**The Vision**

The Vision for the Bite Bright project communicates its purpose, the problems it seeks to solve, and the needs of its stakeholders. It serves as the foundation for further development and alignment among stakeholders.

**Introduction**

The purpose of Bite Bright is to provide a modern diet management solution that goes beyond traditional calorie counting. Unlike systems that often foster food-related anxiety and unsustainable eating habits, Bite Bright focuses on promoting emotional well-being and encouraging healthier, sustainable eating patterns. The system empowers users to build a positive and lasting relationship with food.

**Problem Statement**

Traditional diet management systems fail to incorporate emotional health and often lead to unsustainable eating patterns. These systems emphasize short-term restrictive diets rather than long-term well-being. Users lack tools to track and analyze emotional health alongside dietary habits.

**Key High-Level Goals and Problems for Stakeholders**

**Goals**:

Promote a balanced approach to diet management by integrating emotional health and physical well-being.

Minimize stress and anxiety related to food tracking.

Provide personalized, sustainable dietary recommendations.

Encourage long-term adherence to healthy eating habits.

**Problems**:

Limited focus on emotional well-being in existing solutions.

Insufficient personalization in dietary recommendations.

Lack of integration with wearable devices and external health data.

**Product Perspective**

The system utilizes a client-server architecture with modular subsystems for user management, meal tracking, recommendation generation, analytics, and security. It integrates with wearable devices and external APIs to enhance functionality. This design ensures scalability, adaptability, and efficient data handling.

**System Features**

**Track Food Intake**: Allows users to log meal details, including portion sizes and nutritional content.

**Monitor Health Data**: Synchronizes wearable device data such as heart rate and activity levels.

**Categorize Meals**: Enables classification of meals as "healthy" or "unhealthy" using predefined rules.

**Personalized Recommendations**: Provides dynamic dietary suggestions based on user preferences and progress.

**Emotional Health Monitoring**: Tracks mood and stress levels, correlating them with dietary patterns.

**Real-Time Feedback**: Alerts users to deviations from dietary goals and offers corrective suggestions.

**Analytics and Reporting**: Generates insights and trends on user progress and well-being.

**Domain Rules**

**RULE1:** Signature is required for credit payments. Buyer signatures will continue to be required, but within two years, most customers are expected to adopt digital signature capture devices. Within five years, there may be a demand for the unique digital code signature now supported by U.S. law.

**RULE2:** Tax rules mandate that sales require added taxes. These tax laws change annually and are subject to all government statutes for current details.

**RULE3:** Credit payment reversals may only be processed as a credit to the buyer’s credit account and cannot be issued as cash.

**Dietary Tracking Policies**:  
The system allows users to log meal details, including portion sizes, nutritional content, and meal types. This data is validated for completeness and formatting before being stored.

**Health Data Synchronization**:  
Data from wearable devices, such as heart rate and activity levels, is synced with the system. If synchronization fails, the system retries the process after notifying the user of the issue.

**Categorization Rules**:  
Logged meals are categorized as "healthy" or "unhealthy" based on predefined system rules. When the system cannot automatically categorize a meal, it provides suggestions, allowing users to confirm or override them.

**Recommendation Guidelines**:  
Personalized diet recommendations are generated using the 80/20 principle, emphasizing 80% healthy eating and 20% flexibility. Recommendations are based on logged data and user goals.

**Feedback Mechanisms**:  
Real-time feedback is provided to users based on their adherence to dietary goals. If deviations are detected, alerts are sent. Notifications are queued and retried if delivery fails due to connectivity issues.

**Emotional Health Analysis**:  
The system allows users to log mood and stress levels. It correlates this data with eating patterns to provide insights, even generating generic insights if specific emotional health data is unavailable.