

CampusTrace- Application for Lost and Found Items on Campus

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Abstract

CampusTrace transforms the systems of lost and found items in campus environments by improving the process of reporting lost or found items and ensures the proper returns of the item to its rightful owners. It enhances social responsibility by encouraging people to collaborate with their owners in recovering the lost. Due to its user-friendly design, Campus Trace simplifies the process of searching for lost items and increases recovery efficiency by giving users a good user experience. The system offers several privacy methods in securing user data and requires admin authentication for item claims. This platform makes it not only easier to recover your lost things but also add cooperation and engagement within the campus community.

Keywords: Revolutionizing, Efficiency, Collaboration, Recovery, Design, Platform.

1. Introduction

In today's world, when a person loses an item, the probability of recovering the lost item is very low. Traditional methods of managing lost or found items are using bulletin boards or using manual logs they are proven to be inefficient. By using a digital lost and found system in a campus we can reduce the inefficiency of the traditional methods. A lost and found system

helps its user to recover lost items. It is mainly used in large office complexes and housing communities. A campus lost and found system helps individuals to find lost items and to report the found items, it provides a sense of community responsibility among students and staff of the campus. The system increases the overall efficiency of the lost and found process making it a valuable part of the campus community [1].

Our system addresses many problems faced by the campus community, such as the lack of a proper lost or found system that offers proper communication between finders and owners and also difficulty in managing lost item data. During the development stage of Campustrace, we have used iterative design cycles to improve the user experience based on the feedback from the students and the staff. This method made our system user-friendly and also efficient [2].

The main features of our Campustrace are centralized database for reporting and viewing reported items, as well as detailed item description along with image uploading feature are also present. We have also ensured privacy of our users through various steps. We have also ensured that our system will be available to all members of the campus community, be they students or staff. We have developed a platform which everybody can use because of good user interface. The system is free and accessible to everybody, hence a good resource to the whole campus[3-5].

1.1 Problem Statement and Significance

Most of the existing systems does not give efficient or satisfactory result for their users. While Campus Trace lost and found management system have a high recovery percentage compared to the existing. Here the amount of time consumed, Recovery status and other constraints are much better and satisfactory to the users than existing system. By introducing this system in our campus with its innovative design and features which it creates a sense of community responsibility among students, staff and the seekers. Thus, CampusTrace lost and management system ensures a seamless experience for its users in search of their lost items providing higher chances of recovery [6-9].

2. Existing Systems

NAMUS, TRAISTA, and VFound are excellent systems within the lost and found control arena, each offering specific processes and abilities to try to meet the challenges associated with finding missing individuals and items.

NAMUS is a very comprehensive database maintained by the U.S. Department of Justice and enforcement corporations fixing instances related to missing persons. NAMUS offers a centralized platform for sharing critical records and facilitating the identification and backbone of missing people's instances nationally with its massive database and collaborative framework we can search for missing persons.

Traista is a powerful lost and found system for finding lost pets. It is used for reporting lost or found pets. It uses modern technologies like artificial intelligence and also blockchain, to make the whole process of reporting and finding lost pets easy. By using the powerful AI algorithms traista offers real-time monitoring, allowing users to recover lost pets very easily.

VFound is a community-driven lost and found platform that is predicated on crowd-sourced records and social media integration to recover lost gadgets. It has a good user-friendly interface with which finding lost items is very easy [14-16].

Together, NAMUS, TRAISTA, and VFound represent the range of processes and technologies retained within the practice of lost and found management, all contributing to the grand goal of enhancing performance, transparency, and coordination in the search for missing people and items. As such, those structures evolve and innovate with every passing day; they play an important role in addressing the underlying complex challenges of lost and found control, ending up serving individuals, communities, and society at large [10-13]. Table 1 illustrates the comparison of Existing Systems

Table 1. Comparison of Existing Systems

Feature	Usability	Review	Features	Performance
NamUs	Critical information hub	Positive feedbacks	Extensive database and collaborative framework	Impactful
Traista	Leveraged advanced technological hub	Moderate feedbacks	Realtime tracking and verification capabilities of lost pets	Greater efficiency and accuracy
VFound	Community driven platform	Mixture of positive and negative feedbacks	User-friendly interface and widespread search	Moderate performance

3. Proposed Work

CampusTrace is an online tool that is made to easily manage lost and found objects from university residences. A person can report a missing object on Campus Trace without logging in. It is possible for users to post and see items listed. Users can contact the system's operators in case there are items they claim to own. With respect to administration of the platform, its dashboard along with item categorization as well as administration is provided through an admin panel. The admin panel gives complete management gear, which include a dashboard, category and item management, custom pages, person roles, web page data, and stable login and logout functionality.

User Interface (UI): The User interface of CampusTrace is efficient, allowing users to navigate easily, publish lost item, accessories, view item lists and declare the authentication of items by means of contacting administrators. The layout guarantees a seamless experience and overflow.

Frontend: Developed using HTML, CSS, JavaScript, jQuery, Ajax Requests, Bootstrap Framework, and a good Admin Template, the frontend of Campus Trace is responsive and efficient. It supports all person interactions, which include item postings, viewing listings, and contacting admins.

Backend: The backend is powered by PHP and MySQL, supplying strong server-aspect processing and facts management. XAMPP allows local hosting and development, whilst the admin panel allows body of staff to manage classes, objects, and reports data and claim data correctly. The backend ensures records integrity, steady authentication, and streamlined admin operations

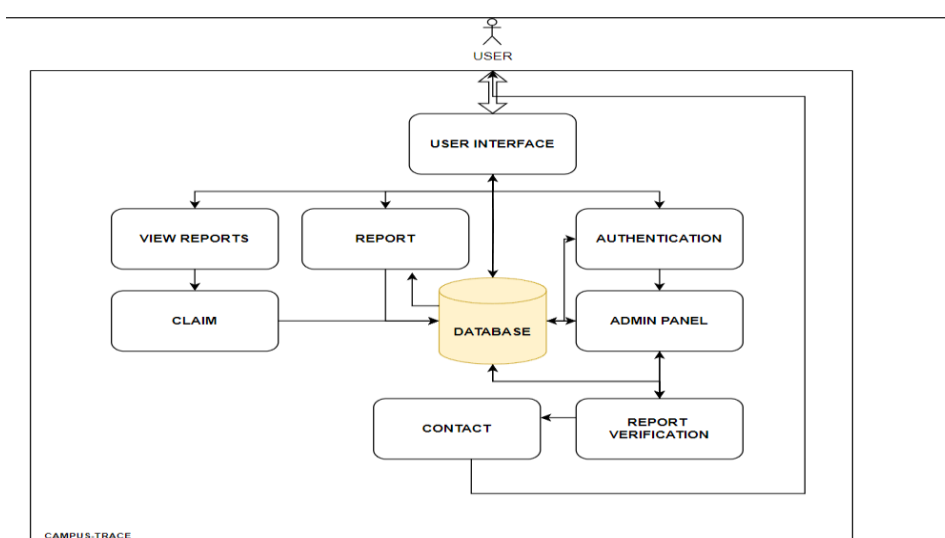


Figure 1. Architecture Diagram

3.1 Algorithm

CampusTrace's lost and found management system process begins when people report an item through the website. After proper authentication only the admin can access the admin page. This triggers a verification process. Admins then check the reported item and decide which items is needed to be displayed on the platform. Verified items from the admin becomes visible to everyone, who can browse and claim items. Users reach out to admins to claim items, who help connect the person who reported the item with the person who find it. Admins use the platform to manage listed items, including editing, deleting, and marking them as claimed.

They can also add images to help with identification process of items. The admins also oversee the overall process and keep everything running smoothly.

3.2 Development and Testing

Step 1: The front end of the Campustrace website was built using HTML, CSS, and JavaScript. Also, various bootstraps were used in the process. The good front end made the website more user-friendly, and it has also provided good interactive features for our website. With the good front end, only the reporting feature of lost or found items was made easy

Step 2: Backend: The server-side processing work was done using the PHP language. We have used the MySQL database management system for storing and managing various users' data, item descriptions, and images. The backend will handle the user's claim request and also the reporting process. The PHP interacts with MySQL throughout the reporting or claiming process. Once an admin verifies a request the desired changes are made in the database which makes changes to the website

Step 3: Every feature of CampusTrace is an essential feature. We have made sure that every important feature that should be in an online lost and found system is present in our system for the campus. We have given users many features, like reporting lost or found items, claiming reported items, and also a feature to contact the admins. From the admin's perspective, we have given the admins many features. Administrators can create new users, admins verify requests, edit the theme of the website if needed, add new categories, and remove different categories. We have included every possible feature that is needed for a campus environment.

3.3 Use Case Diagram

The CampusTrace use case diagram in Figure 2 illustrates, how users interact with the system's functionalities, including accessing reporting, and claiming, and it also illustrates admin features.

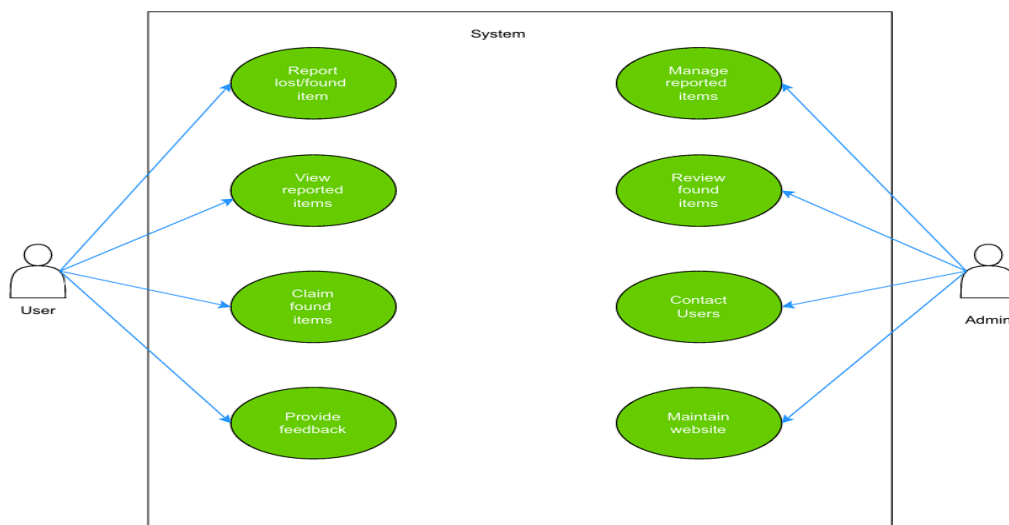
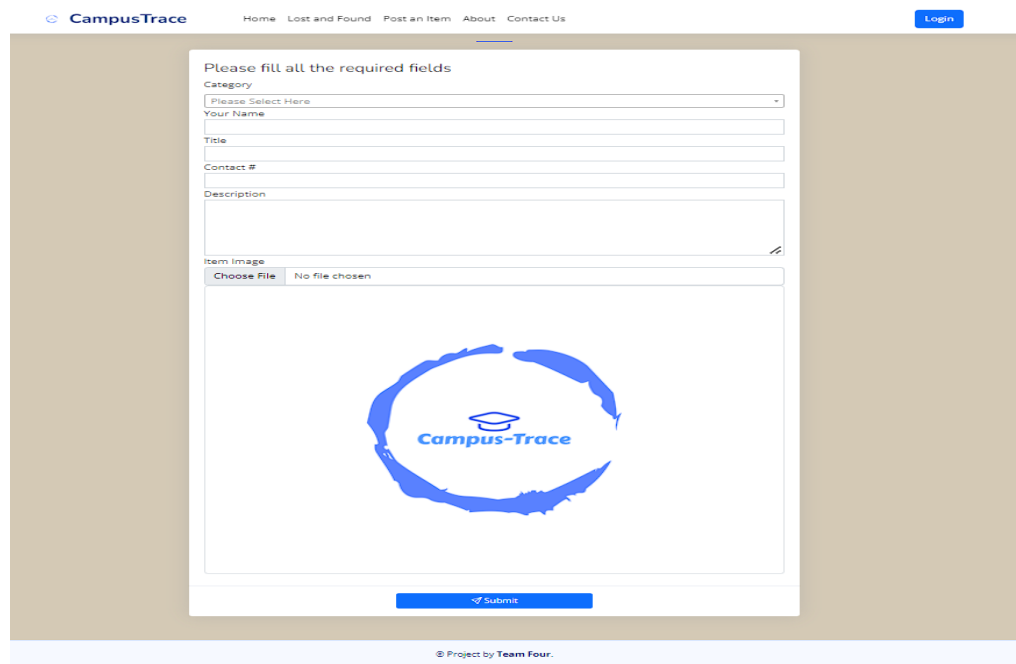


Figure 2. Use Case Diagram for the CampusTrace.

4. Results and Discussion

CampusTrace lost and found management system is the best way to report and find a lost item in the campus. With its interactive features and user modules it makes this platform efficient to use to the local community for the long term. Users of CampusTrace mainly use and like our website because it's user-friendly, interactive and it's reducing the burden of time consumption in traditional method. From the perspective of administrators, it provides higher authority in the website which helps in making wiser decisions

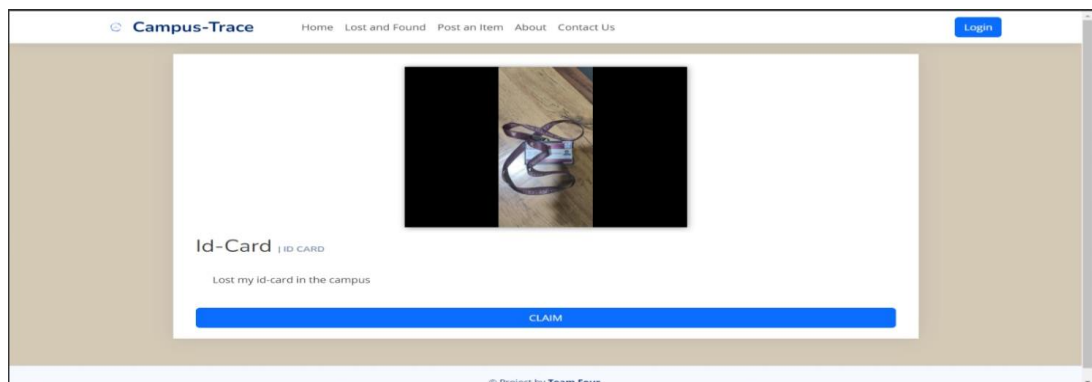
Scenario 1: Finding or losing an item: Whenever user loses or finds an item, the user can report the found or lost item through the report section. The results are shown in Figure 3 – Figure 6.



The screenshot shows the 'Reporting Page' of the CampusTrace application. The page has a navigation bar at the top with links: Home, Lost and Found, Post an Item, About, and Contact Us. A 'Login' button is in the top right corner. The main content area is a form titled 'Please fill all the required fields'. The form includes a 'Category' dropdown menu, a 'Your Name' text field, a 'Title' text field, a 'Contact #' text field, a 'Description' text area, and an 'Item Image' section with a 'Choose File' button and a 'No file chosen' status. A large blue circular logo with a graduation cap and the text 'Campus-Trace' is centered in the form area. At the bottom of the form is a blue 'Submit' button. The footer of the page reads '© Project by Team Four.'

Figure 3. Reporting Page

Scenario 2: Claim an item: When user wants to claim the user can go to claim section and claim it



The screenshot shows the 'Claim Page' of the CampusTrace application. The page has the same navigation bar as Figure 3. The main content area features a large image of a lost ID card. Below the image, the text 'Id-Card | ID CARD' is displayed, followed by 'Lost my id-card in the campus'. A prominent blue 'CLAIM' button is at the bottom of the form. The footer of the page reads '© Project by Team Four.'

Figure 4. Claim Page

Scenario 3: Admin login: After a proper authentication only the admin can access admin page

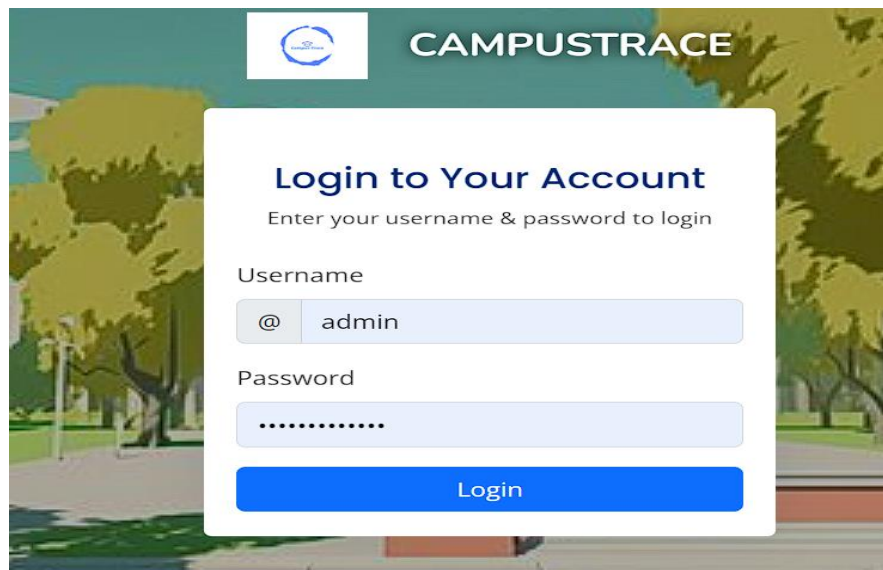


Figure 5. Admin Page

Scenario 4: Admin approval: After a creating a proper contact with the user, the admin accepts or rejects the request from the user

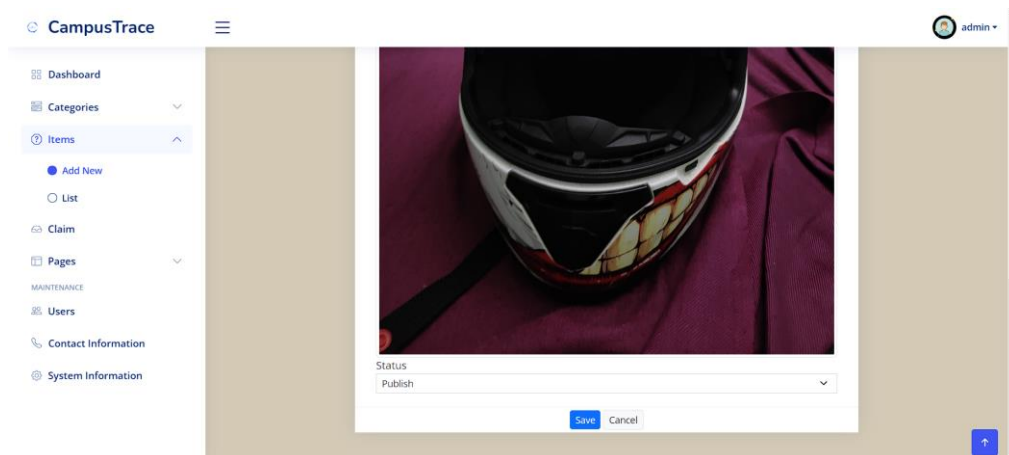


Figure 6. Request Approval

5. Conclusion

The proposed system, campus trace is a lost and found system for the campus it has some important features like reporting an item or claiming an item, and also essential admin features CampusTrace has been designed with simplicity in mind, including an intuitive user interface that allows easy reporting of lost items and searching. It has incorporated detailed

item descriptions with photos, which will enhance the validity of matches between lost and found reports. Administrators will verify the report and claim requests also admins facilitate communication between the finder and reporter. Administrators maintain the integrity of the campus trace.

The advantages of the campus trace system are its ease of use, detailed reporting features, and the inclusion of admins to maintain the proper system structure. The platform reduces the burden of the traditional campus lost and found system where the finders will have to report to the office which will decrease the efficiency of the lost and found system. The system will allow the administrators to track problem areas in the system. In summary, CampusTrace is a great addition to the campus community enhancing the lost and found system and also improving community responsibility.

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