

# Project Synopsis

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| **Name** |  |
| **USN** |  |
| **Elective** |  |
| **Date of Submission** |  |

**Community Connect: A Volunteer Matching** **Platform**

# PROBLEM STATEMENT

Community Connect is a non-profit organization that currently lacks an online presence and platform to connect volunteers with community projects. As a cost-conscious organization, they require a secure and cost-effective web application solution using AWS free tier services.

The organization needs to address the following requirements:

**Volunteer Registrations**: The organization needs a user-friendly registration system that allows volunteers to sign up and create accounts on the platform. The system should collect necessary information such as name, email address, and other relevant details to streamline volunteer engagement.

**Project Listings**: Project organizers need the ability to list community projects seeking volunteer support. Project listings must include essential details such as project description, location, required skills, and time commitment to help volunteers make informed decisions.

**Volunteer Selection of Projects**: Volunteers need the ability to browse through listed projects and select those that align with their skills, interests, location, and availability. The platform should include filtering and search functionalities to enhance the volunteer experience in finding suitable projects.

**Communication Features**: The platform should explore implementing communication features that facilitate interaction between volunteers and project organizers through messaging or notification systems while maintaining user privacy and security.

**Cost-effective Implementation**: The solution must utilize AWS free tier services to minimize operational costs associated with hosting and managing the web application while ensuring sustainability within free tier limits.

# GOALS AND OBJECTIVES

## Primary Goal

Design and implement an AWS-based solution for Community Connect to build an online platform that connects volunteers with community projects using AWS free tier services.

## Specific Objectives

### Objective 1: Volunteer Registration System

* Develop a user-friendly registration system allowing volunteers to sign up and create accounts
* Collect necessary information such as name, email address, and relevant details for volunteer engagement
* Ensure secure storage and management of volunteer profile information

### Objective 2: Project Listing Implementation

* Enable project organizers to list community projects seeking volunteer support
* Include essential details such as project description, location, required skills, and time commitment
* Provide an organized display of available projects for volunteer browsing

### Objective 3: Volunteer Project Selection

* Allow volunteers to browse through listed projects and select suitable opportunities
* Implement filtering and search functionalities based on skills, interests, location, and availability
* Enable volunteers to apply for projects that match their preferences

### Objective 4: Cost-Effective AWS Implementation

* Utilize AWS free tier services to minimize operational costs
* Optimize resource utilization within free tier limits
* Ensure sustainable and cost-effective hosting and management of the web application

# KEY FEATURES AND EXPECTED RESULTS

## Core Platform Features

### User Registration and Authentication

The platform will provide a basic registration system for volunteers and project organizers. Volunteers can create accounts with essential information including name, email, contact details, skills, and location. Project organizers can register to post and manage community projects. The system will implement secure authentication to protect user accounts and data.

### Project Listing System

Project organizers will be able to create project listings with necessary details including project description, location, required skills, time commitment, and project duration. The system will display these projects in an organized manner for volunteers to browse and review.

### Project Browse and Search

Volunteers will have access to browse all available projects and use search and filtering capabilities to find projects that match their skills, interests, location, and availability. The search functionality will help volunteers quickly identify suitable volunteer opportunities.

### Volunteer Application Process

The platform will allow volunteers to apply for projects they are interested in. Project organizers will be able to review applications and select volunteers for their projects. The system will track application status and provide basic communication between volunteers and organizers.

### Basic Communication Features

The platform will include simple messaging functionality to enable communication between volunteers and project organizers. This will help coordinate project details and maintain necessary contact throughout the volunteer engagement.

### AWS Free Tier Implementation

The entire platform will be built using AWS free tier services to ensure cost-effectiveness for the non-profit organization while maintaining functionality and security requirements.

## Expected Results

**Volunteer Registration**: The platform will enable Community Connect to register and manage volunteer profiles with essential information needed for project matching.

**Project Management**: Organizations will be able to list projects with all necessary details and manage volunteer applications efficiently.

**Project Discovery**: Volunteers will be able to easily find and apply for projects that match their skills and availability through search and filtering capabilities.

**Cost Savings**: Implementation using AWS free tier services will provide a functional platform with minimal operational costs for the non-profit organization.

**Basic Communication**: Simple messaging features will facilitate necessary communication between volunteers and project organizers for project coordination.

# PRELIMINARY FINDINGS ON AWS SERVICES

## AWS Services Selection

**Amazon DynamoDB** will serve as the database solution for storing user profiles, project listings, and application data. The service offers 25GB of free storage monthly, which is sufficient for the platform's data requirements. DynamoDB's NoSQL structure is suitable for handling volunteer and project information while staying within free tier limits.

**AWS Lambda** will provide the backend functionality for the platform with 1 million free requests monthly.

Lambda will handle API endpoints for user registration, project management, and application processing.

The serverless architecture ensures the platform only uses resources when needed, keeping costs minimal.

**AWS Amplify** will host the frontend application and provide CI/CD capabilities with 1000 build minutes monthly. Amplify includes hosting, SSL certificates, and deployment automation, making it suitable for the web application frontend while remaining within free tier boundaries.

**Amazon CloudFront** will provide content delivery to ensure good performance for users accessing the platform from different locations. CloudFront is included with Amplify hosting and helps deliver the web application efficiently.

This combination of AWS services provides the necessary functionality for the volunteer matching platform while maintaining zero operational costs within the free tier limits, making it suitable for a cost-conscious non-profit organization.