Software Requirements Specification

Version 1.0

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this system is to improve upon the Satisfeed dashboard by implementing more sophisticated features that allow users to view school information on an interactive map in relation to hotspots of past customers.

1.2 Project Scope

The scope of this project includes improvements to the current dashboard map through the addition of school data and hotspot locations. It will also include implementation of an API that serves as a point of contact between the front-end system and database that holds customer / school data, retrieved from outside sources. This project will focus on parsing school data and storing said data to later be used on the front-end map. It will also include adding ways to store customer data in a way that is useful to the client in terms of locating hotspots around schools in need. This project will focus on improving the usability of data with a more robust API and database; it will not include redesigning of the overall dashboard UI nor refactoring of current dashboard logic unless necessary to meet project goals.

2. Overall Description

2.1 Product Features

The Satisfeed Dashboard is a Next.js web application that generates dynamic reports from Satisfeed's customer database. Satisfeed is a Gwinnett-based nonprofit food bank operating from a single distribution site. Guest demographic and service-usage data is collected during signups and stored in a structured database. The proposed version of this dashboard queries this database and renders reports in real time, providing stakeholders with up-to-date visibility into client demographics and program utilization.

2.2 Operating Environment

- **Hardware**: Any PC, Mac, or mobile device
- **Operating System**: Windows 10, macOS 10.15+
- **Software Components**:
    - React
    - Next.js
- **Development Environment:** IntelliJ, VSCode, Development Server
- **Production Environment:** Vercel

2.3 Design and Implementation Constraints

- Must use Next.js framework

- Must use Vercel for frontend deployment

2.4 Assumptions and Dependencies

- The project depends on the guest information database, hosted by Oasis, being accessible for integration. An API will be developed to receive data from this database and update the dashboard at regular intervals.
- The project assumes the guest sign up form, hosted by Oasis, will later add mandatory home address/school attendance input in order to populate the dashboard created in this system with relevant user data
- The project assumes that data needs to be stored within a database due to the scale of both customers and school information that needs to be reliably accessible.

2.5 Functional Requirements

REQ-1: Food Distribution by School Zone
Dashboard shall include a "Food Distribution by School Zone" option in the dropdown menu, alongside the existing "Food Distribution by County" and "Food Distribution by ZIP Code."
- **Priority:** High
- **Justification:** The inclusion of school zone data will allow Satisfeed administrators to partner with schools that have a high number of students in continual need of Satisfeed's services.

REQ-2: Live Location-Based Data Presentation
The dashboard map shall have a live icon to track the location of the currently logged in user, loading up the data for the location they're in.
- **Priority:** Medium
- **Justification:** Improves ease of use during mobile usage.

REQ-3: School Data Import and Storage
System retrieves school data from external sources, parses it, and stores it in the database for later use.
- **Priority:** High
- **Justification:** Required to track the essential metric of customer need by school zone.

REQ-4: Customer Data Management
System shall provide a way to store and update customer data relevant to locating hotspots
- **Priority:** High
- **Justification:** Required to maintain accuracy and relevance in customer data to create accurate visualizations.

REQ-5: API for Data Access
System shall implement an API that allows the front-end to access school and customer data for visualization on the map

- **Priority:** High
- **Justification:** Remaining scope of last project iteration and client emphasized future implementation of recent database information into dashboard.

REQ-6: Data Filtering for Hotspots
System shall allow filtering and retrieval of schools near hotspot areas to support client analysis
- **Priority:** Medium
- **Justification:** Allowing for easier identification of higher-need areas to focus resources to those locations.

2.6 Nonfunctional Requirements

REQ-7: The system should be intuitive and easy to navigate for stakeholders and volunteers.
- **Priority:** High
- **Justification:** With the high volume of data and need for live analysis while serving customers and reporting to stakeholders, an intuitive dashboard is essential.

REQ-8: The dashboard shall load reports within 3 seconds for queries on datasets up to 10,000 records
- **Priority:** High
- **Justification:** As the dataset grows, speed of data retrieval and visualization should be prioritized.

REQ-9: In the event of a database outage, the system shall display a fallback message.
- **Priority:** High
- **Justification:** Allows for error handling and debugging

REQ-10: The dashboard shall be accessible on both desktop and mobile browsers with responsive design.
- **Priority:** High
- **Justification:** Responsive web app allows more flexibility for users.

2.7 Domain Requirements

REQ-11: The system shall track key nonprofit-specific metrics such as families served, pounds of food distributed, and repeat visits.
- **Priority:** High
- **Justification:** These are the main metrics that the non-profit requires to quantify their impact on the community.

REQ-12: The system shall support school zone and county-level data views to enable collaboration with community partners (e.g., schools, churches, local agencies).
- **Priority:** High
- **Justification:** These views will allow administrators to share relevant information with community partners to increase reach and impact

REQ-13: The system shall include anonymized demographic breakdowns (age ranges, household size, etc.) to inform targeted outreach programs without exposing personal data.
- **Priority:** High
- **Justification:** These demographics will allow administrators to identify trends in demographics and need.

REQ-14: Personally Identifiable Information (PII) shall not be displayed in any public-facing dashboard views.
- **Priority:** High
- **Justification:** To align with privacy and compliance laws about personally identifiable information.

REQ-15: Reports shall be formatted in a way that can be shared directly with donors and funding agencies.
- **Priority:** High

- **Justification:** Improves ease of reporting non-profit metrics to stakeholders and the community with the app acting as a central hub for high-impact data visualizations.