Project Plan

Project Plan Report

1. Project Charter

Localized Disaster Volunteer Coordination Platform is designed to streamline volunteer management during disasters by providing real-time coordination, geolocation tracking, and AI-driven task assignments. It aims to replace inefficient manual processes with a centralized digital platform to optimize disaster response efforts.

1.1 Scope

- Web-based platform development with responsive design
- User registration and profile management for different stakeholders (volunteers, NGOs, government agencies, civilians)
- Real-time disaster reporting and alert system
- Volunteer coordination and task assignment
- Resource tracking and allocation system
- Communication channels between stakeholders
- Geolocation-based disaster mapping
- Provide tools for NGO's and agencies to manage on-ground operations and volunteer efforts.
- Enable users to post alerts, images, and videos of disaster situation.

1.2 Project Objective

Develop a web-based platform and mobile application to improve the efficiency of volunteer management during disaster situations by providing a structured, real-time coordination system. The platform will enable authorities and relief organizations to assign volunteers to critical tasks based on skills, location, and availability, ensuring a faster and more organized response.

- Reduce disaster response time by 50% through automated volunteer coordination.
- Improve resource allocation efficiency by 70% using AI-driven task assignments.
- Achieve 90% user adoption among NGOs and government agencies within 12 months.
- Secure partnerships with disaster relief organizations.
- Improve communication via an integrated messaging system.
- Enable automated volunteer matching based on geolocation and skills.

1.3 Milestones

Milestone	Description	Delivery Date
UI/UX Design Finalization for web and mobile application	Complete user-friendly interfaces for web and mobile platforms.	25/04/2025

Core functionalities development	Develop volunteer registration, disaster alert posting, and basic task assignment features along with profile management.	16/05/2025
AI & GIS Integration along with Multi-lingual support	Implement volunteer-task matching algorithms and real-time geolocation tracking. Implementing multi-language support helps in reaching large communities of users.	17/06/2025
Communication Module	Build real-time chat, notifications, and emergency alerts.	29/06/2025
Analytics and Dashboards	Analytics and dashboards implementation to track the safety of the city and the individual volunteer work.	09/07/2025
Final Testing & QA	Conduct stress tests for scalability and security audits.	18/08/2025
Platform Launch	Deploy the platform in partnership with NGOs in disaster-prone regions.	10/09/2025

1.4 Phases

Phase	**Description**
Project Initiation	Define scope, objectives, and stakeholder roles. Finalize the project charter.
Project Planning	Create WBS, allocate resources, estimate budget, and define risks.
Project Execution	Develop the platform using Agile sprints (UI/UX, backend, AI/GIS, etc.).
Testing and Deployment	Launch the platform and train NGOs/government users.
Project Closure and document sign off	Hand over documentation, release resources, and plan post-launch support.

1.5 Tasks

Phase	**Activity**	**Tasks**
Initiation	Develop Project Charter	Define objectives, scope, and stakeholders.
Planning	Create Project Plan	Define WBS, budget, and risk management strategies.
Execution	Develop Platform	UI/UX Design, Backend Development, AI/GIS Integration, Multilingual Support.
Closure	Finalize Platform	Testing, stakeholder approval, and resource release.

2. Project Timeline

- **Phase 1 - Project Initiation – (March 10 – March 21)**

This is the initial phase of the project that majorly deals with defining the project scope and objective with other user requirements. Followed by identifying the stake holders, decision makers and the project manager to form and lead a team.

- **Phase 2 - Project Planning – (March 24 – April 8)**

Project planning holds the task of forming the team formation and designating the role along with the creation of budget plan and the work breakdown structure by the project manager and identify core strategies that holds developmental method, proper technology stack that aligns with the scope and objectives of the project.

- **Phase 3 - Project Development – (April 8 – July 9)**

Project development phase purely deals with the developmental work of the product where in the requested functionalities are built in terms of features as iterative development. The phases are divided as web and mobile application development, Database design and APIs management, Implementation of multi-language support along with AI assistance and GIS integration for location tracking. Finally, the Analytical dashboard to track the progress of volunteering individual.

- **Phase 4 - Project Testing and Deployment – (July 11 – August 18)**

The developed project should undergo different testing methods such as white box testing, black box testing, integration testing, unit testing, and finally performing beta test by training the users to use the software to get the user feedback and identify any bugs or flaws in the development.

- **Phase 5 - Project closure and sign off – (August 18 – September 10)**

Project closure and getting sign off from the users and stakeholders is equally an important phase where the documentation must be created for all the developmental and testing work done on the product and a manual for the users to understand the software.

Assumptions and Constraints:

The above project plan is created based on certain assumptions and constraints that follows:

Assumptions such as availability of stakeholders, sponsors and resources followed by the technology stack compatibility, timeline adherence and vendors support are presumed to be positive that leads for smooth progress of the software development and project management.

Constraints are majorly incurred in terms of budget, resource with lack of right skills, time, scope, technology stack, quality of code, unclear user requirements, stakeholders lack of interest which pose major threat for the progress of software development and management. Hence, the mentioned constraints must be delt with right mitigation techniques and to have right strategy to overcome the deficits if any.

3. Resource Allocation

Resource allocation is an important task of the project manager to allocate right resource to right task during the project management. Some of the key resources required in each phase of the project development are:

- **Project Initiation phase**: For the initiation phase the resource majorly deals with the board members, stakeholders, and the experts with previous experience.

- **Project Planning**: This phase needs resources such as human resource department, Project manager, developers, analysts to analyse both business and available data to check feasibility. Also, need the sponsors and financial analysts for budget estimation.

- **Project Development**: Development phase majorly need developers and in large volume as this is the major chunk and time-consuming part of the project, developers with expertise such as frontend, backend, mobile application developer, data base designer and administrator, AI engineer, data scientist and analyst, Linguistic expert, game and course designers and a full stack developer with DevOps engineer.

- **Project Testing and deployment**: Along with the above-mentioned developers, testing is yet another major part of the project development where in testers and quality analyst are required for this phase.

- **Project Closure**: This phase reintroduces project managers, stakeholders and the business team and decision makers to understand the final software product developed.

Project Milestones and Deliverables:

Milestone	Depends On	Dependency Type	Impact if delayed
Project Initiation & Planning	Stakeholder approval of problem statement and scope	Finish-to-Start	Delays all subsequent phases
Web/Mobile App Development	Completion of UI/UX design and project planning sign-off	Finish-to-Start	Blocks database design and core feature development
Database Design & Management	Finalized application interface (from Milestone 2)	Finish-to-Start	Prevents data storage/retrieval, blocks AI/GIS integration
Multi-Language Support	Stable application and database (Milestones 2 & 3)	Finish-to-Start	Limits global adoption, delays analytics dashboard
AI & GIS Integration	Functional database (Milestone 3) and backend APIs	Finish-to-Start	Blocks task automation and real-time coordination
Analytical Dashboards	AI/GIS integration (Milestone 5) and data pipelines	Finish-to-Start	Delays stakeholder reporting and decision-making
Testing	All development milestones (2–6)	Finish-to-Start	Postpones launch and user training
User Training	Successful testing (Milestone 7)	Finish-to-Start	Risks poor adoption and stakeholder dissatisfaction
Project Closure	User training completion and stakeholder sign-off	Finish-to-Start	Delays marketing and post-launch support

Milestones and Dependencies:

1.Project Initiation and Planning: Identifying the right users and stakeholders with initial market analysis over the product expected to understand the feasibility of the software developed is a major milestone to initiate the software development. The document once accepted by the stakeholders and decision makes, the task is completed.

2. Development of web and mobile applications: This is part of the development phase. Developing the web and mobile application with required core features such as interface design, design the flow, profile management for volunteers and organization which can be implemented parallelly is another milestone. Once the applications are stable and working as per the checklist, the task is completed.

3. Database design and management: This is part of the development phase. Creating the right ER diagram and the database design is very important to make sure that the right data is stored and well documented and to reduce the risk of ambiguity and redundancy and check for securing the private user critical data. This depends on the application interface developed. If the data required can be stored, retrieved, and update then the task is completed.

4. Develop the multi-language support: This is one major milestone that requires effort from the linguistic experts to develop the service. This majorly depends on the previous development which follows once the database designed and the application developed.

5. Develop the AI assistance and the Geographic Information System (GIS): This is part of the development phase and implementing the required features marks the completion of the milestone. The task is dependent on the previous developments.

6. Develop Analytical dashboards: This is the last milestone of the development phase which is implemented once all the above milestones are achieved. The development is completed once the data is available on the dashboards exhibiting the required statistics and the visual data of the required information with respect to the requirements.

7. Testing: Testing the development work is yet another milestone where in the developed iterative milestones are tested parallelly and once the complete product is built then proper investigation of the software with different testing techniques are employed to make sure the software aligns with the drafted requirements and objectives.

8. Training the users: Training the users and creating the training structure for the new users to understand the usage of the product and to get the feedback on the product is a milestone. The phase is termed complete when a part of the users understands the training and use the software in their daily operations and feels the product being useful.

9. Project closure: Once the development, testing is completed the final software product is documented with necessary document work and the manual for understanding the product. Further marketing must be done to educate the users and the organisations to use the software to improve their operations in terms of volunteer coordination management. The document work

once gets sign off from the stakeholders and the user it is termed as complete, but the marketing process continuous until the software reaches new users organisations and when new improvements and advice are received for refactoring the software.

Project Deliverables:

The project management for the current project has six deliverables in total:

1. **Project plan documents and prototype:** Understanding the user and stakeholders' requirements and drafting the necessary documents such as scope, objectives, requirements, team information, budget analysis and a prototype and design to get the users and stakeholders attention. This helps in briefing the information on the project and the process of managing the project. This will be the first deliverable and an important one for the health of the project.

2. **Implementation of the application:** Providing the developed web and mobile application with a few core functionalities such as profile management and communication and group formation, user profile creation which delivers the initial implementation of the software system.

3. **Implementation of database design and servers** for connecting the applications through APIs is the second developmental deliverable and one of the major one that creates the bridge between the applications and synchronizing them with data movement. Implemented as an iterative solution and cannot be completely relied yet.

4. **Implementation of Multi language support and AI assistance:** Giving the multi-language support and the AI assistance practically makes the software usable in terms of beta users and to give feedback on the development.

5. **Geographic Information System (GIS) and Analytical Dashboards:** This marks the final deliverable of the developmental phase where the complete promised features are implemented, and the system is ready to be tested and used by the potential stakeholders and users. This product will be handed to testers to identify any bugs and parallelly get the feedback from the beta users. During all the deliverables simultaneous testing will be conducted.

6. **Preparing training materials and other documents for user knowledge:** This is the last deliverable before closing the project where the documents necessary for the sign off procedure from the stakeholders are prepared along with other necessary documents such as manual and training documents for the users to understand the software system and adopt it in their operations.