

# Lost & Found Item Tracker for University Campus

## 1. Functional Requirements

1. Users can register and log in.
2. Logged-in users can report lost or found items.
3. Users can search for items by status or location.
4. Users can claim an item.
5. Staff can delete or modify reports (moderation).
6. User should be notified if the item was found.

## 2. Non-Functional Requirements

1. The system must be accessible via a simple REST API.
2. Basic authentication and role-based access control must be implemented.
3. The app must be easy to deploy and run using Spring Boot.
4. The database must support storing users and item reports.
5. The system should be able to scale to handle a large number of users and items, especially in a large university setting.
6. The user interface should be simple and intuitive, with clear options for reporting and searching items.
7. The system should be available 24/7 with minimal downtime, especially for campus users.

## 3. Use Cases

### UC1: Register / Login

- **Actor:** User

- **Description:** Users can create an account and log in to use the system.

#### **UC2: Report Lost or Found Item**

- **Actor:** User
- **Description:** Users can report lost or found items.
- **Preconditions:** User is logged in.
- **Postconditions:** Item is stored in the system with status LOST or FOUND.

#### **UC3: Search Items**

- **Actor:** User
- **Description:** Users can search items using filters like location or status.

#### **UC4: Claim Item**

- **Actor:** User
- **Description:** A user can claim an item if they find their own lost item.

#### **UC5: Moderate Report**

- **Actor:** Staff
- **Description:** Staff can delete or edit item reports.
- **Preconditions:** User has role STAFF

## 4. Class Diagram

