



PES UNIVERSITY, BANGALORE

Department of Computer Science and Engineering

**Software Requirements Specification (SRS) for University
Lost and Found Management System**

DBMS MINI PROJECT

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1.Introduction

The University-Level Lost and Found Management System is a specialized web-based application designed to simplify and enhance the process of reporting lost items, finding lost items, and facilitating communication between the university community members. The system allows users, including students, faculty, and staff, to report lost or found items, search for items, and receive notifications about potential matches within the university campus.

It is an innovative digital platform tailored to the unique needs of a university campus. It serves as a medium for simplifying and enhancing the entire process of managing lost and found items within the academic community.

This system provides an intuitive interface for students, faculty, and staff to report lost items, offering a seamless experience. Users can submit detailed information, including item descriptions, categories, and the locations where items were last seen.

Besides facilitating the reporting of lost items, the system simplifies the process of reporting found items, making it easier for people who discover lost belongings to contribute. This significantly boosts the chances of lost items finding their way back to their rightful owner.

Users also benefit from secure, personalized profiles where they can manage their contact information, enabling efficient and reliable communication between administrators and users.

Purpose

The purpose of this Software Requirements Specification (SRS) document is to provide a comprehensive overview of the University-Level Lost and Found Management System. This document outlines the objectives, features, functionalities, and constraints of the system. It serves as a guide for the development team, stakeholders, and any parties involved in the project.

Product Scope

The University-Level Lost and Found Management System is a specialized web-based application designed to simplify and enhance the process of reporting lost items, finding lost items, and facilitating communication between the university community members. The system allows users, including students, faculty, and staff, to report lost or found items, search for items, and receive notifications about potential matches within the university campus.

Product Functions

The primary functions of the Lost and Found Management System include:

- User registration and authentication.
- Reporting lost items with detailed information.
- Reporting found items with descriptions and locations.
- Searching for lost and found items based on various criteria.
- Matching lost and found items and facilitating contact between owners and finders.
- Admin panel for user and item management.

2. System Features

System Feature-1: User login

Description:

User login allows registered users to login to their accounts securely. This feature is of high priority since it ensures user access control and data privacy.

Stimulus/Response sequences:

- User enters his/her registered email and password
- System validates the entered credentials

-If correct, system logs in to the user's account

Functional Requirements:

- REQ-1: The owner/finder can login with the system if he/she is registered with the system
- REQ-2: The owner/finder is able to enter registered email address
- REQ-3: The owner/finder is able to enter a password
- REQ-4: If owner/finder has given valid email address and password, they are able to press the login button
- REQ5: User is able to login into the system

System Feature-2: Report found item

Description:

Users are able to report a found item on the system. This is of high priority found items need to be returned and their status updated accordingly.

Stimulus/Response sequences:

- User enters details of a found item
- System updates the status of the lost item to 'found'

Functional requirements:

- REQ-1: The user is able to report his/her lost item
- REQ-2: The user is able to enter the date on which item was found
- REQ-3: The user is able to enter location where the item was found
- REQ-4: The user is able to enter category of found item
- REQ-5: After entering the details, user is able to press the submit button

System Feature-3: Report lost item

Description:

User is able to report a lost item on the system

Stimulus/Response sequences:

- User enters the details of the lost item

- User clicks on the 'submit' button
- System records the lost item into the database

Functional requirements:

- REQ-1: The owner is able to report his/her lost item
- REQ-2: The owner is able to enter date on which his/her item was lost
- REQ-3: The owner is able to enter the category of his/her lost item
- REQ-4: The is able to enter a brief description of his/her lost item
- REQ-5: After entering the details, owner is able to press the submit button

System Feature-4: New user registration

Description:

New user registration allows an owner/finder to register himself/herself on the lost and found management system.

Stimulus/Response sequences:

- User enters his/her details first name and last name
- User enters a valid email address
- User sets a password
- System creates a new account for the user

Functional Requirements:

- REQ-1: The owner or finder can register himself/herself onto the system
- REQ-2: Users are able to enter their first and last name
- REQ-3: The user is able to enter a valid email address
- REQ-4: The user is able to set a password

System feature-5: View status

Functional requirements:

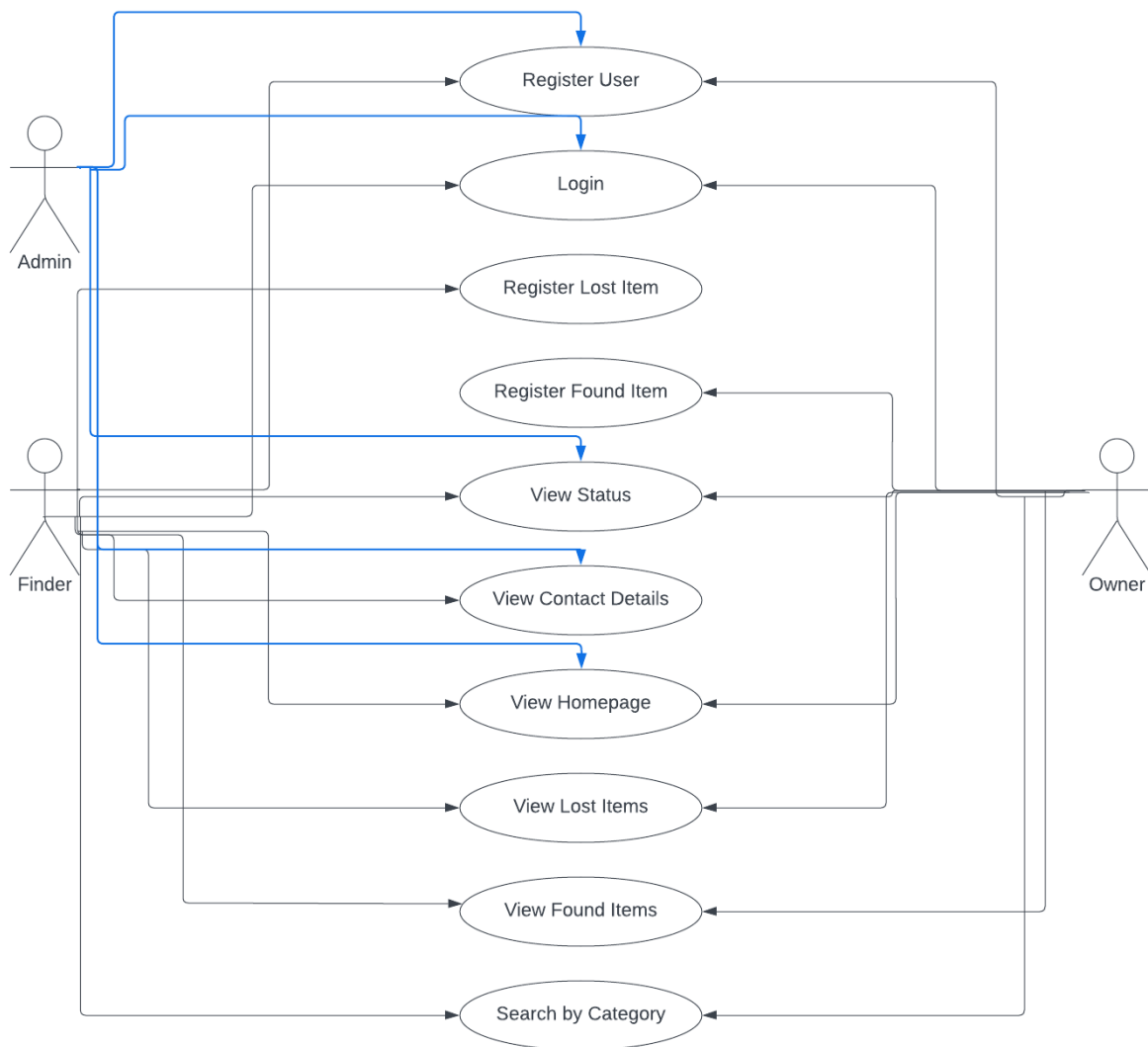
- REQ-1: The owner/finder can check the status of the lost item by entering the reference number of that particular item
- REQ-2: The admin is able to check the performance of the system
- REQ-3: Admin is able to block the user, who is trolling, posting abusive content, etc.

System feature-6: View homepage

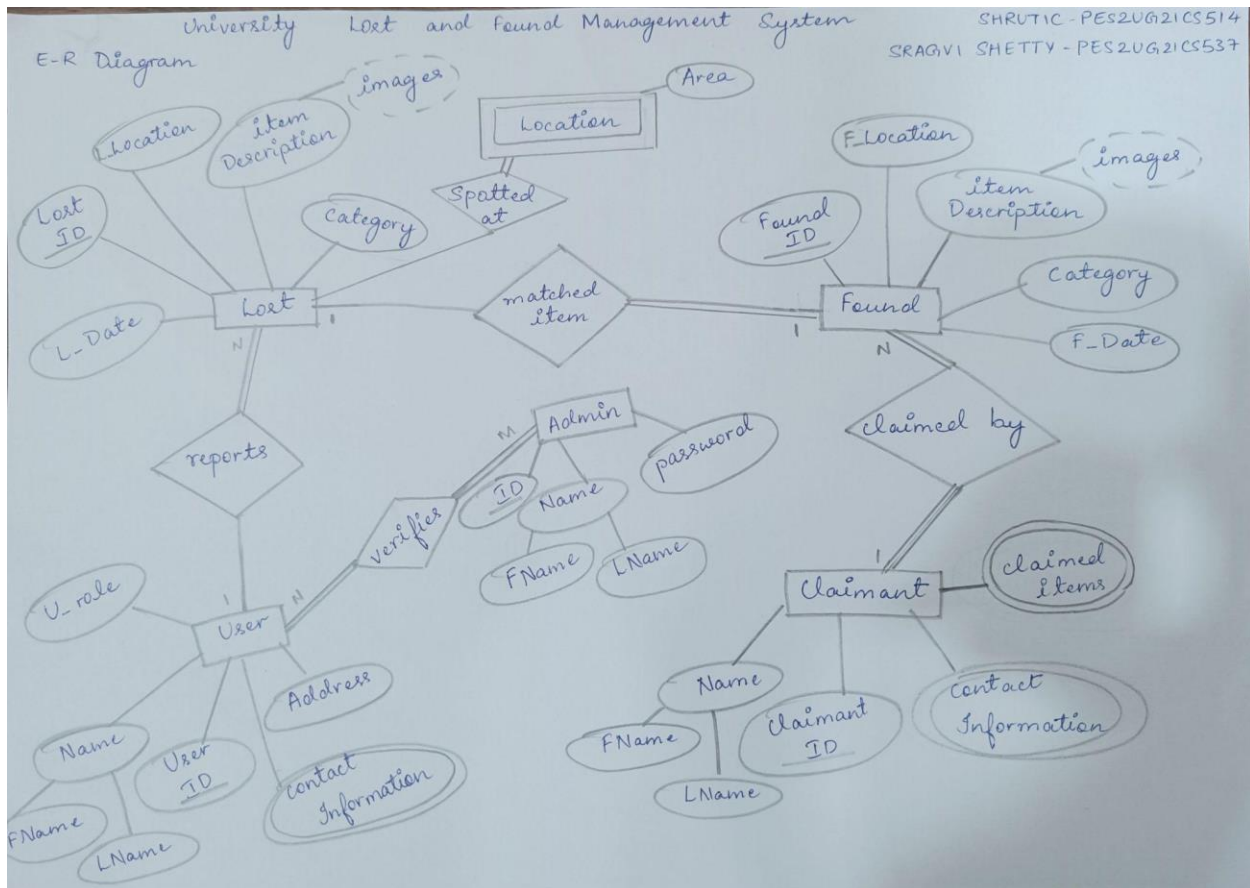
Functional requirements:

- REQ-1: The lost items highlights are displayed on the main page
- REQ-2: The user can search the lost item from the search bar
- REQ-3: The user is able to report a lost item
- REQ-4: The user is able to report a found item

Use Case Diagram for Project



2. ER Diagram



Cardinality Ratio:

Matched Item relationship - the relationship between Lost and Found entities has the cardinality ratio of 1:1. Every item that was reported as lost can be found only once and an item which is found will be mapped to lost only once.

Reports relationship - between User and Lost is of 1:N cardinality because 1 user can report multiple lost items, but 1 lost item spotted can only be reported by one User. There is total participation from Lost as every item that was reported as lost needs to be done by a User.

Verifies relationship - between Admin and User is M:N because multiple admins can verify the authenticity of multiple users. There is total participation from both Admin and User.

Claimed By relationship - between Claimant and Found has cardinality ratio 1:N because one item is found (claimed ownership of) by only one Claimant, but a claimant can assume ownership of multiple found items. There is total participation by both Claimant and Found.

3. Relational Mapping:

LOST

<u>LOST_ID</u>	LOST_LOCATION	ITEM_DESCRIPTION	CATEGORY	L_DATE
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FOUND

<u>FOUND_ID</u>	F_LOCATION	ITEM_DESCRIPTION	CATEGORY	F_DATE
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USER

<u>USER_ID</u>	FNAME	LNAME	ADDRESS	U_ROLE
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USER CONTACT INFORMATION

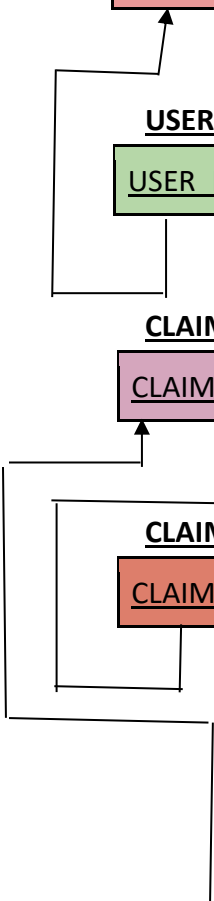
<u>USER_ID</u>	<u>CONTACT INFORMATION</u>
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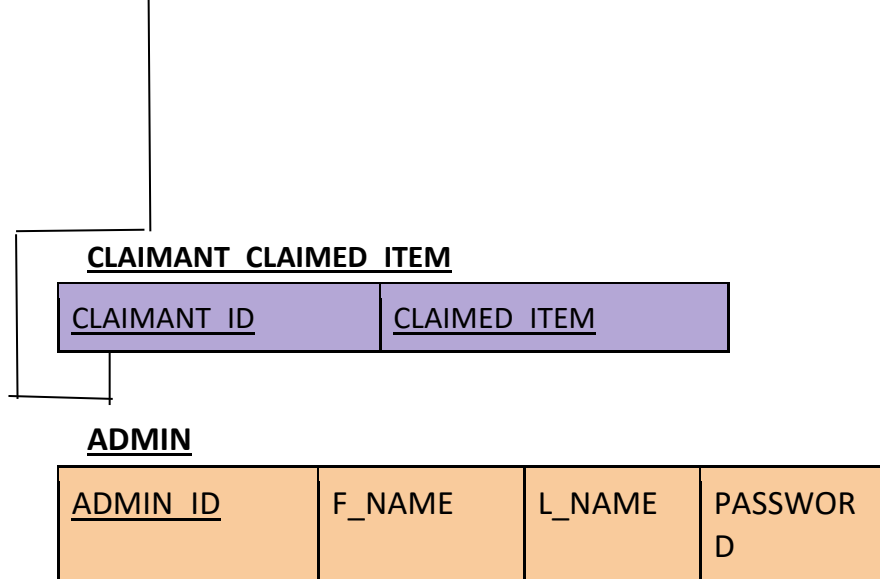
CLAIMANT

<u>CLAIMANT_ID</u>	FNAME	LNAME
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CLAIMANT CONTACT INFORMATION

<u>CLAIMANT_ID</u>	<u>CONTACT INFORMATION</u>
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4. Implementation Details

User Requirements

User requirements for a Lost and Found Management System typically include a set of functionalities and features that address the needs of both administrators and end-users. Here are some common user requirements for such a system:

User Requirements for End-Users (People who have lost or found items):

1. User Registration and Profile Management:

- Users should be able to create and manage their profiles.
- Profile management should include updating contact information (email, phone number) for notifications.

2. Reporting Lost Items:

- Users should have a simple and intuitive way to report lost items.
- They should provide details such as item description, category, and the location where the item was lost.

3. Reporting Found Items:

- Users should be able to report found items.

- They should provide information about the found item, including its description and location.

4. Item Matching and Notifications:

- The system should use algorithms to match lost and found items.
- Users who reported lost items should receive notifications when potential matches are found.

5. Claim Ownership of Found Items:

- Users who find items should be able to claim ownership of them if they believe they are the rightful owners.

6. Search Functionality:

- Users should be able to search for both lost and found items based on various criteria (e.g., item description, category, date, location).

7. Item Status Tracking:

- Users should be able to track the status of their reported lost items and any claims they make on found items.

8. Security and Privacy:

- Users personal information should be protected and not visible to others.
- Users should have control over their privacy settings.

User Requirements for Administrators (Lost and Found Management Staff):

1. User Management:

- Administrators should be able to manage user accounts, including registration approvals and user contact information updates.

2. Item Management:

- Administrators should have access to a dashboard for managing lost and found items.
- They should be able to update item status, resolve claims, and mark items as returned.

3. Reporting and Analytics:

- The system should provide reporting and analytics tools to help administrators track the efficiency of the system, including the number of matches, unresolved cases, and user engagement.

4. Security and Access Control:

- The system should have strong security measures in place to protect user data and prevent unauthorized access to sensitive information.

5. System Customization:

- Administrators should be able to customize the system to match the specific needs and policies of the university or institution.

6. User Support and Helpdesk:

- Administrators should provide support to users who may have questions or encounter issues with the system.

These user requirements provide a foundation for designing a Lost and Found Management System that meets the needs of both end-users and administrators, ensuring a smooth and efficient process for reporting, matching, and recovering lost items.

Software Interface:

The website would need to be connected to a database to store the data for the lost and found items. Here we will make use of the MySQL database.

Application programming interface protocols

The website would use the following application programming interface (API) protocols:

- **MySQL API:** The website would use the MySQL API to communicate with the MySQL database.
- **PHP Mailer API:** The website would use the PHP Mailer API to send email notifications.

The website would need to be connected to the following software components:

- **XAMPP:** XAMPP is a software stack that includes a web server, a database server, and a programming language interpreter. The website would use the Apache web server to serve its files to users, the MySQL database server to store its data, and the PHP programming language interpreter to process its code.
- **HTML:** HTML is a markup language that is used to create the structure and content of the website's pages.
- **PHP:** PHP is a programming language that is used to develop the website's functionality.
- **MySQL Database:** MySQL Database is a relational database management system (RDBMS) that is used to store the website's data.
- **jQuery:** jQuery is a JavaScript library that simplifies the process of adding interactivity to web pages.
- **Ajax Requests:** Ajax requests are used to communicate with the server without reloading the web page. This allows the website to be more responsive and user-friendly.

Data items or messages coming into the system:

- User registration information (name, email address, password)
- Lost item information (category, title, description, images)
- Found item information (category, title, description, contact information)