DBMS Mini-Project

Team Details

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User Requirement Specification

Purpose of the Project

- The purpose of the Lost & Found Web Application is to provide a **digital platform** for reporting and tracking lost or found items within an organization or campus.
- It eliminates the need for manual processes like notice boards or word-of-mouth communication, making item recovery faster and more organized.
- The system allows users to **create accounts, report items, upload images, and view matches** in a centralized interface.
- It improves **transparency, accessibility, and efficiency** in handling lost-and-found cases.
- Ultimately, the goal is to reduce the number of unclaimed items and ensure a smooth recovery process for users.

Scope of the Project

- The project covers the **design, development, and deployment** of a web-based Lost & Found Management System.
- Users can **register, log in, report lost or found items, upload image links**, and track item statuses.
- The system stores all data securely in a **MySQL database**, maintaining relationships between users, reports, and images.
- It supports **search and filter functionality** to help users easily find potential matches.
- Admin or authorized personnel can **monitor all reports**, update item statuses (Lost, Matched, Returned, Claimed), and manage users if required.
- The application's scope is primarily for **internal institutional use** (e.g., college campus), ensuring privacy and data accuracy.

Detailed Description

To ensure efficient handling and secure tracking of misplaced or discovered belongings within public and private premises, the Lost and Found Management System (LFMS) is designed as a comprehensive platform to record, match, and manage lost and found items systematically.

Central to the system is the **Item** entity, each uniquely identified by an **Item ID** and characterized by details such as **item name**, **category** (e.g., electronics, documents, accessories, clothing), **description**, **date reported**, and **status** (Lost, Found, or Returned). This structured representation ensures traceability and easy classification of every reported object.

Every item in the system is associated with a **Location**, which represents the place where the item was lost or found. Each location has a **unique Location ID**, **name**, **type** (e.g., Airport, College Campus, Shopping Mall, or Metro Station), and **address**, allowing the system to organize records geographically and support large-scale operations across multiple sites.

The system maintains distinct records for **Users**, categorized as **Finders** and **Seekers**. A **Seeker** is an individual who reports a missing item, while a **Finder** is someone who submits a found item to the system. Both user types share common attributes such as **User ID**, **name**, **email**, **contact number**, and **role**, but differ in their interactions with the system. This classification allows role-based access and operation tracking, ensuring accountability and data integrity.

When a user submits a report of a found or lost item, the system generates an **Item Report**, which captures detailed information including the **user ID of the reporter**, **item details**, **location**, **timestamp**, and **current status**. Reports can be edited or updated by authorized personnel in case of new information or item recovery.

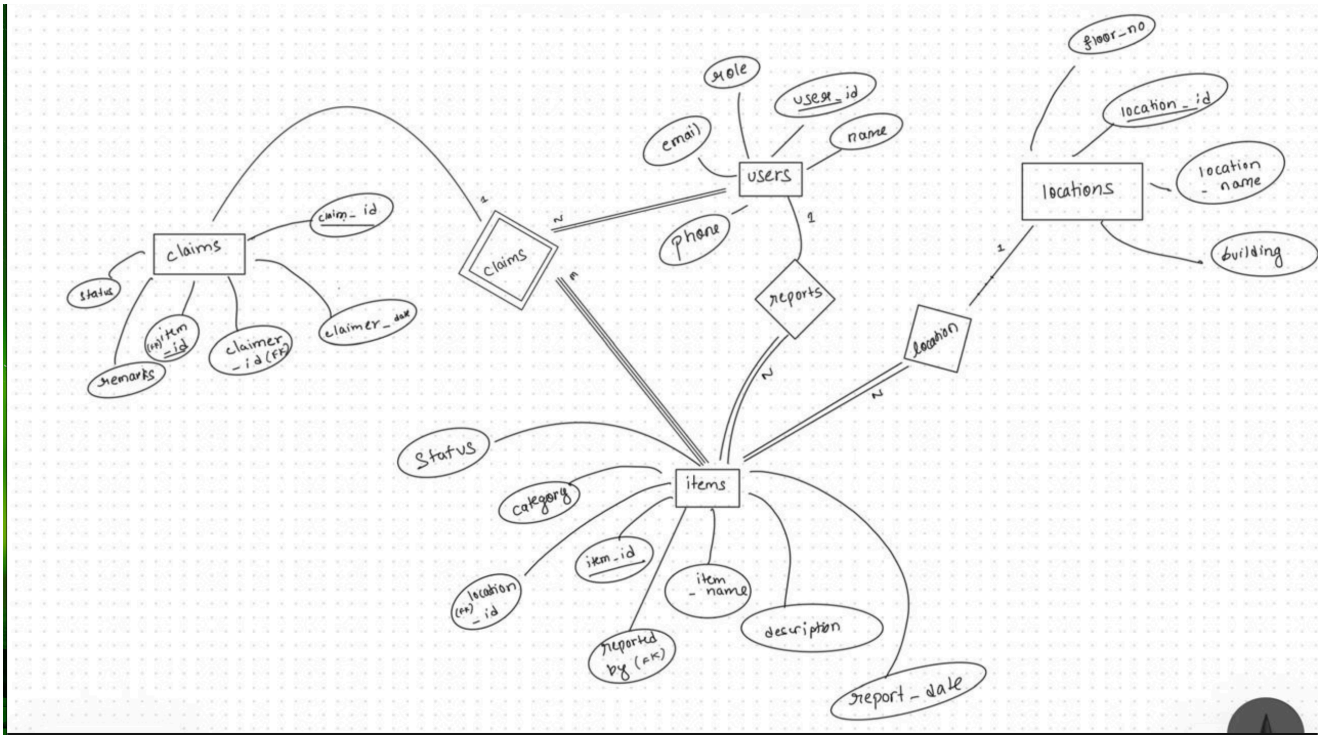
To streamline the matching process, the system employs a **Matching Record** entity that compares lost and found reports based on attributes such as **item category**, **keywords in description**, and **location proximity**. Once a potential match is identified, the system notifies the respective users for verification. Upon confirmation, the status of the involved items is updated to “Matched,” followed by verification from the administrator before final handover.

Each verified item exchange results in a **Claim Record**, which logs the **claim ID**, **date claimed**, **item ID**, **claimer’s user ID**, and **staff-in-charge ID**. This ensures that every handover is authenticated and documented. To enhance system transparency, all transactions are timestamped and auditable.

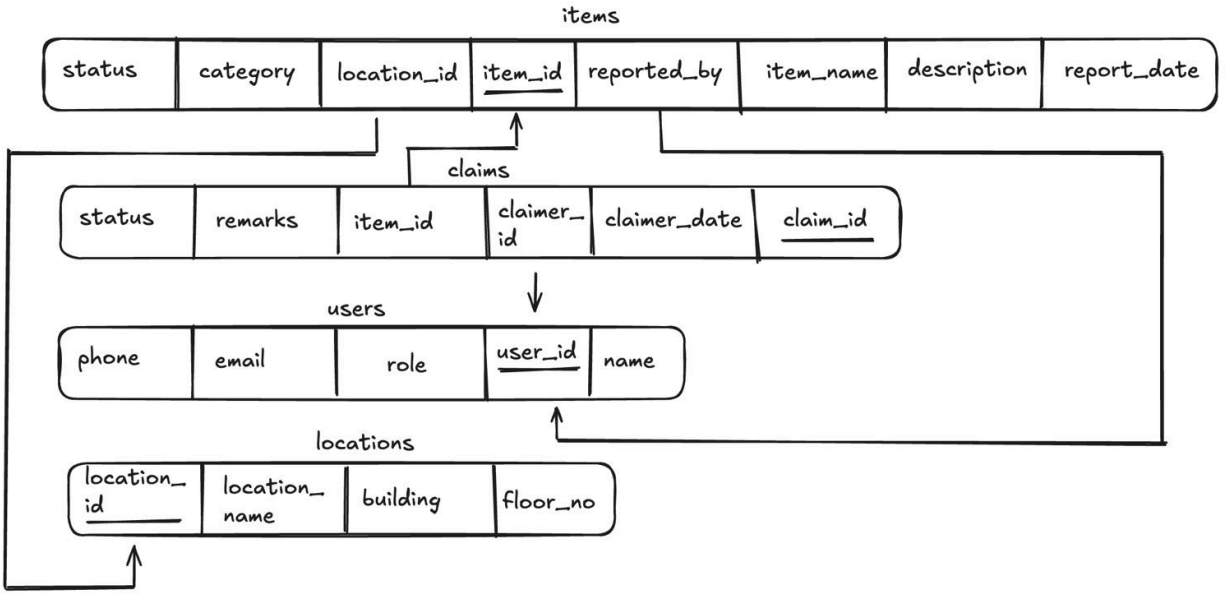
Optionally, the system supports **Notifications** for users via email, informing them of matched reports, verification approvals, or claim confirmations. This feature improves user engagement and speeds up recovery.

Together, these interconnected entities — including **User**, **Item**, **Location**, **Item Report**, **Matching Record** and **Claim Record** — create a cohesive Lost and Found Management System that simplifies the traditionally manual process of handling misplaced belongings. The design ensures data consistency, prevents duplication, enhances user trust, and allows scalability for deployment across multiple branches or organizations.

ER Diagram



Schema Diagram



Functional Requirements

1. ***User Authentication***
   The system should allow users to register, log in, and log out securely using a username and password.
2. ***Data Entry and Storage***
   Users should be able to add, update, and delete records in the database through the system interface.
3. ***Search Functionality***
   The system should allow users to search for specific records based on keywords or filters.
4. ***Data Retrieval and Display***
   The system should fetch and display data from the database in a user-friendly tabular format.
5. ***Error Handling***
   The system should handle invalid inputs and database errors gracefully, showing proper messages.
6. ***Backup and Restore***
   The system should support database backup and restoration to prevent data loss.