

## **Problem Statement for Mobile Project**

There is currently no centralized, easily available, and real-time mobile platform that effectively links volunteers, non-profit organizations (NGOs), and local community leaders, despite the increased interest in community service and volunteering among adolescents and students. Finding activities that fit their interests, availability, or geography is a challenge for many prospective volunteers, particularly students. At the same time, NGOs and event planners struggle to find trustworthy volunteers, monitor participation, and handle criticism.

This disparity has led to

- Volunteering options in local communities are not well-known.
- Ineffective communication and coordination between volunteers and organizers.
- Absence of responsibility and organized data monitoring for event results, participant responsibilities, or hours worked.
- Young people are not given enough credit or encouragement to actively engage in social good.
- security issues brought on by unconfirmed users or ambiguous roles in events.

## **Proposed Solution**

To address this problem, IST students will develop LocalLoop, a role-based Flutter mobile application with a Firebase backend, aimed at bridging the gap between volunteers and community organizers through a real-time, smart, and inclusive platform.

The app will support the following user roles:

### **1. Admin**

- Manage user accounts and permissions
- Moderate content and verify NGO/event organizers
- Monitor analytics and engagement stats

### **2. Organization/NGO**

Create and manage volunteer opportunities

- ❖ View volunteer profiles and assign roles
- ❖
- ❖ Track attendance and hours served
- ❖
- ❖ Post event reports and updates

### **3. Volunteer/User**

- ☐ Discover and register for nearby events

- ☐ Build a volunteering profile with badges
- ☐ Track hours and receive digital certificates
- ☐ Rate experiences and give feedback

### **Key Features to Be Implemented**

- ➔ Role-based authentication and access control (Firebase Authentication + Firestore rules)
- ➔ Location-aware event discovery
- ➔ Real-time notifications and reminders
- ➔ Volunteer dashboard with service hours and stats
- ➔ Event participation tracking with check-in/check-out
- ➔ Feedback and review system for each event
- ➔ Certificate generation for completed volunteering
- ➔ Admin dashboard (mobile/tablet optimized)

### **Technology Stack**

#### **Frontend:**

- ❖ Flutter (for cross-platform mobile development)
- ❖ Material 3 for sleek UI design
- ❖ Provider/Riverpod for state management or any other state management mechanism

#### **Backend:**

- ❖ Firebase Authentication (email, Google sign-in)
- ❖ Cloud Firestore
- ❖ Firebase Cloud Functions
- ❖ Firebase Storage
- ❖ Firebase Messaging (push notifications)