**PROJECT DESIGN PHASE**

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| Date | 29-05-2025 |
| Team ID | LTVIP2025TMID28821 |
| Project Name | TO SUPPLY LEFTOVER FOOD TO POOR |
| Maximum Marks | 4 Marks |

**PROPOSED SOLUTION OVERVIEW**

**1. Introduction**

In a world where overproduction coexists with undernourishment, food waste has become not just an economic concern, but a humanitarian crisis. *“To Supply Leftover Food to the Poor”* addresses this imbalance by offering a scalable, technology-driven platform designed to rescue surplus food and redirect it toward vulnerable populations. The proposed solution—creates a bridge between donors and NGOs through cloud-based coordination, automation, and transparency.

This section provides an in-depth overview of the proposed architecture, features, and user experiences that will drive real-world social impact.

**2. Purpose of the Solution**

The primary purpose of the solution is to:

* Minimize food wastage by enabling easy and quick donations.
* Ensure timely delivery of surplus food to those in need.
* Build a transparent, trusted ecosystem of donors, NGOs, and volunteers.
* Leverage technology to automate logistics and decision-making.

Through an intuitive platform backed by Salesforce, the solution ensures that perishable food reaches hungry people before it becomes waste.

**3. Solution Components**

The platform comprises three major interfaces designed around distinct user roles.

**3.1 Donor Experience Portal**

Designed for restaurant managers, caterers, and food outlets.

**Features:**

* **Quick Registration**: Easy onboarding with verification via admin.
* **Post Donation**: A guided form to log food availability, type, quantity, pickup address, and time window.
* **Donation Status Tracking**: Real-time updates on each donation—from posted to delivered.
* **Impact Dashboard**: Visual summary showing meals donated, food saved, and locations served.

**3.2 NGO Experience Portal**

Designed for NGO coordinators managing food distribution.

**Features:**

* **Search & Accept Donations**: Ability to browse and claim active donations nearby.
* **Volunteer Management**: Assign delivery personnel and track their activities.
* **Pickup Confirmation**: Update status after food collection and distribution.
* **Distribution Analytics**: Insights into donation history and beneficiary reach.

**3.3 Admin Dashboard (Back Office Panel)**

Used by system administrators to monitor and manage the ecosystem.

**Features:**

* **User Verification**: Review and approve new donor/NGO registrations.
* **System Health Monitoring**: Detect inactive users, bottlenecks, or unusual activity.
* **Platform-Wide Analytics**: Generate reports, measure platform impact, and support funding communication.

**4. Key Functional Features**

The system is built around a few core capabilities that ensure seamless operations:

* **Automated Matching Logic**: Uses donor location, NGO capacity, and food type to suggest the best recipients.
* **Real-Time Notifications**: SMS and email alerts for donation postings and acceptance.
* **Status-Driven Workflows**: Donations move through a defined lifecycle—Posted → Claimed → Picked Up → Delivered.
* **Role-Based Access Control**: Each user only sees content relevant to their responsibilities.
* **Dashboards and Reports**: Visual summaries of donation frequency, beneficiary count, and food waste reduced.

**5. Technical and Design Considerations**

**5.1 User Interface (UI) Design**

* **Lightning Web Components**: Ensures a responsive and fast-loading experience.
* **Mobile-Friendly**: All portals are optimized for smartphones and tablets, aiding on-the-go users like volunteers.
* **Minimalist Layout**: Designed for ease of use, especially for non-technical stakeholders.

**5.2 Data Management**

* **Custom Objects in Salesforce**: Donation\_\_c, NGO\_Profile\_\_c, Volunteer\_Task\_\_c modeled for relational integrity.
* **Data Security**: Follows Salesforce standards, including encrypted data at rest and access restrictions.
* **Audit Logs**: Tracks every transaction for transparency and compliance.

**5.3 Integration Architecture**

* **Twilio API**: For sending real-time SMS alerts and confirmations.
* **Salesforce Flows**: Used to automate business logic like donation assignment and follow-ups.
* **Future Scope**: Salesforce Maps and AI-enabled forecasting via Einstein AI for predictive logistics.

**6. Social and Operational Benefits**

By building a transparent and intelligent coordination system, NourishBridge delivers substantial benefits:

* **Timeliness**: Reduces food spoilage by accelerating pickup scheduling.
* **Empowerment**: Enables small NGOs and independent volunteers to become part of a centralized network.
* **Trust**: Full tracking builds donor confidence in responsible handling of food.
* **Accountability**: NGOs can quantify their performance and showcase impact with data-backed stories.

**7. Example Use Case**

A restaurant in Hyderabad finishes a wedding event with enough leftover food to serve 40 people.

Within 2 minutes, the manager posts the donation through the portal. NourishBridge immediately alerts three NGOs nearby. One accepts, assigns a volunteer, and confirms pickup through the mobile interface. By evening, the food is distributed at a community shelter, and both donor and NGO view a dashboard showing the impact: **“You helped feed 40 people today.”**

This flow demonstrates how practical and powerful the solution can be—turning minutes into meals.

**8. Conclusion**

The proposed solution—*To Supply Leftover Food to the Poor*—is not just a project; it is a social infrastructure tool powered by empathy and engineered by efficiency. Through automation, real-time data, and stakeholder-driven design, NourishBridge bridges the gap between waste and want. The system embodies a vision where technology amplifies human kindness, ensuring that no good meal goes to waste and no human goes hungry.