Coding Warrriors\_Requirement.docx

Project: Food Log App

Team: Coding Warriors

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to define the functional and non-functional requirements for the Food Log App. The app aims to help users track foods they consume and symptoms they experience in order to identify potential allergens or intolerances.

## 1.2 Scope

The Food Log App will provide features for food logging, symptom tracking, and food flagging. It will allow users to generate reports and share them with healthcare professionals. The app will support cross-platform compatibility, including Windows, MacOS, Android, and iOS.

## 1.3 Definitions, Acronyms, and Abbreviations

- Allergen: A substance capable of causing an allergic reaction.  
- User Story: A short description of a software feature from the perspective of the end user.  
- CSV/PDF: Export formats for reports.

## 1.4 References

- Class requirements template provided by instructor.  
- FDA Food Allergen Guidance.  
- NIST Cybersecurity Framework.

## 1.5 Overview

This document outlines the system requirements, user characteristics, features, functional requirements, non-functional requirements, and sponsor approval.

# 2. Overall Description

## 2.1 Product Perspective

The Food Log App is a standalone cross-platform application. It will use a local database for offline usage with optional cloud synchronization.

## 2.2 Product Functions

- Track meals and ingredients.  
- Record symptoms.  
- Identify potential food issues through pattern detection.  
- Generate reports for medical use.

## 2.3 User Classes and Characteristics

- Adults (18–65): Basic smartphone/computer literacy.  
- Elderly: Need a simple, easy-to-read interface.  
- Parents/Caretakers: May log meals and symptoms for dependents.

## 2.4 Operating Environment

- Platforms: Windows, MacOS, Android, iOS  
- Database: SQLite/PostgreSQL  
- Authentication: OAuth2 or equivalent

## 2.5 Design and Implementation Constraints

- Must comply with GDPR and HIPAA privacy standards if medical use is claimed.  
- Use only secure encrypted data transmission (TLS).

## 2.6 Assumptions and Dependencies

- Users will have stable internet access for cloud sync features.  
- Third-party APIs for food/nutrition data will remain available.

# 3. System Features (Functional Requirements)

|  |  |  |  |
| --- | --- | --- | --- |
| No. | User Story Name | Description | Priority |
| R1 | Sign Up | As a new user, I want to create an account so I can store data securely. | 1 |
| R2 | Sign In | As a user, I want to log in securely so I can access my records. | 1 |
| R3 | Log Food | As a user, I want to enter meal details (food, ingredients, time). | 1 |
| R4 | Log Symptoms | As a user, I want to track symptoms after meals to identify patterns. | 1 |
| R5 | Food Flagging | As a user, I want the app to suggest possible problematic foods based on my history. | 1 |
| R6 | View History | As a user, I want to review previous meals and symptoms to analyze trends. | 2 |
| R7 | Generate Report | As a user, I want to export my logs to PDF/CSV for doctors. | 2 |
| R8 | Notifications | As a user, I want reminders to log meals and symptoms. | 3 |
| R9  R10 | Cross-Device Sync  Symptoms | As a user, I want my data synced across devices.  As a user, I want to see which foods give me headaches or fevers when using filters. | 2  2 |

# 4. External Interface Requirements

## 4.1 User Interfaces

- Mobile interface: simplified logging screens, large buttons, reminders.  
- Desktop interface: detailed entry options, advanced reporting features.

## 4.2 Hardware Interfaces

- Mobile devices: touchscreen input.  
- Desktop: keyboard and mouse.

## 4.3 Software Interfaces

- Third-party food/allergen databases.  
- Cloud storage APIs (Google Drive, iCloud).

## 4.4 Communications Interfaces

- Secure HTTPS connections for API calls.

# 5. Non-Functional Requirements

- NF1 – Security: Encrypt user data both in storage and in transit (AES-256, TLS).  
- NF2 – Reliability: Ensure 99.5% uptime for cloud sync services.  
- NF3 – Usability: App must be intuitive, readable, and accessible for older adults.  
- NF4 – Cross-Platform Compatibility: Must run consistently on Windows, MacOS, Android, iOS.  
- NF5 – Accuracy: Food flagging should rely on recognized allergen lists and logged correlations.  
- NF6 – Privacy: Ensure compliance with data protection regulations (GDPR, HIPAA if applicable).

# 6. Other Requirements

- Provide detailed documentation for future developers.  
- Version control maintained in GitLab/GitHub.  
- Support for at least English; additional languages in future.

# 7. Appendices

- Sample mockups (to be added later).  
- List of common allergens for reference.

# 8. Sponsor Approval

I have read and approve the material in this document.  
  
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