**Project Proposal**

* **Team Name**: Blood Donation Service
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**Problem Being Solved** Finding blood donors, especially those with rare blood types, is a significant challenge. Current solutions lack real-time data and efficient donor management. Our platform aims to bridge the gap between donors, hospitals, and blood banks, ensuring timely blood availability.

**Analysis of Existing Solutions**

1. **Donor Websites**
   * **Strengths**: Provide donor lists
   * **Weaknesses**: Often lack real-time updates
2. **Hospital Blood Banks**
   * **Strengths**: Reliable blood stock
   * **Weaknesses**: Limited availability & donor data
3. **Social Media Groups**
   * **Strengths**: Quick donor outreach
   * **Weaknesses**: Unorganized and unreliable

**Project Development Plan**

**Milestone 1 (Assignment 4): Spring Boot Project Setup**

* Initialize a Spring Boot project with necessary dependencies.
* Develop a donation center map with city-based search.
* Create an admin panel for managing donation centers.

**Milestone 2 (Assignment 5): Database Integration**

* Set up PostgreSQL database.
* Implement donor records and CRUD operations.
* Connect the backend to the database.

**Milestone 3 (Assignment 6): Feature Completion and Dockerization**

* Implement rare blood type donor search.
* Integrate email/SMS reminders for repeat donors.
* Containerize the application using Docker and deploy it.

**Key Functionalities**

1. **Donation Centers Map** - Search centers by location, view details (hours, contact, available blood types).
2. **Donor Registration** - Maintain donor history and track eligibility for repeat donations.
3. **Rare Blood Type Matching** - Find and notify compatible donors. Hospitals can request urgent donors.

**GitHub Repository:** <https://github.com/makpalrus/backend.git>