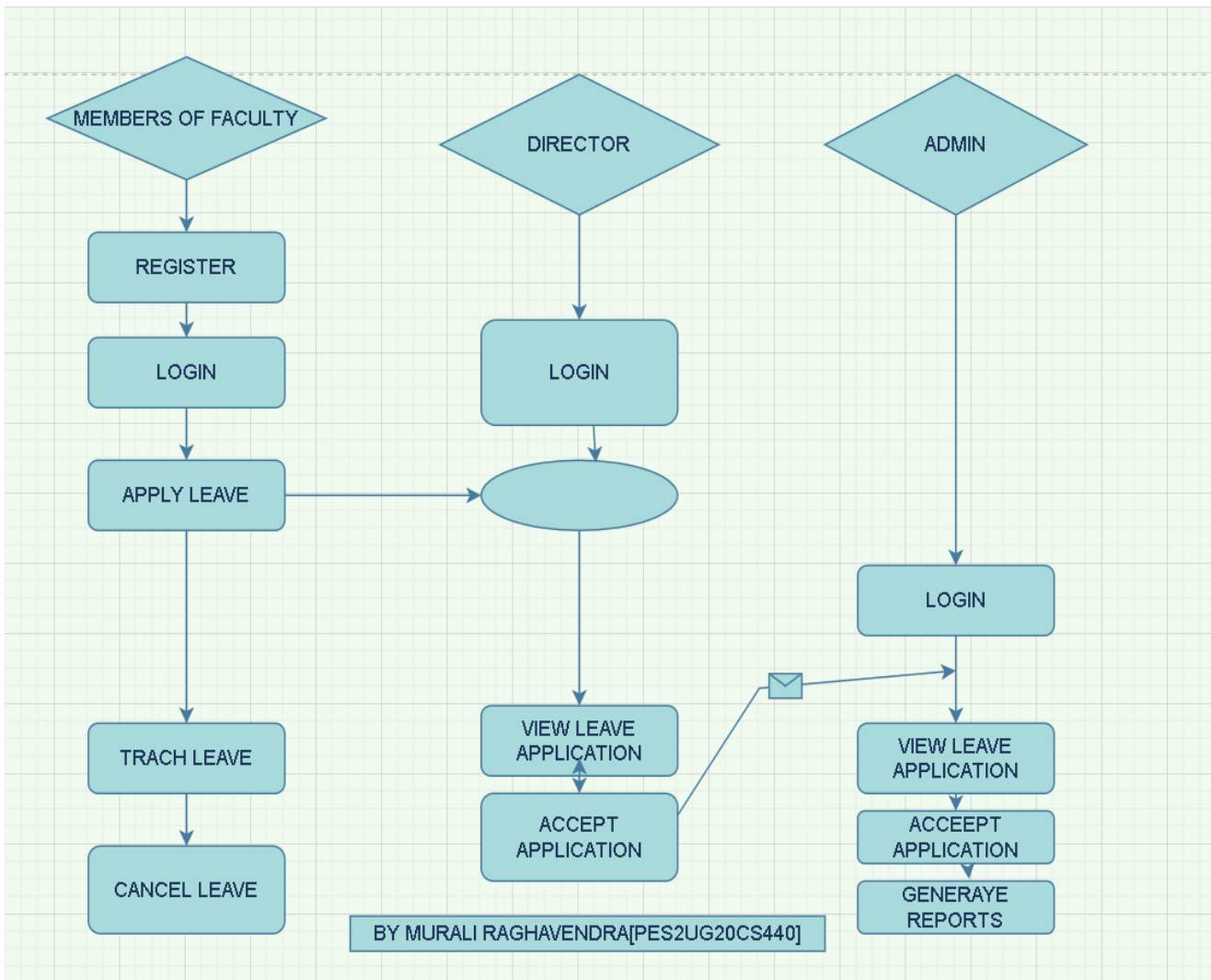
The software specified in this SRS is for a online leave management system. The application merges various software and hardware elements and provides external interface from people/systems.
Allows the users to view and apply for leaves .
It relies heavily on physical interaction from humans and external interfaces like databases, software for unhandled tasks (storing into databases)

MEMBERS OF FACULTY → REGISTER → LOGIN → APPLY LEAVE → TRACH LEAVE → CANCEL LEAVE

DIRECTOR → LOGIN → (ellipse) → VIEW LEAVE APPLICATION → ACCEPT APPLICATION

ADMIN → LOGIN → VIEW LEAVE APPLICATION → ACCEPT APPLICATION → GENERAYE REPORTS

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2.2 PRODUCT FUNCTIONS :

1.Sign-up and login page
a) Login page
i. Login as user with username/email and password
 ii. Login as admin with email and password
iii. Login as director with email and password
b) Sign Up by providing
 i. User name/Admin/director
 ii. Email
 iii. Password
iv. Address
v.Pincode
vi. Phone number
 2.leave sanctioned employee menu page
a)Search option
 3.change the number of leaves feature
 a) Ability to increase/decrease the number of days of leaves
 b) Completely cancelling the sanctioned leaves
4. recording data a) Remember the number of leaves taken by the employee
5. Display status of applied leave
6. reason in case of rejection
7.Log out page

2.3 USER CLASSES AND CHARACTERSTICS :

There are 2 main classes of Users
        A) employee
        B) Admin and director

The employee will use the application for
a) The registered user can access the account with valid credentials. An id and password are provided for each user and the user's confidentiality is maintained via separate account for each user. Hence providing a safe and secure leave management system.
 b) The user can apply for the leave of their choice from the list. User can add or edit or delete number of days of leave from the list.

c) several encryption techniques have also been used on server side to protect the user identity.as it may lead to identity theft.
d) User can track their leave status by checking their mails.

A) The admin has authority to update the list so that the employee as the high probability that he/she may get the leave.
B) The Admin can handle the functionalities like accept or reject the request of leave from the employee according to the amount of work or leaves availability.
 C) The number of days the employee as already taken leaves previously and user details are also viewable to admin.
D) The admin can maintain the employee database and advance the leave management system..

2.4 OPERATING ENVIRONMENT :

The leave management system can be used on a Computer, Tablet, or a Phone.
Require a web server for launching the application.
Users interact with the system by clicking and moving objects on the screen. It's a interactive UI
All the core processing will be done at the back-end at the servers where the application is hosted
The admin and director will get a more richer UI compared to casual users for performing specific privileged tasks.

2.5 DESIGN AND IMPLEMENTATION CONSTRAINT :

Design constraints :
The UI must be easy to use and understand by customers which will be hard to test.
Must not cause scalability constraints while using various displays differing in sizes and using different types browsers .
The system must be able to handle large loads if required during peak periods.
Must be easy to maintain and detect errors if any

Implementation constraint :
 Providing UI in multiple language will be hard to achieve and searching in other languages will be a constraint.
The hardware system must provide capacity for parallel operations and processing.
There must be low latency between each operation performed by the user for seamless performance and efficiency.

2.6 ASSUMPTIONS AND DEPENDENCIES :

The user who uses the application will have a updated browser
The database and the back end hardware will be active at all times
Assumes that tablet, PCs of sufficient processing capability and battery life will be properly utilized.
The user must have a stable and strong internet connectivity.

3. SPECIFIC REQUIREMENTS

3.1 External Interface Requirements

3.1.1 User Interfaces

The User Interface Screens are described in table I.

	Description
Login	Log into the system.
Employee	Display attendance of employee, no.of leaves, leave balance.Add or update employee records.
Apply for leave	Display leave availability, application for leave, cancel application. Add leave allotment records
Leave records	Display leave history
Approve/reject leave plication	Display leave availability and application form. Add or update records.
Staff	Add or update staff records Create, modify, and delete staff member.
Reports	Select, view, save, and delete reports

Software Interfaces

The system shall interface with an Oracle or Access database.

To implement the project we have chosen HTML language for its more interactive and easy to understand support.

Communications Interfaces

This System supports Google chrome and Mozilla Firefox web browsers.

This System involves FAQ forms for the requesting information, queries and problems etc.

Functional Requirements

- System will keep Employee records
- System provides Information about the leave approval and leave availability.
- Keep staff record.

- Keep notices record.
- Display leave history

4.Other Non-functional Requirement

Performance Requirements

Since User Experience (UX) is critical to the success or failure of our system in the market and performance is UX, we should a strict requirement on our system's performance

•The system should support more than 1000 user to checkout at the same time.

•The response time of HTTP interfaces should be less than 1 second.

•When the user request data by click on search button, searching result shall be presented on the screen within no more than 2 seconds.

• Multiple registrations should be accepted by the application and database cannot close unexpectedly due to loss of internet, and even when it closes unexpectedly the information should be stored.

Safety Requirements

•RPO and RTO should be clearly defined to avoid loss of data

.The system can not afford loss of data of its customers because it provides analysis on basis of it

Security Requirements

• Every user must change his initial password after first successful login

Confirmation

•User's personally information like phone number should be encrypted before storing in databases.

• Only the registered users shall be allowed to use the application

•Admin shall have the right to accept or reject the requested leave.

Software Quality Attributes

Standards Compliance

There shall be consistency in variable names within the system. The graphical user interface shall have a consistent look and feel.

Reliability

Specify the factors required to establish the required reliability of the software system at time of delivery.

Availability
The system shall be available 24*7.

Maintainability

The Leave Management System is being developed in Java. Java is an object oriented programming language and shall be easy to maintain.

Portability

The Leave Management System shall nm in any Microsoft Windows environment that contains Java Runtime and the Microsoft Access database.

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5.Other Requirement's:

Software Requirements:

Name of Component	Specification
Operating System	Windows 10 and higher,Linux
Language	Javascript
Database	SQL server
Framework	Html ,CSS
Browser	Chrome Browser ,Microsoft edge, Mozilla Firefox

Hardware Requirements:

Name of component	Specification
Processor	Pentium III 630MHz
RAM	128 MB
Hard disk	20 GB
Monitor	15" color monitor
Keyboard	122 keys