**Disaster Relief Volunteer Coordination System Project**

## **Phase 1: Problem Understanding & Industry Analysis**

👉 Goal: Understand what we’re building and why.

Core Concept: A Salesforce application that automates the matching of volunteers to disaster areas based on their skills and availability, visualized through an interactive map.

1: Requirement Gathering & Stakeholder Analysis

* *Process:*
  + *Identify Stakeholders:*
    - *Disaster Response Coordinators (Admins):* Need a dashboard to see the big picture, manage resources, and assign volunteers.
    - *Volunteers:* Need an easy way to register their skills and availability and see where they are needed.
    - *Affected Communities:* Implicit beneficiaries; their needs are represented as "Resource Requests" in the system.
  + *Define Core User Stories:*
    - "As a volunteer, I can register my profile with my skills and availability so that I can be matched to relevant relief efforts."
    - "As a coordinator, I can create a resource request for a specific location specifying needed skills so the system can find suitable volunteers."
    - "As a coordinator, I can see all active disasters and their resource needs on a map to understand the overall situation."
    - "The system must automatically match available volunteers to high-priority resource requests based on skills and location."

2: Business Process Mapping:

*Goal:* Map out the ideal flow of data and actions within the system.

*Process:*

* + *Volunteer Registration Process:*
    - Volunteer fills out a form → Data is saved in a Volunteer\_\_c record.
  + *Disaster Management Process:*
    - Coordinator creates a Disaster\_Event\_\_c record (e.g., "2023 Pacific Floods").
  + *Resource Request Process:*
    - Coordinator identifies a specific need (e.g., "Need medical personnel at Central High School") → Creates a Resource\_Request\_\_c record linked to the Disaster Event.
  + *Matching & Assignment Process:*
    - *Automatic (System):* A scheduled Apex job runs every hour, finds high-priority, open requests, and automatically assigns the best-matched volunteer.
    - *Manual (Coordinator):* Coordinator views a list of matched volunteers for a request and manually confirms the assignment.
  + *Fulfillment Process:*
    - Volunteer completes the task → Coordinator updates the Volunteer\_Assignment\_\_c status to "Completed" and the Resource\_Request\_\_c status to "Fulfilled".

3: Industry-specific Use Case Analysis

* *Goal:* Ensure the solution addresses real-world disaster relief scenarios.
* *Process:* Consider specific cases:
  + *Flood:* Needs might include sandbagging (skill: Construction), boat rescue (skill: Water Safety), and shelter management (skill: Logistics).
  + *Earthquake:* Needs might include medical triage (skill: Medical), search & rescue (skill: First Aid, Construction), and structural assessment (skill: Engineering).
  + The data model's flexible *multi-select picklists* for skills allow it to adapt to these various scenarios.

4: AppExchange Exploration

* *Goal:* Leverage existing solutions to avoid reinventing the wheel.
* *Process:* Search Salesforce's AppExchange for relevant packages.
  + *Map Anything/Salesforce Maps:* Could provide more advanced mapping features than bare-bones Leaflet.js.
  + *CRM Analytics:* Could build advanced dashboards to predict resource needs based on historical disaster data.

Communication Tools: Apps for mass SMS/email communication (e.g., Twilio) could be integrated to notify volunteers of assignments.