IS 3920 – Individual Project on Business Solutions

Project Proposal Report

Department of Interdisciplinary Studies

Faculty of Information Technology

University of Moratuwa

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Student Name	Lisorthman.V
Student Number	225063F
Project Title	Hive: Community Volunteering & Event Management Platform
Supervisor Name	DR. SENEVIRATNE B.L.D.
IT Mentor Name	T Devananth

1. Introduction

Community volunteering is an essential way for individuals to contribute to social causes while building personal skills and networks. However, many local NGOs and small-scale initiatives struggle to find volunteers efficiently, and volunteers often face challenges discovering meaningful, local opportunities.

Hive is a hyperlocal web and mobile platform connecting volunteers and NGOs. It focuses on local engagement, volunteer recognition, gamification, and transparency, creating a mutually beneficial ecosystem for both volunteers and NGOs.

2. Literature Study

Characteristic/ Challenge	Existing solution 1	Existing solution 2	Existing solution 3	Proposed solution
Volunteer discovery	Eventbrite – global events, commercial focus	Idealist – broad NGO listings, less hyperlocal	DoSomething – youth-focused campaigns, limited location targeting	Hive – hyperlocal, personalized recommendations, skill-based match, smart filters
Volunteer engagement & recognition	LinkedIn volunteering – CV integration, no gamification	POINT – event-first platform, limited profile building	Golden Volunteer – rewards for participation, no automated tracking	Hive – gamification, badges, milestones, auto-generated impact resume, leaderboard
NGO event management	CauseVox – event creation, reporting	GivePulse – volunteer tracking, some reporting	SignUpGenius – signups only, limited analytics	Hive – event creation, attendance tracking via QR, collaborative hub, detailed impact reporting
Feedback & transparency	Most platforms lack post-event volunteer feedback	POINT has limited reporting	DoSomething has general feedback, no automated analytics	Hive – volunteer & NGO ratings, post-event surveys, public dashboards, improved trust

Hyperlocal focus	Eventbrite – large-scale focus	POINT – mainly national campaigns	Golden Volunteer – community-specific, but limited analytics	Hive – campus/city-level targeting, local cause promotion, filters for underrepresented causes

2. Problem in brief

- Volunteers struggle to find relevant local events efficiently.

- NGOs lack tools to track, manage, and report volunteer activity effectively.

- Existing platforms are either global, commercial, or event-first, with limited personalization, gamification, and transparency.

- There is a gap in hyperlocal, volunteer-first, skill-based, and impact-tracking platforms.

3. Aim and Objectives

Aim:
To develop a hyperlocal, volunteer-first platform that connects individuals with NGOs, enhancing volunteer engagement, recognition, and community impact.

Objectives:

1. Build an easy-to-use platform for volunteers to discover, join, and track events.
2. Enable NGOs to post events, manage volunteers, and generate impact reports.
3. Implement a smart matching algorithm based on interests, skills, location, and availability.
4. Introduce gamification elements like badges, milestones, leaderboards, and auto-generated impact resumes.
5. Create a feedback system and post-event surveys to improve trust and engagement.
6. Support hyperlocal deployment for universities, municipalities, and community groups.

4. Proposed Solution

Hive is a web and mobile platform with two main modules: **Volunteer** and **NGO**, supported by a **robust backend and database system**.

Volunteer Module

- **Profile & Interests:** Personal dashboard showing past events, hours served, badges earned.
- **Event Discovery:** Smart filters by location, date, cause, and skills.
- **Participation:** Join events, check-in via QR code, download certificates.
- **Gamification & Resume:** Badges, milestones, leaderboard, and downloadable volunteering resume.
- **Notifications & Feedback:** Event reminders, AI-recommended events, post-event reviews.

NGO Module

- **Event Management:** Create, edit, cancel events, set capacity, add location (map).
- **Volunteer Tracking:** Monitor signups, confirm attendance via QR code, send notifications.
- **Collaboration Hub:** Joint events, resource sharing, internal messaging.
- **Impact Reporting:** Automated analytics, volunteer hours, feedback, exportable PDF/CSV.

System Architecture
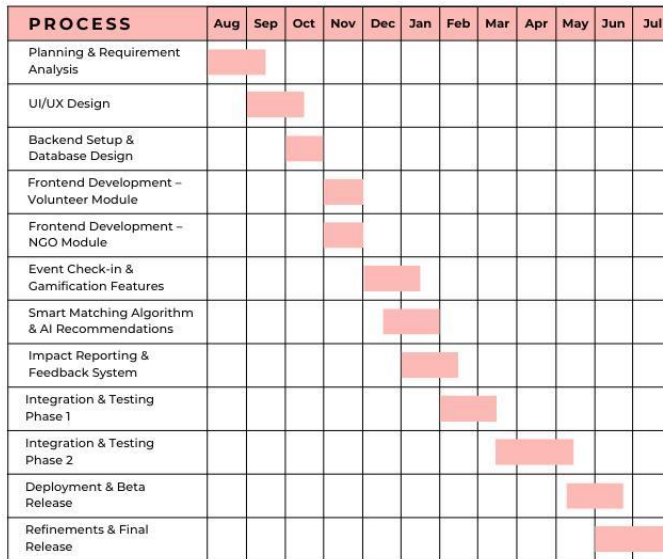
- **Frontend:** React.js / Next.js, Tailwind CSS / Material UI, mobile-first responsive design.
- **Backend:** Node.js + Express.js, REST API with JWT authentication.
- **Database:** MongoDB (flexible) or PostgreSQL (relational integrity).
- **Additional Tools:** Cloud storage (AWS S3 / Cloudinary), real-time notifications (Firebase / Socket.io), PDF/resume generation (html-pdf / Puppeteer).

5. Timeline

Hive Development Process
Gantt Chart

PROCESS	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Planning & Requirement Analysis	▇											
UI/UX Design		▇										
Backend Setup & Database Design			▇									
Frontend Development – Volunteer Module				▇								
Frontend Development – NGO Module				▇								
Event Check-in & Gamification Features					▇							
Smart Matching Algorithm & AI Recommendations						▇						
Impact Reporting & Feedback System							▇					
Integration & Testing Phase 1								▇				
Integration & Testing Phase 2									▇			
Deployment & Beta Release										▇		
Refinements & Final Release											▇	

6. Signature of the student

Index No	Name	Signature
225063F	Lisorthman V	

7. Supervisor's and Mentor's Declaration

I hereby declare that I have checked this project, and in my opinion, it is adequate in terms of scope and quality.

1. Name of Supervisor: Dr. BLD Seneviratne

   Designation:

   Date: 22/08/2025

   Signature:

   Any further comments:

2. Name of Mentor:

   Designation:

   Date:

   Signature:

   Any further comments: