Subject : - Innovation and Design Thinking

Lab Assessment 1 Report

Topic :- Informal handling of E-Waste causing health hazards.

Team Members

Sr. No	Name	PRN No.
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Week 1: Understanding the Course & Identifying Real-Life Problems

In the first week, we started by carefully reading the syllabus and understanding the course structure of Innovation, Design and Thinking. We also studied the Program Outcomes (POs) and Course Outcomes (COs) to understand what skills and competencies we are expected to develop through this subject.

After that, we formed a team of four members: Raghav, Ashish, Harshal, and Naman.

We discussed real-world problems around us and shortlisted three impactful problem statements:

1. Managing personal finances and expenses
2. People falling victim to online fraud and phishing
3. Informal handling of E-waste causing health hazards

We analyzed these problems based on social impact, feasibility, and innovation scope. This week mainly focused on problem identification and team formation.

Week 2: Problem Finalization and Field Research

In the second week, our mam assigned us the topic:

“Informal handling of E-waste causing health hazards.”

We started brainstorming deeply on this issue. We understood that improper disposal of electronic waste leads to:

- Environmental pollution
- Toxic chemical exposure
- Serious health hazards
- Lack of awareness among citizens

To gain practical knowledge, we visited and interacted with Pruthvi Zero Waste Foundation**.** Through this interaction, we learned:

- How E-waste is collected and processed.
- The risks involved in informal recycling.
- The importance of authorized collection centers.

After understanding the problem clearly, we decided to develop a Web Application that will:

- Spread awareness about E-waste hazards
- Provide information about authorized E-waste collection centers
- Use live location to help users find nearby centers

This week helped us move from problem understanding to solution direction.

Week 3: Feature Planning & Technology Stack Selection

In the third week, we focused on planning the structure and features of our application.

Identified Features:

- Informative Home Page about E-waste
- Awareness Section explaining health risks
- Collection Center Locator
- Live Location Integration using Google Maps
- Contact / Feedback Form
- Firebase Database for storing collection center data

After discussion, we finalized the following **Technology Stack**:

- **React JS** – For building a dynamic and responsive frontend
- **Firebase** – For real-time database and backend support
- **Google Maps API** – For showing live location and nearby collection centres.

This week was focused on designing the architecture of the project and preparing for development.

Week 4: Development Phase – Implementation Begins

In the fourth week, we started the actual development of the project.

Work Distribution:

- **Raghav** started developing the frontend using React JS, beginning with the Home Page layout and user interface.
- **Ashish and Harshal** started collecting authentic data of authorized E-waste collection centers across Maharashtra. This data will be integrated into Firebase database.
- **Naman** started developing and designing the forms required in the application, including user input handling and validation.

We also began integrating Firebase configuration into the React project and explored how Google Maps API can be used for displaying live locations of collection centers.

This week marked the transition from planning to actual implementation.

Overall Progress in 4 Weeks

In these four weeks, we have:

- Understood course objectives (POs & COs).
- Identified and finalized a socially impactful problem
- Conducted real-world research through an NGO visit
- Planned features and system architecture
- Finalized modern technology stack (React, Firebase, Google Maps API)
- Started frontend development and data collection