

SWE 363
Web Engineering and Development
TERM 241
Phase 3: Requirements

1-Project Motivation

The main motivation for "Find-it @KFUPM" is to solve the ongoing problem of lost and found items on campus. It aims to make it easier and faster for students and staff to report and find lost belongings through a centralized online platform, improving the campus experience and encouraging community involvement. Additionally, it provides a practical project for applying web development skills.

Real life example, I (Mohammad) am the admin of the Telegram group "Lost and found KFUPM" which has 2400+ subscribers with many students having the awareness to use the platform.

However, the plot-twist is that the telegram requires contacting me through WhatsApp to report found or lost items, which is inconvenient. The web app in my opinion WILL enhance security issues and make reporting much more convenient.

2- Users of the Web

1- Administrator:

2- Participant:

3- Watcher:

3- Functional Requirements:

Posting lost items & Posting found items

- The system shall allow participants to post details about a lost item, including item description, location, and a photo.
- The system shall provide a confirmation email to the participant after submitting the post.
- After submission, the system shall provide a preview of the post for confirmation.
- Upon confirmation, the system shall submit the post and display a success message
- The user shall be able to access and update item details (e.g., description, location, contact information, image) after the post is submitted.
- The system shall allow the user to update the status of the post (e.g., mark as resolved, found, or recovered).
- The system shall allow participants to post details about a found item, including item description, location, and a photo.
- The system shall provide a confirmation email to the participant after submitting the post.

Authentication

- The system shall allow participants to log in using their KFUPM portal credentials.
- The system shall restrict access to only authorized participants (KFUPM students and staff).
- The system shall allow watchers to log in using their KFUPM portal credentials.
- The system shall restrict access to only authorized watchers (KFUPM students and staff).
- The system shall allow users to reset their KFUPM portal passwords via a secure link sent to their official email.
- The system shall automatically log users out after a specified period of inactivity.

Search for Items

- The system shall allow the user to search for lost/found items based on keywords.
- The system shall filter search result based on the date posted or item category.
- The system shall provide sorting options for search results, such as by(e.g. most recent posts alphabetical order)
- The system shall allow the user to see past search keywords.

Notifications

- The system shall send an email to all Participant users when his item is founded.
- The system shall notify Participant user when someone comment on his post.

Viewing posts

- The system shall allow watcher to view lost and found items.

Commenting on Posts

- The system shall allow participants to comment on lost or found item posts to provide additional information about the post.
- The system shall allow watchers to comment on any lost or found item post to provide additional information or ask questions.
- The system shall allow administrators to moderate comments and delete or edit any inappropriate or irrelevant content

Moderation

- The system shall allow administrators to add, edit, and delete any post.
- The system shall allow administrators to generate activity reports of users' posts and comments.

Post approval

- The system shall require administrator approval for all found item posts before they are published.
- The system shall notify administrators when a new found item post is submitted and prompt them to review the content for confidential information.
- The system shall allow administrators to approve, reject, or edit a found item post based on its suitability for publication.

Visual Dashboard for Participants

- The system shall provide a visual dashboard for participants, displaying key statistics such as:
 - Number of lost items posted.
 - Number of found items posted.
 - Items successfully recovered.
 - Points earned.
 - The dashboard shall be accessible from the participant's profile.

Reward system

- The system shall automatically add a specified number of points to a participant who helps locate a lost item.
- The system shall allow participants to redeem their accumulated points for predefined gifts.
- The system shall track the points earned by each participant and notify them when they have enough points to redeem a gift.

Bookmarking/Tracking posts

- The system shall allow Participant user to bookmark posts of interest for easy reference later.
- Participant user shall have a "Bookmarks" section in their user profile to manage these saved posts.

Visual Dashboard for Administrators

The system shall provide a visual dashboard for administrators, displaying key statistics such as:

- Total number of lost items.
 - Total number of users
 - Total number of found items.
 - Number of items successfully recovered.
 - Number of comments posted.
 - Activity logs.
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- The dashboard shall allow administrators to filter statistics by date range, item type, and status (e.g., lost, found, resolved).

Administrator Action Logs

- The system shall log all actions performed by administrators, including post approvals, edits, deletions, and comment moderations.
- The system shall allow administrators to view and export these logs for auditing purposes

4-Non-Functional Requirements

- 1- The phases of the project shall be submitted according to the timeline posted in the SWE363 (**Web Engineering & Development**) course' repository,
https://github.com/hammadojh/web_course/blob/main/term_project.md#Phases
- 2- The system shall be implemented using HTML, CSS and JavaScript as a Front-End and Node.js, Express as a Back-End.
- 3- The system shall comply with the latest web code documentation standards using HTML, CSS, and JavaScript.
- 4- The system shall use React as the Front-End framework.
- 5- The system shall be implemented using MongoDB as a database.
- 6- The users shall be able to understand all the functionalities of the web-app within 15 minutes of usage, which is determined by a simple survey. (**Usability requirement**)
- 7- The system shall be available 24 hours a day. (**Availability requirement**)

- 8- The system shall follow KFUPM University' authentication rules to allow accessing the users to the system.
- 9- The system shall implement robust error handling mechanisms to ensure dependability.
- 10- The system shall ensure delivering items to the correct destination by verifying the client from his/her personal KFUPM email. (**Reliability requirement**)
- 11- The system shall be implemented by using a clean code methodology such as separating the files of the implementation to enhance the maintainability of the system. (**Maintainability requirement**)

5- Wireframe