EatFit - Project Vision Statement

📅 **Submission Deadline:** March 30, 2025

👥 **Team 2 - Software Engineering**

🗨️ **Team Discussion Scheduled:** Sunday at 6 PM EST

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1. Introduction

Project Name: EatFit
Team Members: Brian Richmond, Kurt Mason, Jonathan Nguyen, Sydney Isaacs

Document Purpose:
This document presents the Project Vision Statement for EatFit, a user-friendly nutrition tracking app designed for individuals who prepare meals at home. It aims to define the project's direction, outline key features, and demonstrate how our solution aligns with the needs of EatFit Inc. and its future users.

The app will empower users to understand the nutritional content of their meals using verified USDA data and flexible input options such as recipes, ingredients, photos, and voice commands. This document also outlines our technical approach, stakeholder needs, system boundaries, and a roadmap for growth. Our goal is to deliver a secure, scalable, and forward-thinking solution that adapts to the evolving health tech landscape.

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2. Problem Statement

EatFit Inc. is a startup that wants to target the nutrition and diet segment of the mobile health (mHealth) app market. One opportunity identified through market research is to serve home cooks who lack the tools or knowledge to assess the nutritional quality of their meals. Recipes often include both packaged products (e.g., oil, meat, bread) and fresh produce (e.g., vegetables, fruit), making nutrition tracking more complex.

This application addresses that gap by enabling users to analyze meals using various input methods—raw ingredients, custom recipes, photos, or voice. It will provide accessible, real-time feedback on nutritional value and allow users to track their diets across devices easily. The deeper problem we are solving is empowering individuals to make healthier food choices with clear, trustworthy nutritional insights.

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3. Vision Statement

What EatFit Aims to Achieve:

- Provide an intuitive platform for tracking nutrition in home-cooked meals
- Helps users log, analyze, and monitor their dietary intake over time
- Offer flexibility for future feature additions and integrations

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4. Stakeholders

Primary Stakeholders:

- **Home Cooks (Users):** Individuals who want better control over their nutritional intake.
- **EatFit Inc. (Client):** Seeking a scalable, compliant, and engaging solution.
- **Team 2 (Developers):** Responsible for system design, build, testing, and delivery.
- **Nutritionists:** Provide expert insights and manage health program data.
- **Admins:** Oversee system operations, user roles, and nutritional content.
- **External Entities:** USDA for data, regulators for HIPAA/GDPR compliance.

Stakeholder Profiles:

- *Users* want flexibility, easy input methods, and personalized suggestions.
- *Nutritionists* need to track clients, send reminders, and adjust plans.
- *Admins* require tools to maintain data integrity and manage user access.

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5. Key Features & Scope

Version 1 - Core Features (Must-Have):

- USDA Database Integration
- Manual Recipe & Ingredient Entry
- Meal Logging & Nutrient Analysis
- Basic Reporting & Progress Tracking

Version 2 - Future Enhancements (Nice-to-Have):

- AI-powered Meal Recommendations
- Grocery List Generator
- Fitness App Integration (e.g., MyFitnessPal, Fitbit)
- **Mobile-Optimized Companion App**: A streamlined app optimized explicitly for smartphones to enhance user experience on smaller screens and support features like barcode scanning and simplified logging.

Why the Companion App is Version 2: Our initial release will use React Native to deliver a unified cross-platform experience across web and mobile. This approach reduces development time and cost while maximizing market reach. However, a companion app in Version 2 would provide a more refined, mobile-first experience for daily logging and notifications.

Trade-Off: Unified App vs. Companion App Role-Based Capabilities:

Feature	Unified Cross-Platform App	Mobile Companion App
Development Cost	Lower	Higher
Time to Market	Faster	Slower
Code Maintenance	Easier	Requires dual support
User Experience (Mobile)	Moderate	Optimized
Feature Specialization	General-purpose	Focused, mobile-tuned

- **Admins**
  - Manage user roles, nutrition data, and subscriptions
- **Nutritionists**
  - Create diet programs, send reminders, track subscribers
- **Users**
  - Log ingredients, track nutrition, receive health insights

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6. System Boundaries

In Scope:

- Ingredient and recipe analysis
- Integration with USDA data
- Nutritional breakdown and suggestions
- Data visualization, voice/photo input

Out of Scope:

- Medical advice or clinical diagnosis
- In-depth fitness tracking
- Third-party advertising or promotional features

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7. Glossary of Terms

- **USDA:** U.S. Department of Agriculture food database
- **BMI:** Body Mass Index
- **HIPAA:** Health Insurance Portability and Accountability Act
- **GDPR:** General Data Protection Regulation (European Union privacy law)
- **Smart Home Devices:** Internet-connected devices such as Alexa or Google Home
- **Macros:** Macronutrients (carbs, protein, fat)

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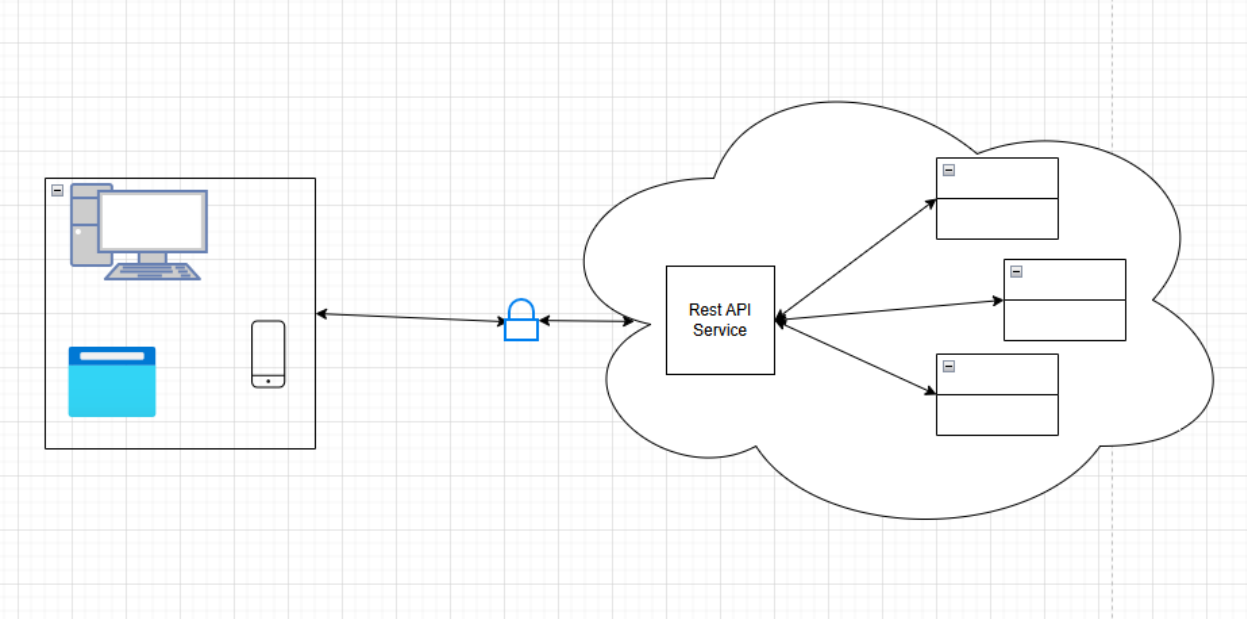
8. Technical Approach

Tech Stack:

- **Frontend:** The team will use React Native to create a deployable user interface across multiple platforms. This will allow us to deploy compatible code without additional development.
- **Backend:** Microsoft Azure API applications will provide a security-managed environment for API endpoints developed to interact with client device applications.
- **Database:** Cosmos DB will store all client information. Client-specific information will be secured using row-level security, which will secure database information only and expose it to respective users.
- **Cloud:** Microsoft Azure offers several HIPAA-compliant products. The platform is recognized for meeting the stringent requirements of HIPAA databases and applications. Authorization and authentication can be integrated and deployed across the suite of products that we intend to use

Compliance:

- Data handling will adhere to HIPAA and GDPR requirements to ensure user privacy and secure storage of sensitive nutritional data.



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9. Constraints & Risks

- **Performance:** Potential lag from large datasets (USDA).
- **Scalability:** Data on the user base's initial size and growth projections should be used to stress-test the product's scalability.
- **Accessibility:** As a user-facing product, EatFit should consider compliance with accessibility guidelines (e.g., WCAG 2.1, ADA) to ensure inclusivity for users with disabilities. Future versions may include screen reader support, voice navigation, and visual contrast optimization.
- **Privacy:** Compliance with HIPAA and GDPR is essential.
- **Cost:** Cloud services and third-party APIs may introduce expenses.
- **Security:** Nutrition data must be securely stored and encrypted.
- **Technical Feasibility:** Integration with devices and fitness platforms must be evaluated
- **Timeline:** Time to market is essential; team member availability and familiarity with the tech stack should be considered when setting deadlines.
- **Dependency Throughput**: It will be necessary to verify the calls allotted to the USDA endpoint and manage that risk with a back-off strategy or possibly local caching to reduce the number of calls if the number is too limiting. This can also be mitigated by implementing an exponential backoff to limit user downtime if this does occur.

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10. Milestones

Phase	Milestone Description	Duration
Analysis	Requirements gathering	10 days
Planning	Scope definition and acceptance criteria	5 days
Design	UI/UX and system architecture	5 days
Development	Build core functionalities	20 days
Integration	Component testing and system build	10 days
Installation	Deployment to test environment	5 days
Testing	End-to-end testing and QA	10 days

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11. Next Steps & Team Assignments

Upcoming Actions:

- Finalize stakeholder feedback in Sunday’s meeting
- Assign remaining project roles
- Finalize and submit Vision Document by March 30

Role	Team Member	Responsibilities
Project Manager	Brian Richmond	Timeline oversight, coordination
Technical Lead	Sydney Isaacs	Tech stack decisions, HIPAA compliance
Requirements Analyst	Kurt Mason	Document requirements from stakeholders
Frontend Developer	Brian Richmond	Build and style user interface
Backend Developer	Kurt Mason	Build database and server-side logic
QA Specialist	Jonathan Nguyen	Create test plans and execute QA

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12. Review Checklist for the Team