NORTH SOUTH UNIVERSITY

Department of Electrical and Computer Engineering

Project: Lost & Found Bangladesh

A web-application platform for everyone to find their lost item online.

Course: CSE482

Section: 03

Group: 06

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Abstract

Our website, Lost and Found Bangladesh, is here use to find peoples lost items with ease. We've created a user-friendly platform that simplifies the process, using modern technology to make it as straightforward as possible. People can easily report or search for their lost belongings using our intuitive interface. We offer various categories and search options to help people in their quest. Our goal is to help people reunite with their lost items efficiently and hassle-free. Lost and Found Bangladesh is all about making the process of finding lost possessions as simple and convenient as possible.

Introduction

In this report about our web application, we've created an online tool to help people in Bangladesh locate their lost items easily. Our user-friendly website offers a complete solution for simplifying the search process, making it convenient and efficient. We're dedicated to reuniting people with their lost belongings, eliminating the hassle of traditional search methods.

Our technology allows users to report and search for lost items quickly. It's like saying goodbye to the days of manually searching for lost items. People can easily describe your lost item, and our system will help you find potential matches, providing flexibility and convenience. Admins have full control over managing reported items, allowing them to add or remove entries as needed. Our platform also allows users to update their profiles with relevant information to provide accurate and up-to-date details about their lost items. Our intuitive interface makes it effortless to report and search for your lost belongings, making the process as simple as possible.

Architecture

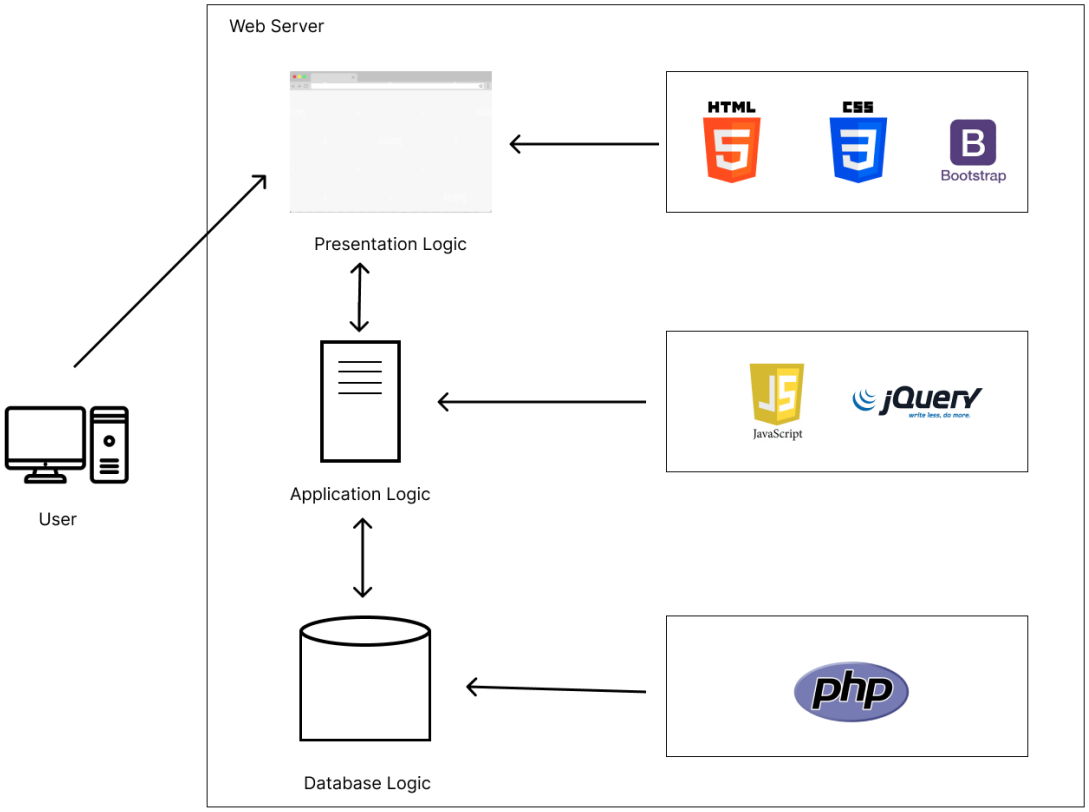


Fig: System Architecture

User Story

- As a **New User**,

  I want to use **Sign-Up** to create an account on the platform so that I can report and track lost items securely.

- As a **Registered User**,

  I want to use **Login** to log in to the platform with my credentials so that I can access my personal information and lost/found item data.

- As a **User**,

  I want to use **Report a Found Item** to fill out a user-friendly form with details so that I can report the found item.

- As a **User**,

  I want to use **Submit a Lost Item Report** so that I can provide information about my lost belongings.

- As a **User**,

  I want to use **Search** so that I can locate the item I'm searching for.

- As a **User**,

  I want to use **Location** so that I can pinpoint the exact location where an item was lost or found on a map, providing accurate geographical context.

- As a **Registered User**,

  I want to access **User profile** so that I can manage my reported lost/found items, view my activity history, and track the status of my items to stay informed about their progress.

- As a **User**,

  I want to use **Get Notifications** so that I can receive notifications when my lost item is matched with a found report.

- As a **User**,

  I want to use **Upload and View Item Images** so that I can upload images and view these images.

- As a **User**,

  I want to use **Track Lost/Found Item Status** so that I can track the status of my report.

- As a **User**,

  I want to use **Chat with the User** so that I can communicate with the other user through a messaging system within the platform.

- As a **User**,

  I want to use **Feedback & Rating** so that I can give feedback and ratings to build a sense of trust and credibility within the community.

- As a **User**,

  I want to use **Donate/Reward** so that I can donate the developer or give rewards for the lost item.

- As an **Admin**,

  I want to use **Admin Dashboard** so that I can monitor, manage, and take actions related to user activities, reports, matches, and other aspects of the system.

- As an **Admin**,

  I want to use **User Management** so that I can manage user accounts, ensure system compliance, and oversee interactions between users.

- As an **Admin**,

  I want to use **Lost and Found Item Management** so that I can manage the status, details, and interactions related to reported lost and found items on the platform.

- As an **Admin**,

  I want to use **Search** so that I can search for specific information, users, items, reports, or matches within the Lost and Found system.

Development Plan

To bring the Lost and Found Bangladesh website to life, we have a clear plan in place. Our approach involves several phases, each with a specific focus and set of goals. At the end of each phase, we will thoroughly test to ensure everything is working seamlessly.

Frontend Development Phase: At first, we will work on frontend because without it we won't be able to take information from the user. So, our first priority is to design the website where we can user information. We also need to make our website look simple otherwise it would be difficult to use for elderly people.

Deliverables: At the end of this phase, we will have a clear look on our website and its functionalities. Users can provide us information and get to see a functional website

Backend Development Phase: For our project, the backend is like the backbone for us. Without a backend we can't store any information given by the users and our whole project becomes useless. So, after the frontend phase, we will work on storing users' information and everything on our database

Deliverables: We can expect to store every kind of data we need for our project like such as lost item descriptions and user details. We can also test and see if the data are correctly stored or not.

Finishing Phase: Finishing phase is basically linking our work from phase 1 and phase 2. Phase 1 will provide us with all kinds of information and phase 2 will help us in storing these users' information. Now with all these things, we can make all our functionalities work just as we planned. We will also try for some optimizations and performance improvements which will enhance the user's experience.

By following this structured plan, we aim to create an effective and user-friendly platform for people to find their lost items in Bangladesh.

Programming language that Have been Used

Frontend:

HTML is an acronym that stands for Hyper Text Markup Language. Markup languages are different from programming languages. Whereas programming languages help us modify data, we use markup languages to determine how elements are displayed on a webpage.

CSS is an acronym that stands for Cascading Style Sheets. CSS is used to style and layout web pages — for example, to alter the font, color, size, and spacing of your content, split it into multiple columns, or add animations and other decorative features.

Bootstrap is a front-end development framework that is free and open source. It is used to create websites and web apps with a focus on responsiveness for mobile devices. By providing pre-designed templates and a grid system, Bootstrap simplifies the development process and saves time for developers. It is built on HTML, CSS, and JavaScript, and allows developers to quickly build websites without worrying about basic commands and functions

Application logic:

JavaScript is a light-weight object-oriented programming language that is used by several websites for scripting the webpages. It is an interpreted, full-fledged programming language. JavaScript enables dynamic interactivity on websites when it is applied to an HTML document.

jQuery serves as a lightweight JavaScript library that aims to simplify the usage of JavaScript on websites. By utilizing jQuery, common tasks that usually require extensive JavaScript code can be achieved more efficiently. In our project, we heavily relied on AJAX to implement live search functionality, which allows for real-time searching without page refresh.

Backend:

MySQL is a standard language for accessing and manipulating databases. Which stands for ‘Structured query language’. SQL statements are used to perform tasks such as update data on a database, or retrieve data from a database.

PHP is an acronym for Hypertext Preprocessor. PHP is a server-side scripting language that is extensively utilized in web development for building dynamic websites and interacting with databases. It is an open-source language and is renowned for its widespread usage and versatility in the field.

Functionalities

- **Report Lost Item:**

  Easily report your lost items, providing details to help the community assist in their recovery.

- **Lost Person:**

  In addition to items, report missing individuals, ensuring a comprehensive service for those searching for loved ones.

- **Item Matching Algorithm:**

  Utilize our advanced algorithm to match lost and found items efficiently, increasing the chances of successful reunions.

- **Live Search:**

  Experience real-time searching, finding lost belongings or individuals without the need for page refreshes.

- **Status Tracking:**

  Keep track of the progress of your lost item or person search, providing peace of mind and regular updates.

- **Communication Platform:**

  Connect with others who have found or lost items or persons, fostering a sense of community and collaboration.

- **Geographical Integration**:

  Locate lost items or people based on their last known location, making searches more precise and efficient.

- **User Profile:**

  Create and manage your profile, making it easy to report and track lost items and persons.

- **Payment Gateway (Reward/Donate):**

  Provide rewards for those who find your lost items, or donate to support the platform and help others.

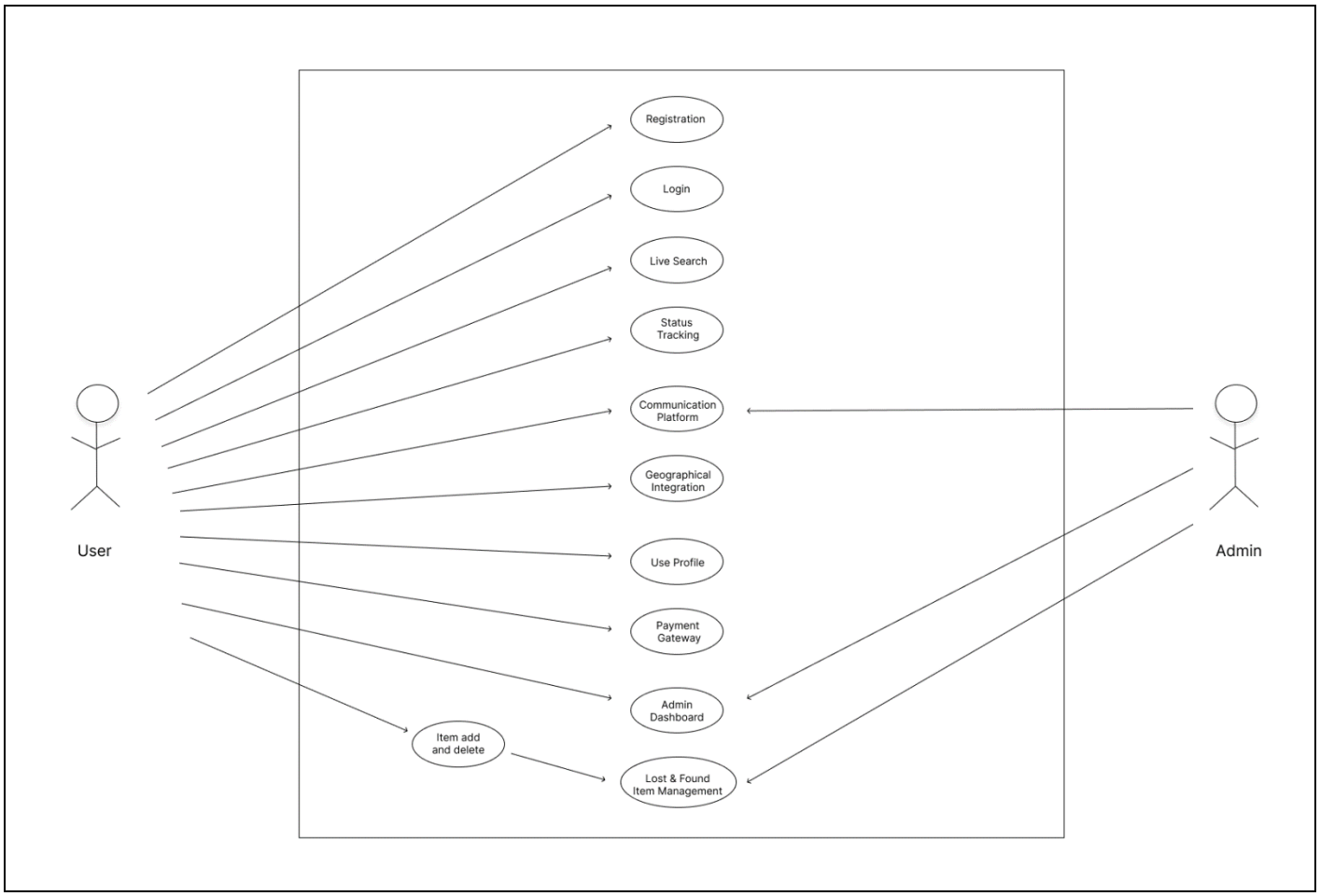
- **Admin Dashboard:**

  Admins have access to a dashboard to oversee and manage the platform, ensuring smooth operations.

- **Lost and Found Item Management**:

  Admins can efficiently manage lost and found items, ensuring a well-organized and reliable service for users.

Use Case Diagram



Use Case Description

Use Case 01: Report Lost Item.

Actor(s): User.

Purpose: The purpose of the "Report Lost Item" use case is to provide a system where individuals who have lost items can report their loss, creating a record that can be searched by others who have found items.

Overview: The "Report Lost Item" use case focuses on enabling individuals to report details about items they have lost. By doing so, they contribute to the system's database, increasing the chances of matching their lost item with items that others have found and reported.

Cross-reference: “Find Lost Item ”.

Typical Course of Events:

Actor Action	System Response
1. The Reporter logs in to the Lost and Found system.	1. The system presents the Reporter with options to report a lost item or search for found items. The Reporter selects "Report Lost Item."
2. The Reporter provides detailed information about the lost item, including its description, location, and date of loss.	2. The system stores the provided information in its database as a new entry for a lost item.
3. The Reporter may choose to upload images or additional identifying details of the lost item.	3. The system allows the Reporter to attach images and additional information to enhance the accuracy of the lost item's description.
4. The Reporter submits the report of the lost item.	4. The system confirms the submission and displays a confirmation message to the Reporter.

Use Case 02: Lost Person

Actor(s): User.

Purpose: The purpose of the "Report Lost Item" use case is to provide users with a straightforward process to report their lost items on the Lost and Found Bangladesh platform.

Overview: This use case enables users to describe their lost items and initiate the process of searching for them within the platform. Users can provide detailed information to increase the chances of finding their lost belongings.

Cross-reference: “Find Lost Item ”.

Typical Course of Events:

Actor Action	System Response
1. The User logs in to the Lost and Found platform.	1. The platform authenticates the user and provides options to report a lost item.
2. he User selects "Report Lost Person" and provides a description of the lost item, including its category, a brief description, and the last known location.	2. The platform records the details of the lost item and adds it to the database.
3. The User may choose to offer a reward for the finder or specify if they are open to receiving donations.	3. The platform allows the user to set a reward or donation preferences.
4. The User submits the report	4. The platform confirms the report submission and provides a reference number for tracking.

Use Case 03: Item Matching Algorithm.

Actor(s): User

Purpose: The purpose of this use case is to describe how the platform's item matching algorithm identifies potential matches between reported found items and lost items based on their descriptions, locations, and discovery dates.

Overview: The item matching algorithm aims to enhance the chances of reuniting lost items with their owners by analyzing the details provided in both found and lost item reports. The algorithm compares these details to identify potential matches and presents them to users for verification.

Cross-Reference: ‘’Report Lost Item”, “Find Lost Item’’.

Typical Course of Events:

Actor Action	System Response
1. The user submits a found item report, providing detailed information about the found item's description, location, and discovery date.	1. The user submits a found item report, providing detailed information about the found item's description, location, and discovery date.
2. A user submits a lost item report with descriptions, location, and the item's loss date.	2. The algorithm cross-references the descriptions, locations, and timeframes of both found and lost items.

Use Case 04: Live Search

Actor(s): User.

Purpose: The purpose of the "Live Search" use case is to provide users with a flexible and efficient way to search for items within the system's database and apply filters to refine search results based on specific criteria.

Overview: By using search queries and applying filters, users can narrow down the results to find exactly what they are looking for.

Cross-Reference: "Report Lost Item."

Typical Course of Events:

Actor Action	System Response
1. The Searcher logs in to the Lost and Found system.	1. The system presents the Searcher with various options, including search functionality and filter options.
2. The Searcher enters keywords, descriptions, or specific terms related to the item they are searching for in the search bar.	2. The system performs a search based on the entered terms and displays a list of items that match the search criteria.
3. The Searcher applies filters to the search results to narrow down the items based on categories, locations, dates, or other relevant criteria.	3. The system updates the search results in real-time to reflect the selected filters, presenting a refined list of items.
4. The Searcher may choose to contact the item's owner or report that they have found a match.	4. The system provides contact information and communication tools for the Searcher to reach out to the owner or report a potential match.

Use Case 05: Status Tracking.

Actor(s): User.

Purpose: The purpose of the "Status Tracking" use case is to provide users with real-time updates on the status of their lost item reports and any potential matches with found items within the Lost and Found system.

Overview: The "Status Tracking" use case focuses on giving users the ability to monitor the progress of their lost item reports and any ongoing matches with found items. It enhances transparency and communication throughout the process.

Cross-reference: "Repost Lost Item."

Typical Course of Events:

Actor Action	System Response
1. The Item Owner/Finder logs in to the Lost and Found system.	1. The system authenticates the user and presents their personalized dashboard.
2. The Item Owner/Finder navigates to the "My Reports" or "My Matches" section.	2. The system displays a list of the user's submitted reports or potential matches.
3. The Item Owner/Finder sees the current status of the report or match, such as "Submitted," "Under Review," "Match Found," or "No Match Found."	3. The system presents the status information clearly and prominently.
4. As the status of a report or match changes, the system updates the status and sends relevant notifications to the user based on their preferences.	4. The system will manage for sending the notice via email.

Use Case 06: Communication Platform.

Actor(s): User.

Purpose: The purpose of this use case is to describe how users can communicate with each other through a messaging or chat system integrated into the platform.

Overview: The communication platform enables users to exchange messages, facilitate discussions, and engage in real-time conversations with other users, fostering interaction and collaboration.

Cross-Reference: “Find Search Item”, “Search and Filter”

Typical Course of Events:

Actor Action	System Response
The user accesses the messaging or chat interface.	The system presents the user with their messaging dashboard, displaying ongoing conversations and contacts.

Use Case 07: Geographical Integration.

Actor(s): User.

Purpose: The purpose of this use case is to outline how the platform's geolocation integration allows users to utilize location-based features and services.

Overview: Geolocation integration empowers users to interact with the platform using location information, enabling features such as finding nearby items, displaying location-specific content, and enhancing user engagement.

Cross-Reference: "Report Lost Item “, “Search and Filter”

Typical Course of Events:

Actor Action	System Response
1. The user accesses the platform, enabling geolocation services on their device.	1. The system detects the user's location through geolocation services.
2. A user submits a lost item report with descriptions, location, and the item's loss date.	2. The algorithm cross-references the descriptions, locations, and timeframes of both found and lost items.

Use Case 08: User Profile.

Actor(s): User.

Purpose: The purpose of the "User Profile" use case is to provide users with a personalized space where they can manage their account information, settings, and preferences on the system.

Overview: The "User Profile" use case focuses on enabling users to have control over their personal information and settings within the system. Users can view and edit their profile details, update contact information, and manage preferences to tailor their experience.

Cross-Reference: This use case is closely linked to the Lost and Found system's user authentication, user interface, and data management systems.

Typical Course of Events:

Actor Action	System Response
1. The Profile Owner logs in to the Lost and Found system using their credentials.	1. The system authenticates the user and displays their personalized dashboard
2. The Profile Owner navigates to the "Profile" or "Account Settings" section of the system.	2. The system displays the Profile Owner's current profile information and settings.
3. The Profile Owner makes the desired changes and saves the updated profile information.	3. The system validates the changes and updates the profile data in the database, confirming the successful update to the user.

Use Case 09: Payment Getaway (Reward/Donate).

Actor(s): User.

Purpose: The purpose of the "Payment Gateway (Reward and Donate)" use case is to enable users to make monetary contributions, such as rewards or donations, to support the efforts of finders and contribute to causes within the Lost and Found system.

Overview: The "Payment Gateway (Reward and Donate)" use case focuses on providing a secure and convenient way for users to transfer funds to recipients. Users can contribute to a finder who has reunited a lost item with its owner, or they can donate to causes supported by the system

Cross-Reference: This use case is closely connected to the Lost and Found system's user profiles,

Typical Course of Events:

Actor Action	System Response
1. The Donor/Reward Giver logs in to the Lost and Found system.	1. The system authenticates the user and presents them with options to donate or reward.
2. The Donor/Reward Giver specifies the amount they wish to donate or the reward they want to offer.	2. The system prompts the Donor/Reward Giver to enter the donation amount or reward value.
3. The Donor/Reward Giver selects a payment method, such as credit card, PayPal, or other supported options	3. The system securely redirects the user to the chosen payment gateway for transaction processing.
4. For rewarded finders or causes, the system notifies the recipient of the donation or reward.	4. The system sends a notification to the recipient, informing them of the contribution and providing information about the Donor/Reward Giver.

Use Case 10: Admin Dashboard.

Actor(s): Admin.

Purpose: The purpose of the "Admin Dashboard" use case is to provide administrators with a centralized and efficient way to monitor, manage, and take actions related to user activities, reports, matches, and other aspects of the system.

Overview: The "Admin Dashboard" use case focuses on offering administrators a comprehensive view of the system's operations, allowing them to make informed decisions, ensure compliance with policies, and maintain the system's integrity.

Cross-reference: This use case is closely connected to the Lost and Found system's data management, user authentication, notification systems, and user interaction.

Typical Course of Events:

Actor Action	System Response
1. The Administrator logs in to the Lost and Found system using their administrative credentials.	1. The system authenticates the administrator and presents them with access to the admin dashboard.
2. The Administrator navigates through different sections of the admin dashboard, such as user management, report monitoring, match verification, and communication.	2. The system displays relevant data, graphs, and summaries to provide an overview of each section.
3. The Administrator may initiate actions such as verifying potential matches, sending warnings or notifications to users, or managing user accounts.	3. The system provides tools for the administrator to take actions within their scope of authority.

Use Case 11: Lost and Found Item Management.

Actor(s): User, Admin.

Purpose: The purpose of the "Lost and Found Item Management" use case is to provide users with the tools to manage the status, details, and interactions related to reported lost and found items on the platform. Administrators also use this feature to ensure accurate and up-to-date information in the item database.

Overview: The "Lost and Found Item Management" use case allows users to maintain information about lost and found items throughout their lifecycle on the platform. Users can update item details, mark items as resolved, and communicate with others involved in the process.

Cross-reference: “Admin Dashboard”

Typical Course of Events:

Actor Action	System Response
1. he Item Owner/Finder logs in to the Lost and Found platform.	1. The platform authenticates the user and presents them with options to manage their reported lost or found items.
2. The Item Owner/Finder can update the status of the item, such as marking it as "Resolved" if the item has been returned	2. The platform updates the status of the item and may notify the relevant parties.
3. The Item Owner/Finder can edit or update the item's description, category, or other details if necessary.	3. he platform allows the user to make changes and updates the item's information.

Project Scheduling

	Work Tasks	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
1	**Concepts of the project**														
	Define project goals and objectives														
	Assemble the project team.														
	Set up development environments.														
	Proposed Project														
2	**Frontend Development**														
	Design the user interface (UI)														
	Create wireframes and mockups.														
	Choose a CSS framework (Bootstrap).														
	Begin HTML and CSS coding for core pages														
	Continue HTML and CSS development for additional pages														
	Implement responsive design.														
	Integrate JavaScript for basic interactivity														
3	**Backend Development**														
	Set up the server environment														
	Choose a backend language and framework (PHP)														
	Create the initial database schema														
	Develop APIs for user registration and login.														
	Develop APIs for reporting lost items and tracking their status														
4	**Integration and Testing**														
	Integrate the frontend and backend components.														
	Conduct testing														
	Address and fix any issues or bugs that arise during testing														
5	**Finalization and Deployment**														
	Optimize performance and security														
	Perform final testing in a live environment.														
	Launch the Lost and Found Bangladesh website.														
	Final Report Submission														

Performance Analysis

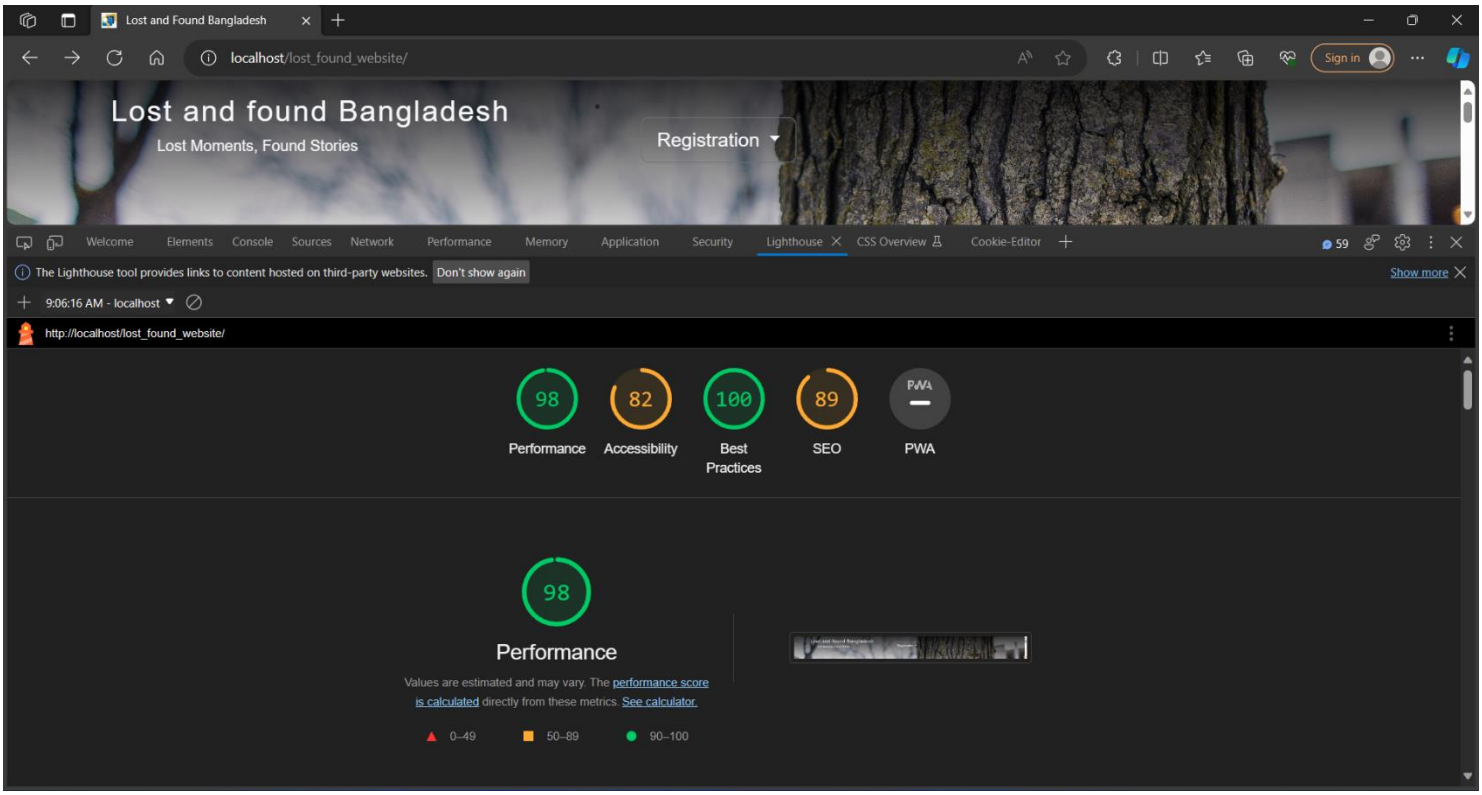


Fig: Performance report of user page

Conclution

In conclusion, the Lost and Found Bangladesh project is a comprehensive and user-friendly platform designed to address the universal challenge of finding lost items and individuals. With a robust development plan and a range of essential features, this platform aims to simplify and improve the process of reporting lost items and searching for them. It not only provides tools for users to report lost items but also facilitates communication, tracking, and interaction among community members.

The project leverages a variety of technologies, including HTML, CSS, Bootstrap, JavaScript, jQuery, SQL, and PHP, to create a seamless and efficient user experience. It emphasizes the importance of community involvement and support, fostering a shared sense of responsibility in Bangladesh.

With a clear development plan and a focus on frontend, backend, and integration phases, the platform is well-structured and aims to meet the needs of its users. Whether it's reporting lost items, tracking their status, or even offering rewards, the Lost and Found Bangladesh project strives to provide a reliable and user-centric solution.

In essence, this project serves as a valuable resource for the community, bridging the gap between those who have lost items or individuals and those who are willing to help. It stands as a testament to the power of technology and collaboration in addressing everyday challenges and creating a sense of unity and support in Bangladesh.