

Lost Items Retrieve System

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ABSTRACT

In this paper, an innovative Automated Lost and Found System is presented which revolutionizes the Lost item recovery process. A dedicated app allows users to easily upload their lost item details to all enrolled users. The system uses peer to peer communication and allows users losing an item to contact the owner directly, without the need of manually searching. This automated approach not only improves efficiency but also fosters a collaborative community that quickly recovers items in Diverse settings. The proposed system breaks away from the traditional methods by enabling users to directly upload lost item details without the need of having to report them through the centralized reporting paradigm. Peer-to-peer communication integration helps integrate the recovery process and reduces Delays and complexities. The automation of the system is a user friendly solution that relieves the burden of the people who have lost their Items. The system goes beyond efficiency; It creates community collaboration and Builds community bonds. We then delve into our system's technical aspects: The Features of our mobile app and the peer to peer communication protocol.

KEYWORDS: Frontend Development HTML, CSS, Javascript, Nodejs, Mongodb.

I. INTRODUCTION

However, in a world which is now fast paced and interconnected, losing personal belongings continues to be a Challenge that people have to deal with. Searching for a lost item is a time consuming process that depends on manual efforts, lengthy inquiries, and lack of reach and as such it makes people feel disheartened and helpless. An innovative solution appears, the Automated Lost and Found System, dedicated to change the way these unfortunate situations are tackled.

- Imagine the sheer panic and anxiety of losing your wallet or phone in a busy crowd or an unfamiliar setting. This immediate distress is compounded by the daunting task of retracing steps, scrounging the area and inquiring with anyone who may have seen something. While the time and energy invested on the traditional methods of recovery may be too much, it can be frustrating and often exhausting for you to get a good result. Lost items retrieve systems using traditional systems tend to rely on manual reporting and centralized databases which are not very effective. Such things as centralized reporting processes with delayed item recovery, the limit in search reach, inefficient communication channel and full burden of searching on the owner. These are drawbacks that highlight the need for a better way to locate lost items in our connected society.

- The Automated Lost items retrieve System have a potential solution for these problems. Through the use of technology and automation, this system hopes to reduce the reporting of lost items, expand the search range from the confines of traditional borders, and increase communication channels between finders and owners, as well as relieve the load of the person experiencing loss. By introducing the Automated Lost items retrieve System, this introduction paves the way to delve into the main features and advantages of the System, which could offer a new perspective on the management and minimization of the losses of belongings in the context of our integrated world.
- This introduction sets the stage for exploring the key features and benefits of the Automated Lost items retrieve System, highlighting its potential to transform how we navigate and mitigate the impact of lost belongings in our interconnected world.

II. RELATED WORK

A comprehensive review of existing solutions in the realm of lost items retrieve system reveals a spectrum of approaches employed by educational institutions and organizations to tackle this common challenge. These Approaches have evolved over time, reflecting advancements in technology and changes in user expectations. Here, Next, we dive into the numerous options in the existing solutions:

Now with the internet and digital databases, some institutions moved to web based platforms for management lost items retrieve system. It enabled administrators to log found items electronically, thus making it easier to search and retrieve information. These databases could be accessed by users through a web portal, therefore, making them accessible instead of traditional manual systems. But these solutions were simply not as immediate nor convenient as Modern mobile applications became.

- Primary Objective: The main objective of this phase is to define thoroughly the first building blocks that will constitute the app's capabilities. Engaging With stakeholders allows us to learn from Specific functionalities and features that will Address the needs of the campus community directly. The goal is to improve efficiency, accessibility, and User experience to the maximum.
- Project Scope: During this evaluation, The scope of the project is formed. It covers the necessary Functionalities and requirements which are required for the app's success. This scope is important to consider, as it helps keep The project on track and relevant, because it prevents The project from feature bloat and scope Expansion.

- Evaluation and Selection Process : The evaluation and selection Process helps in allocating resources in a clear and well defined Roadmap. This efficient allocation of the project will make sure that the Project is in line with its defined objectives, and use the available resources such as Time, manpower and Technology optimally.
- It is strongly in favour of a user centred design approach. Our understanding of students, administrative staff and other stakeholders is crucial to the active involvement of them. This user-centric perspective directly informs feature selection such that the app will serve the diverse needs and expectations of it Preferences. This user centric perspective directly influences feature selection such that the app will cater to the varied needs of this user.

III. PROPOSED WORK

- Ease of use: Interactive User Interface. A simple and intuitive user interface allows for easy reporting and searching of lost items. Mobile access: Available in the form of mobile apps that allow user to report and/or search for Lost Items easily using their mobile devices. Easy to Provide Reporting Experience: Quick, easy and efficient reporting experiences allow users to provide required information quickly.
- Automated notifications: Instant Notifications inform admins, Possible Finders and the Owner about Lost item's whereabouts in real time.
- Search Reach: Uses Digital platforms and databases to make the search reach in other locations beyond Physical locations which in turn makes it better to recover.
- User friendly communication: Offers effective communications between finders and owners through instant messaging or email notification Our automated Lost items retrieve System removes the need for manual

reporting and centralized databases and brings the paradigm shift in lost item recovery. Users can directly upload the details of their lost items using our dedicated mobile app which ensures Immediate visibility within the network of users.

- As a result of this automated methodology, the process gets executed faster, thus decreasing delays in retrieval and increasing efficiency. An alternative to traditional methodologies, in which lost items are reported to a designated authority, our system empowers users To take charge of the process. They are able to upload the details of their lost items, including photos, descriptions and location Information directly into the app which ensures that the search for lost items begins promptly, thus increasing Chances of quick recovery.
- Expanded Search Reach: Accessing Greater Reach, Maximizing Recovery Chances Our system gets it's search coverage farther than the physical place of possession, increasing the chances of recovering a lost item. We've centralized this search capability through our user ad-generated content, which allows us to locate your lost items in the area where you are, or in a larger geographical area, depending on the possible location of the item. This expanded search reach greatly increases the chances of recovering Items from misplacement or shifted to different locations.
- Peer-to-Peer Communication: Increasing Direct Interaction & Improving Recovery Our system allows for direct communication between finders and owners without having to use intermediaries and with a simplified recovery process. Finders can always reach out directly to owners through the app's encrypted messaging platform to exchange information and coordinate the return of the lost item. This way finders do not have to wait for property recovery time and will get their lost items back as soon as possible.

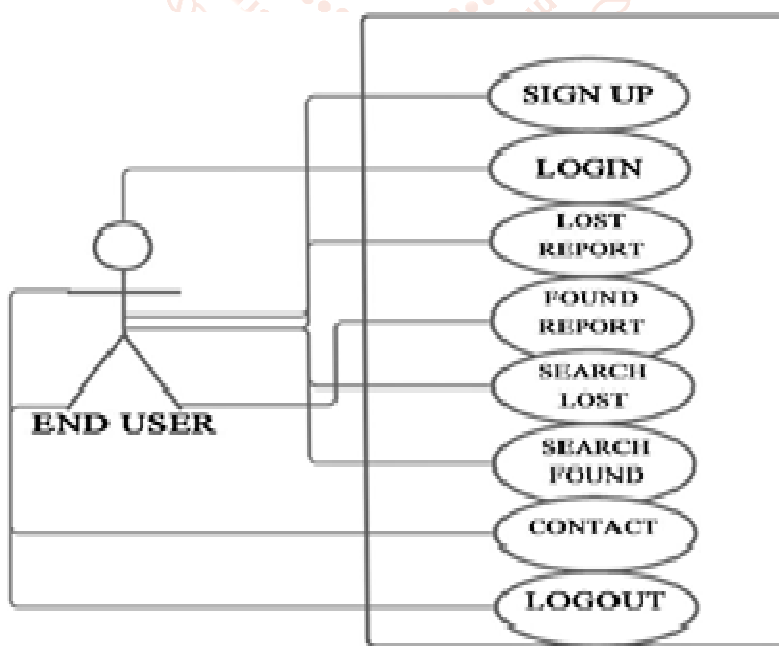


Fig: Data Flow Diagram

- Programming languages: The technology stack utilizes HTML, CSS, and JavaScript for the frontend, Node.js for the backend, and MongoDB as the database.

IV. RESEARCH METHODOLOGY

- A. Initial System Design The workflow of our proposed system is described in Fig. 1. Lost and Found application

allows the user to report lost or found items through a smartphone and save them to a database on the server. The items go through a set of validation steps to find the lost items within the list of found items. Once a set of matching objects is identified, the user of the lost item is notified about the possible matches. The actual item can be retrieved from of found items. Once a set of matching objects is identified, the user of the lost item is notified about the possible matches. The actual item can be retrieved from the Authorities provided the owners submit proof of their identity. The application is multi-platform, running on all current mobile operating systems. Additionally, the application is available in both Arabic and English.

- B. Variants of the Proposed System Our proposed system caters for three different audiences: government sector, private sector, and the special needs. For the government sector, our application maintains the Police department as the managing authority for the delivery and safe keeping of found items for owners' reclaim. On the other hand, in private sector's businesses and facilities, such as companies, entertainment parks, universities, and malls, their respective security staff or entity is the responsible handling authority. Last but not least, we cater to the special needs' necessities and limitations through the utilization of various techniques to further facilitate the system's interface. Localising Lost and Found Objects To offer an easy to use interface for location reporting of lost and found items in our government-oriented proposed system, we incorporated Geographic Information System technology. This allows the user to simply pinpoint locations by adding markers upon the touch of the area of the map desired.

V. RESULT ANALYSIS

Proposed application compared to existing solutions automates the archival and retrieval of lost objects. We collect lost or found item metadata from the user such as description and the geographical locations where the object has been lost or found to create a user-friendly reporting experience. We also use other measures to increase accessibility to our image-matching powered lost and found service including cross-platform and multilingual development. The use of object matching algorithms reduces the costs associated with the manual search process and helps with locating objects faster. Hence, it reduces the anxiety associated with the prolonged manual processes. Our proposed system caters for large-scale deployment at the government or private sector level, especially during major events attracting a large number of people. The evaluation procedure is a process of evaluation and testing on the developed system in order to measure that it is built according to the specific requirements. The system testing that has been carried out includes unit testing, integration testing, and user acceptance testing. Unit testing is a method used to test every function and component that is present in the system in order to ensure that it can work without any problems.

VI. CONCLUSION

Efficiency Enhancement: The project has made the efficiency of the lost and found management process a complete success which can be seen from the remarkable achievement that has been made with it as an approach for the question of efficiency in the management of the lost items. To find and later on apply the design, one must be very careful in their plans as well as thoughtful in their designs, the app that is used to find things in this system reduce the entire work, the workflow is more streamlined as the app is very user-friendly, it communicates the process very well and leads to no delays and errors. The consequence is a system which assures the incubus items of the swift return by the owner like never before. **Accessibility:** Lost and Found app is not just a means of efficiency but also a medium of accessibility. Students can now easily go to the software to get information about the items found, to start the process of selection, and to communicate, if necessary, with the staff and with no complications. With this high level of accessibility, every student of the college will be able to take advantage of the capabilities of the app irrespective of their timetable or program of activities. **Verification Streamlining:** The efficiency of the project is also reflected in the successful streamlining of the verification process that was very cumbersome to carry out. This idea, required by a student, which eliminates the necessity of visiting the lost and found office physically in a lot of time, makes verification more convenient for both students and administrative staff. Finally, it is not only a saving of time and effort but also a shift of control from the institution to the students or users through real-time updates, notification, and inquiries, which make the transparency and responsiveness of the lost item management process complete. It's a kind of conversion that comes from users as opposed to external vendors or it is only a simple improvement in technology but the shift towards ultimate users (students) who drive what service or application they want and how it is designed.

VII. REFERENCES

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