

FindIT- Lost & Found Portal using MERN Stack

Kusuma Mahanthi, Daniel Benjamin, Kalyan Dasari, N .Arun Kumar

MCA Student, Aditya Degree & PG College, Vizianagaram, Andhra Pradesh, India

Project Director, Adhoc Network Tech, IT Sez, Visakhapatnam, Andhra Pradesh, India

Associate Engineer, Adhoc Network Tech, IT Sez, Visakhapatnam, Andhra Pradesh, India

Project Guide, Associate Developer, Adhoc Network Tech, IT Sez, Visakhapatnam, Andhra Pradesh, India

ABSTRACT: The Lost and Found Web Application (FindIT) is designed to help users easily report, search, and recover lost items through a centralized online platform. In daily life, people often lose important belongings such as mobile phones, wallets, documents, and accessories. This application provides a practical solution by connecting the person who lost an item with the person who found it.

Users can post details of lost or found items, including name, category, location, date, and images. The system allows users to search and filter items efficiently. A claim feature enables users to request ownership of an item by submitting necessary details and proof. The application also provides notifications and claim status updates to improve communication between users.

The system is developed using modern web technologies, with a user-friendly interface for smooth interaction. It can be further enhanced with advanced features such as authentication, real-time updates, and image storage.

This project reduces the difficulty of finding lost items, saves time, and encourages community support by providing a reliable and efficient digital solution.

KEYWORDS: React.js, Node.js, Express.js, MongoDB, HTML, CSS, JavaScript, Item Recovery, Claim Management

I. INTRODUCTION

In today's fast-paced world, people frequently lose important personal belongings such as mobile phones, wallets, identity cards, documents, bags, and other valuable items in public places, educational institutions, workplaces, and transportation areas. Traditional lost-and-found systems mainly rely on manual registers, notice boards, or verbal communication, which are often inefficient, time-consuming, and difficult to manage. As a result, many lost items remain unrecovered due to the lack of a proper communication platform between the owner and the finder.

With the rapid growth of web technologies, digital platforms have become an effective solution for managing information and improving communication. The Lost and Found Web Application (FindIT) is developed to provide a centralized and user-friendly platform where users can report, search, and recover lost items easily and efficiently. The application connects individuals who have lost items with those who have found them through an online system.

The proposed system allows users to post details about lost or found items, including item name, category, description, date, location, and images. Users can search and filter items based on different categories to quickly locate relevant information. The system also includes a claim management feature that enables users to request ownership verification by submitting necessary proof. Notifications and claim-status updates improve transparency and communication between users.

The application is developed using modern web technologies such as HTML, CSS, JavaScript, React.js, Node.js, Express.js, and MongoDB to ensure efficient performance and a responsive user interface. The main objective of this project is to simplify the process of recovering lost belongings, reduce manual effort, save time, and provide a reliable digital solution for lost-and-found management.

II. LITERATURE SURVEY

The increasing use of digital technologies has encouraged the development of web-based management systems for solving real-world problems efficiently. Several researchers and developers have proposed online lost-and-found systems to reduce the limitations of traditional manual methods. Existing systems mainly focus on providing centralized platforms where users can report and search for lost or found items.

Many traditional lost-and-found systems depend on manual record maintenance, notice boards, or social media communication. These methods are often inefficient, time-consuming, and lack proper organization. Users face difficulties in searching for items, verifying ownership, and receiving updates about item status.

Recent web-based solutions have introduced features such as user registration, item posting, search filters, image uploads, and notification systems to improve item recovery processes. Some systems also provide authentication and claim verification mechanisms to increase security and reliability. Modern technologies like React.js, Node.js, Express.js, and MongoDB are widely used for developing scalable and responsive web applications due to their flexibility and performance.

Although existing systems provide basic functionalities, many applications still lack advanced features such as real-time notifications, secure claim management, and efficient communication between users. The proposed FindIT system aims to overcome these limitations by providing a user-friendly and centralized platform with improved search functionality, claim management, and efficient item tracking to simplify the recovery process of lost belongings.

III. METHODOLOGY

The FindIT Lost and Found Web Application is developed using the MERN stack methodology to provide an efficient and user-friendly platform for managing lost and found items. The system follows a structured development process that includes requirement analysis, system design, implementation, testing, and deployment.

Initially, the requirements of the system were analyzed to identify the necessary features such as user registration, item posting, searching, filtering, claim management, and notifications. Based on these requirements, the system architecture and database structure were designed to ensure smooth data management and communication between the frontend and backend.

The frontend of the application is developed using React.js along with HTML, CSS, and JavaScript to create a responsive and interactive user interface. The backend is developed using Node.js and Express.js, which handle API requests, user operations, and item management functionalities. MongoDB is used as the database to store user information, lost and found item details, and claim records efficiently.

Users can submit details about lost or found items, including item name, category, location, date, description, and images. The system processes this information and stores it in the database for easy retrieval. Search and filtering functionalities are implemented to help users quickly find relevant items. A claim management feature allows users to request ownership verification by providing necessary details and proof.

The application is tested to ensure proper functionality, performance, and user experience. The methodology adopted in this project helps in developing a reliable, scalable, and efficient digital solution for lost-and-found management.

IV. SYSTEM ARCHITECTURE

The architecture of the FindIT application follows a client-server model using the MERN stack. The frontend is developed using React.js, which provides an interactive and responsive user interface for users to interact with the system. The backend is developed using Node.js and Express.js, which handle user requests, API operations, and communication with the database. MongoDB is used as the database to store user details, lost and found item information, and claim records.

The user interacts with the frontend interface to submit lost or found item details, search items, and manage claims. The frontend communicates with the backend through RESTful APIs. The backend processes requests and stores or retrieves data from the MongoDB database. The system architecture ensures efficient data handling, scalability, and smooth communication between different components of the application.

User → React Frontend → Express/Node Backend → MongoDB Database

MODULES DESCRIPTION

The FindIT system is divided into different modules to perform various operations efficiently.

1. User Module

This module allows users to register, log in, and manage their accounts securely.

2. Lost Item Module

Users can post details about lost items including item name, category, date, location, description, and images.

3. Found Item Module

This module enables users to upload details of found items to help identify the rightful owner.

4. Search and Filter Module

Users can search and filter items based on category, location, and keywords for easy item tracking.

5. Claim Management Module

Users can request ownership of an item by submitting proof and necessary information for verification.

6. Notification Module

The system provides updates regarding claim requests and item status to improve communication between users.

V. RESULTS AND DISCUSSION

The FindIT Lost and Found Web Application was successfully developed and tested using the MERN stack technologies. The system provides a centralized platform for users to report, search, and recover lost items efficiently. The application was tested with different user operations such as item posting, searching, filtering, and claim management to ensure proper functionality and smooth performance.

The user registration and login functionalities worked successfully, allowing secure access to the application. Users were able to upload lost and found item details, including item name, category, location, date, description, and images. The search and filter functionalities helped users quickly locate relevant items based on categories and keywords.

The claim management feature enabled users to request ownership verification by submitting necessary details. Notifications and claim-status updates improved communication between users and simplified the recovery process. The responsive user interface provided smooth interaction across different devices and browsers.

The experimental results show that the system reduces manual effort, saves time, and improves the efficiency of lost-item recovery compared to traditional methods. The application successfully demonstrates the practical implementation of a reliable and user-friendly digital lost-and-found management system.

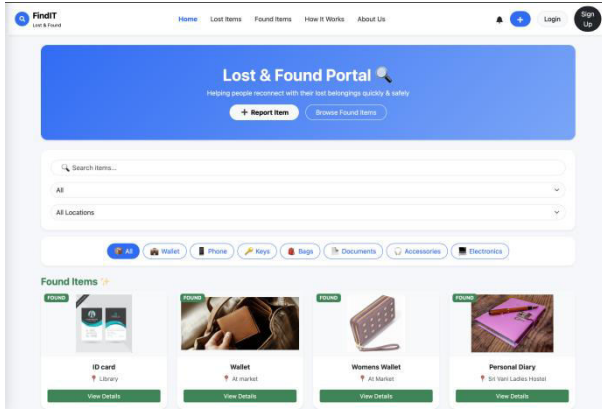


Fig 1: Home Page

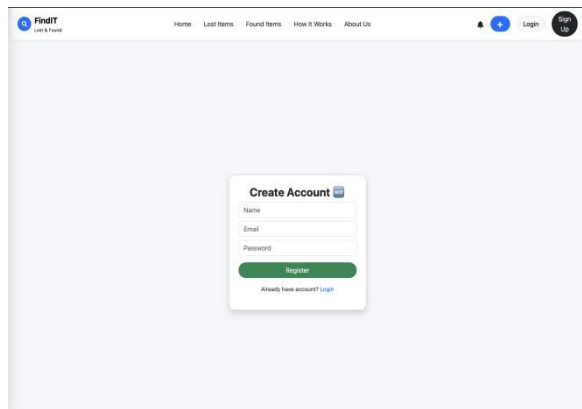


Fig 2: Registration Page

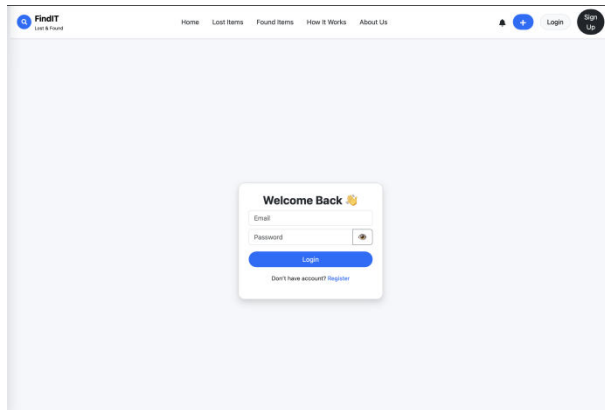


Fig 3: Login Page

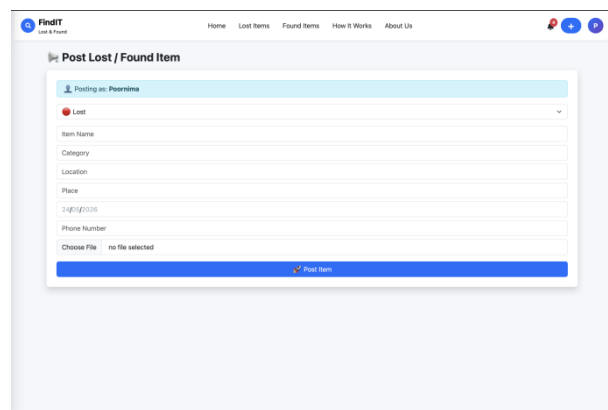


Fig 4: Post Lost/ Found item Form

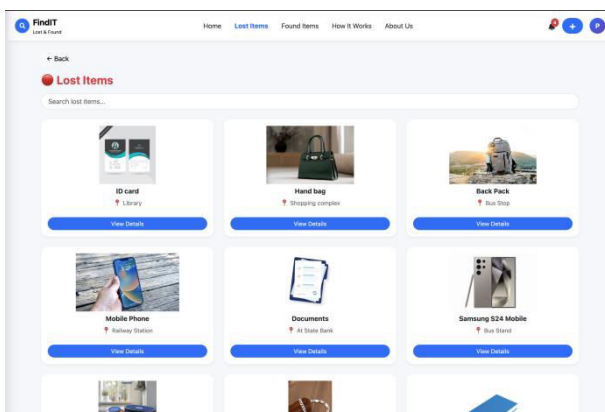


Fig 5: Lost Item Page

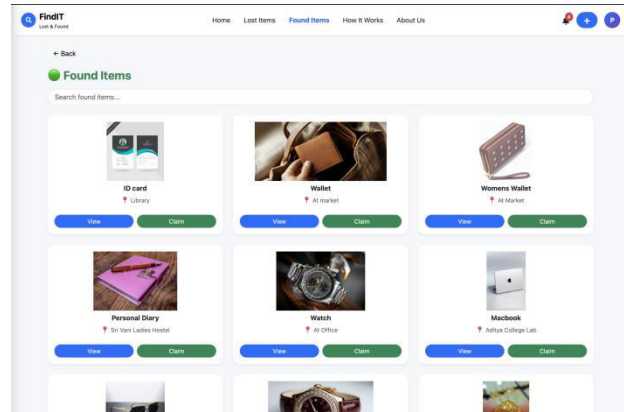


Fig 6: Found Item Page

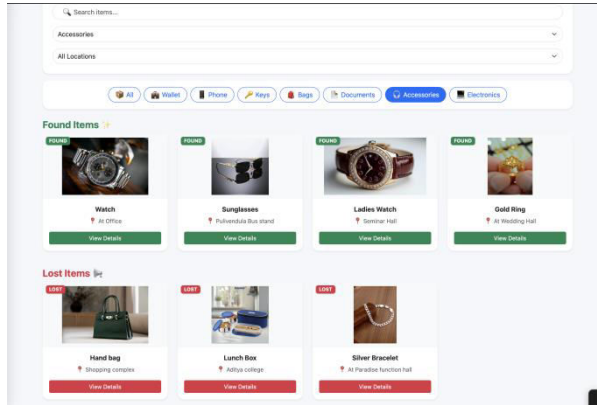


Fig 7: Search Results

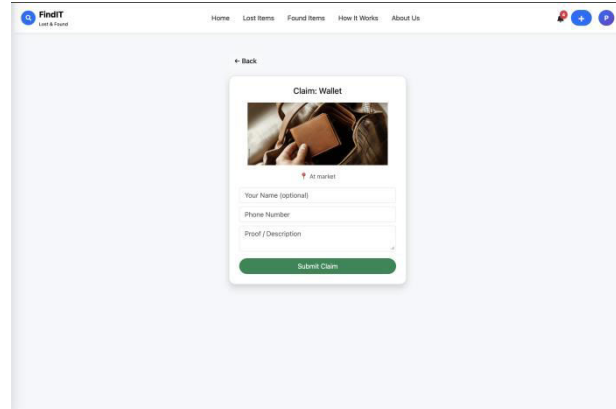


Fig 8: Claim Item Form

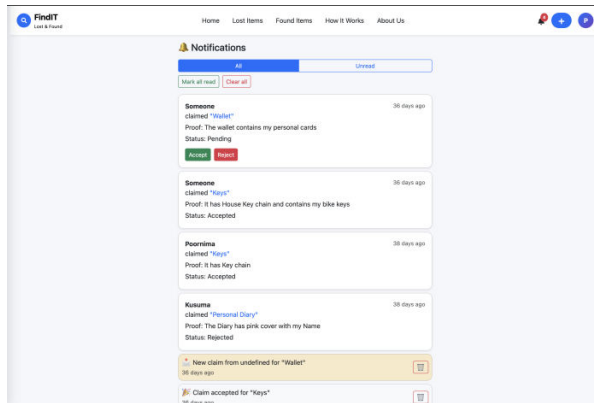


Fig 9: Notification Page

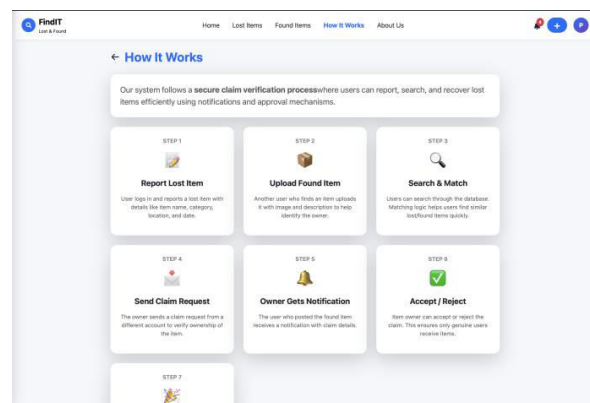


Fig 10: How It Works Page

VI. ADVANTAGES

- Provides a centralized platform for managing lost and found items efficiently.
- Reduces the time and manual effort required to recover lost belongings.
- Enables quick searching and filtering of items based on category and location.
- Improves communication between users through claim management and notifications.
- Offers a user-friendly and responsive interface for smooth interaction.
- Ensures organized storage and management of item information.
- Can be accessed easily through web browsers from different devices.

VII. FUTURE SCOPE

The FindIT Lost and Found Web Application can be further enhanced with advanced features to improve its efficiency, security, and user experience. Future improvements may include AI-based image matching to identify similar items automatically, real-time notifications for instant updates, and secure authentication systems for better user verification. Cloud storage can be integrated for efficient image and data management. Additional features such as GPS-based location tracking, live chat support between users, and mobile application support can further improve accessibility and communication. These enhancements can make the system more intelligent, scalable, and effective for large-scale real-world usage.

VIII. CONCLUSION

The FindIT Lost and Found Web Application provides an effective and user-friendly solution for managing lost and found items through a centralized digital platform. The system simplifies the process of reporting, searching, and recovering lost belongings by offering features such as item posting, searching, filtering, and claim management. Developed using MERN stack technologies, the application ensures smooth performance, scalability, and responsive user interaction. The project reduces manual effort, saves time, and improves communication between users. Overall, the system demonstrates a reliable and efficient approach for solving real-world lost-and-found management problems through modern web technologies.

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