Software Requirements Specification (SRS)

AI Calorie Tracker Mobile Application

1. Introduction

The AI Calorie Tracker is a mobile application designed to assist users in tracking daily caloric intake using artificial intelligence techniques such as image recognition and natural language processing. This document defines the functional and non-functional requirements of the system.

1.1 Purpose

The purpose of this SRS is to provide a detailed description of the AI Calorie Tracker system for developers, testers, project managers, and stakeholders.

1.2 Scope

The application allows users to log meals via text or images, estimate calorie and macronutrient intake, set dietary goals, and view analytics over time. The system targets Android and iOS platforms.

2. Overall Description

2.1 User Classes and Characteristics

- General Users: Individuals tracking calorie intake with minimal technical knowledge.
- Premium Users: Users accessing advanced analytics and personalized AI recommendations.
- Administrators: Personnel managing food databases and system monitoring.

2.2 Operating Environment

The application will run on Android (version 10 and above) and iOS (version 14 and above). Backend services will be hosted on cloud infrastructure.

3. Functional Requirements

- FR-1: The system shall allow users to create and manage personal accounts.
- FR-2: The system shall estimate calories from uploaded food images using AI models.
- FR-3: The system shall allow manual food entry via text search.
- FR-4: The system shall track daily, weekly, and monthly calorie consumption.
- FR-5: The system shall provide personalized dietary recommendations.

4. Non-Functional Requirements

- NFR-1: The system shall process image-based calorie estimation within 3 seconds.
- NFR-2: The system shall ensure data encryption in transit and at rest.
- NFR-3: The system shall support at least 100,000 concurrent users.
- NFR-4: The system shall comply with GDPR and relevant data protection regulations.

5. External Interface Requirements

The user interface shall follow platform-specific design guidelines. The system shall integrate with third-party nutrition databases and wearable devices.

6. Assumptions and Constraints

Accurate calorie estimation depends on image quality and food database completeness. Internet connectivity is required for AI-based processing.