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Software Requirements Specification for Fitness Web Application

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
SRS Document	16-08-2025	Creating the SRS Document for the Fitness Web Application	<i>version-1.1</i>

1. Introduction

1.1 Purpose

This document outlines the Software Requirements Specification (SRS) for Fitness Web Application.

1.2 Document Conventions

The system is developed using the following technology stack: React.js with Material UI, Node.js with Express, MongoDB.

1.3 Intended Audience and Reading Suggestions

This document is intended for developers involved in the design and implementation of the system.

1.4 Project Scope

Fitverse (Fitness Web Application) is a standalone web application intended to assist users in their fitness journey. It provides all-in-one fitness tracking, personalized plans, nutrition insights, and wellness features to help users stay motivated and consistent. The platform aims to be a one-stop solution for health, workouts, and overall well-being."

1.5 References

- MongoDB documentation
- React.js Docs
- Material UI Docs
- JWT Authentication

2. Overall Description

2.1 Product Perspective

Fitverse is a standalone solution.

2.2 Product Features

- Personalized workout plans
- Customized nutrition and diet plans
- AI chatbot
- JWT Authentication
- Sleep Tracker
- BMI Calculator
- Equipment Marketplace
- Step counter
- Community page for challenges
- Video lectures for Workouts and Yoga/Zumba

2.3 User Classes and Characteristics

General Users: Anyone interested in fitness.

2.4 Operating Environment

- Browsers: Chrome, Firefox
- OS: Windows/Linux
- DB: MongoDB
- Server: Node.js with Express

2.5 Design and Implementation Constraints

React + Material UI, Node.js + Express, MongoDB, JWT.

2.6 User Documentation

- User manual
- Online help section
- Admin panel guide

2.7 Assumptions and Dependencies

- Assumes availability of stable internet
- Assumes basic digital literacy of users

3. System Features

3.1 BMI Calculator

Priority: High

Stimulus/Response: User inputs height and weight; system returns BMI category

Functional Requirements:

- REQ-1: Accept inputs
- REQ-2: Validate and calculate BMI
- REQ-3: Display result

3.2 Workout Plan Generator

Priority: High

Stimulus/Response: User selects level; system provides workout split

Functional Requirements:

- REQ-4: Fitness level options
- REQ-5: Weekly plan display

3.3 Nutrition Plan Generator

Priority: High

Stimulus/Response: User selects diet preference; system generates plan

Functional Requirements:

- REQ-6: Choose preference
- REQ-7: Generate meal plan

3.4 Chatbot

Priority: Medium

Stimulus/Response: User types query; bot responds

Functional Requirements:

- REQ-8: Respond to FAQs
- REQ-9: Contact support option

3.5 Authentication

Priority: High

Functional Requirements:

- REQ-10: JWT login/signup/logout
- REQ-11: Token validation

4. External Interface Requirements

4.1 User Interfaces

- The system will provide a **responsive web interface** designed using **React and Material UI**.
- UI elements must be intuitive, accessible, and optimized for both desktop and mobile browsers.
- Features include dashboards, workout tracking pages, nutrition plan views, and community interaction pages.

4.2 Hardware Interfaces

- No special hardware interfaces are required beyond standard user devices.
- Supported devices include laptops, desktops, and smartphones with internet connectivity.

4.3 Software Interfaces

- **Frontend:** React with Material UI components.
- **Backend:** Node.js with Express framework.
- **Database:** MongoDB for storing user data, workouts, and nutrition details.
- **Authentication:** JWT for secure user sessions.
- **External APIs:** Integration with third-party APIs (e.g., Google Fit, YouTube for workout videos).

4.4 Communications Interfaces

Uses HTTPS, JWT, and REST APIs.

5. Nonfunctional Requirements

- Performance: Load within 2 seconds
- Safety: Includes disclaimers
- Security: JWT, HTTPS, input validation
- Quality: Usability, reliability, maintainability, portability
- Business Rules: Authenticated access

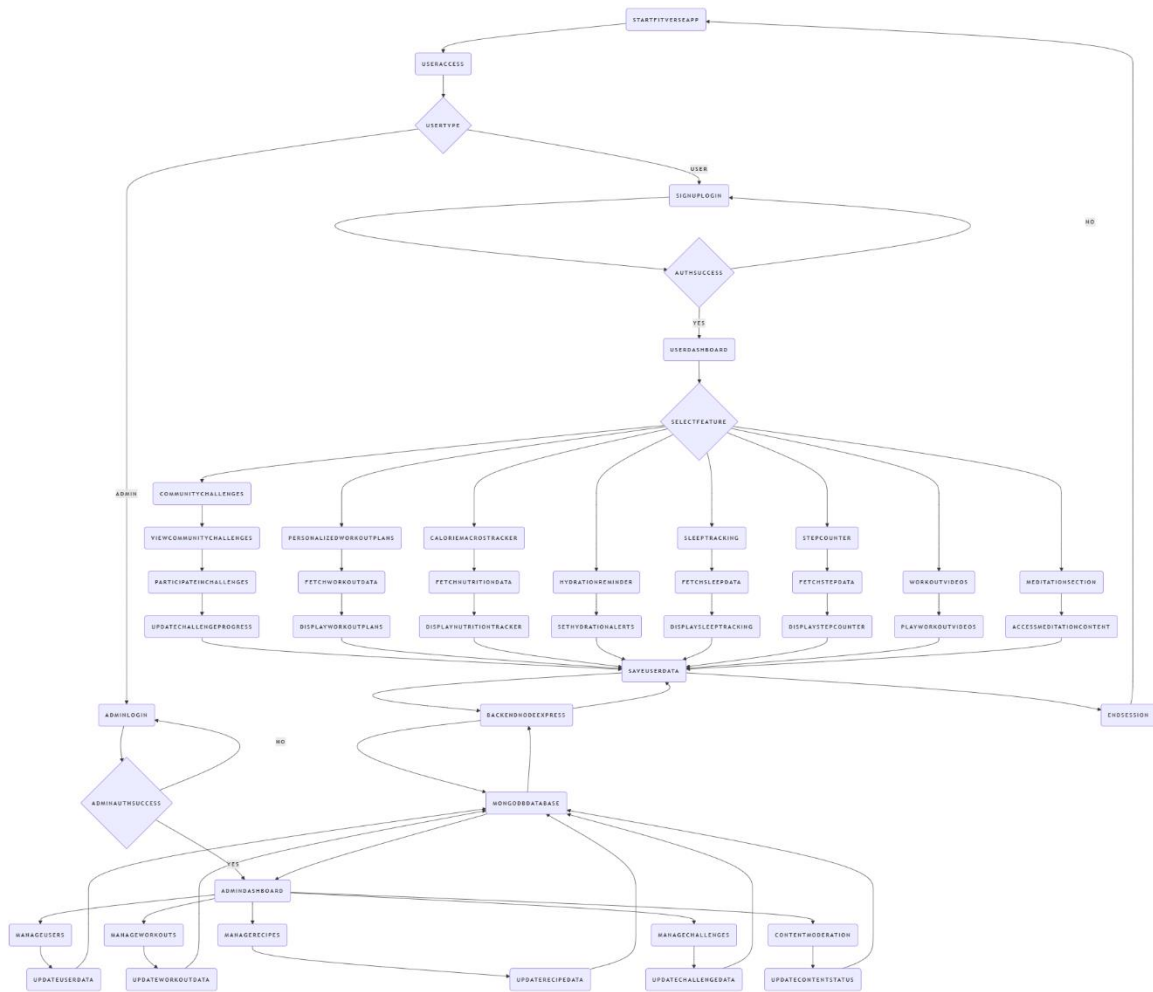
6. Other Requirements

- Store user preferences and history
- Future: Mobile app support, multilingual

Appendix A: Glossary

- **BMI: Body Mass Index**
- **JWT: JSON Web Token**
- **API: Application Programming Interface**

Appendix B: Issues List



Appendix C: Analysis Models

- TBD-1: Chatbot scope
- TBD-2: Admin dashboard