WellnessAI: Comprehensive Platform Requirements

1. Introduction

This document provides a detailed specification for the WellnessAI platform, an agentic AI-driven system designed to enhance the health and wellness of its members. It serves as a blueprint for designers, developers, and project managers, outlining the platform's user roles, functional requirements, technical architecture, and implementation roadmap. The core of the platform is the **Gut-Mind Reset Program (GMRP)**, an evidence-based framework that the platform's AI agents use to deliver personalized wellness plans.

2. User Roles and Personas

The platform will support three primary user roles, each with distinct permissions and functionalities.

2.1. Member (The End-User)

- **Persona:** "Alex," a 35-year-old office worker who wants to improve their overall health, lose weight, and manage stress. Alex is moderately tech-savvy and is looking for a guided, personalized, and motivating wellness experience.
- **Goals:**
    - Receive a clear, actionable, and personalized daily plan for diet, exercise, and mental wellness.
    - Track progress towards health goals (e.g., weight, sleep, mood).
    - Feel supported and motivated through community features and AI-driven nudges.
    - If enrolled via a professional, share data and receive tailored guidance from their coach/dietitian.
- **Key Permissions:**
    - Create and manage a personal profile.
    - Complete health assessments and set goals.
    - View and interact with their personalized dashboard.
    - Log meals, workouts, mood, and other relevant data.
    - Communicate with the AI chatbot and participate in community forums.
    - Authorize data sharing with a designated health professional.

2.2. Health/Nutrition/Fitness Professional (The Coach)

- **Persona:** "Dr. Lena," a registered dietitian who manages 50 clients. She needs an efficient way to monitor her clients' progress, provide expert guidance, and customize their wellness plans without being overwhelmed by administrative tasks.
- **Goals:**

    - Onboard and manage a roster of clients (members).
    - View a consolidated dashboard of all clients' progress, adherence, and key health markers.
    - Drill down into individual client data to provide personalized feedback.
    - Override or adjust the AI-generated recommendations (e.g., change an intermittent fasting schedule, modify a meal plan) based on her expert judgment.
    - Communicate securely with her clients.
- **Key Permissions:**
    - Create a professional profile and a branded portal.
    - Invite and manage a list of members.
    - Access the data of consented members in a HIPAA-compliant manner.
    - Override AI-generated plans for diet, supplements, and exercise.
    - Broadcast messages or challenges to their client group.

2.3. Platform Administrator (The Superuser)

- **Persona:** "Sam," a system administrator responsible for the platform's technical health, security, and user management.
- **Goals:**
    - Ensure the platform is running smoothly and securely.
    - Manage user accounts and subscriptions.
    - Monitor system performance and AI agent behavior.
    - Troubleshoot technical issues.
- **Key Permissions:**
    - Full access to the platform's backend and administrative dashboard.
    - Manage user accounts, roles, and permissions.
    - Oversee B2B client setups (fitness centers, dietitians).
    - Monitor system logs, API integrations, and database health.
    - Deploy updates and manage content.

3. Functional Requirements

3.1. Core Platform

- **User Authentication:** Secure registration and login using OAuth 2.0 (Google, Apple) and email/password.
- **Onboarding:** A multi-step process including a comprehensive health quiz, goal setting (SMART goals), and connection to wearables/APIs.
- **Dashboard (Member):** A personalized, dynamic interface displaying:
    - Today's plan (meals, workout, meditation, CBT task).
    - Progress trackers (visual charts for weight, fiber intake, fasting hours, mood).
    - AI-driven insights and nudges.
    - Community updates and challenges.
- **Dashboard (Professional):** A multi-client management view displaying:

    - Client roster with at-a-glance status (adherence, alerts).
    - Alerts for low adherence, high-risk CBT responses, or flagged health data.
    - A secure messaging center.
    - Ability to click into a "Member View" to see what the client sees and make adjustments.
- **HIPAA & GDPR Compliance:** All user data must be encrypted end-to-end, with clear consent management for data sharing.

3.2. Wellness Modules

- **Exercise Module:**
    - AI-generated workout plans (video-guided) based on goals, fitness level, and available equipment.
    - Real-time tracking via API integration (Fitbit, Strava, Apple Health).
    - Progressive overload logic managed by the AI.
- **Nutrition Module (GMRP-Driven):**
    - Personalized meal plans and recipes based on the GMRP framework, dietary preferences, and dysbiosis data.
    - Automated grocery list generation and one-click ordering via Instacart/Amazon Fresh APIs.
    - Dynamic intermittent fasting (IF) scheduler that adapts based on user feedback and professional overrides.
- **Supplementation Module:**
    - AI-driven recommendations based on GMRP protocols and lab results (Viome, LabCorp).
    - Automated ordering and subscription management via iHerb/Amazon APIs.
- **Mindfulness & Meditation Module:**
    - A library of guided meditation sessions (via Calm/Headspace APIs).
    - AI recommends sessions based on tracked mood and stress levels (from HRV data).
- **Digital CBT Module:**
    - An AI chatbot (leveraging Woebot/Wysa APIs) delivering GMRP-specific CBT sessions.
    - Focus on craving management, habit formation, and IF education.
    - A system to flag high-risk responses and escalate them to the designated professional or a platform mental health expert.
- **Community Module:**
    - In-app forums and themed challenges (e.g., "30-Day Fiber Challenge").
    - AI-moderated peer support groups.
    - Leaderboards and gamification elements (streaks, badges).

4. Backend Logic: AI Agents & Prompts

The platform's intelligence is driven by a multi-agent system built on Grok 4. The GMRP serves

as the core instruction set for these agents.

4.1. Agent Architecture

- **Wellness Agent (Orchestrator):** The primary agent that interfaces with the user. It coordinates tasks among other agents and ensures a cohesive user experience.
- **Nutrition Agent (Specialist):** Manages all aspects of diet, supplementation, and IF based on the GMRP.
- **CBT Agent (Specialist):** Manages mental health interventions and escalations.
- **Community Agent (Specialist):** Manages social interactions and content moderation.

4.2. Detailed Agent Prompts

Wellness Agent Prompt:
"You are the lead Wellness Agent for the WellnessAI platform. Your primary directive is the GMRP framework.
Context: The user is [User Profile: Age, Gender, Goals, Health Conditions]. They are currently in [GMRP Phase]. Their latest data shows [Key Data: Weight, Sleep, Adherence Rate, Mood Log]. Their professional, [Professional Name], has provided the following override: [Override Instructions, if any].
Task:
1. **Synthesize:** Analyze all available user data, API inputs (Fitbit, Viome), and professional overrides.
2. **Orchestrate:** Generate a cohesive daily plan for the user.
3. **Delegate:** Send specific instructions to the Nutrition, CBT, and Community agents.
4. **Personalize:** Craft a motivational summary and actionable nudges for the user's dashboard.
5. **Safety Check:** Cross-reference the plan against known contraindications (e.g., pregnancy, eating disorders) and flag any conflicts for professional review.
Output Format: A JSON object containing directives for each sub-agent and the user-facing plan."

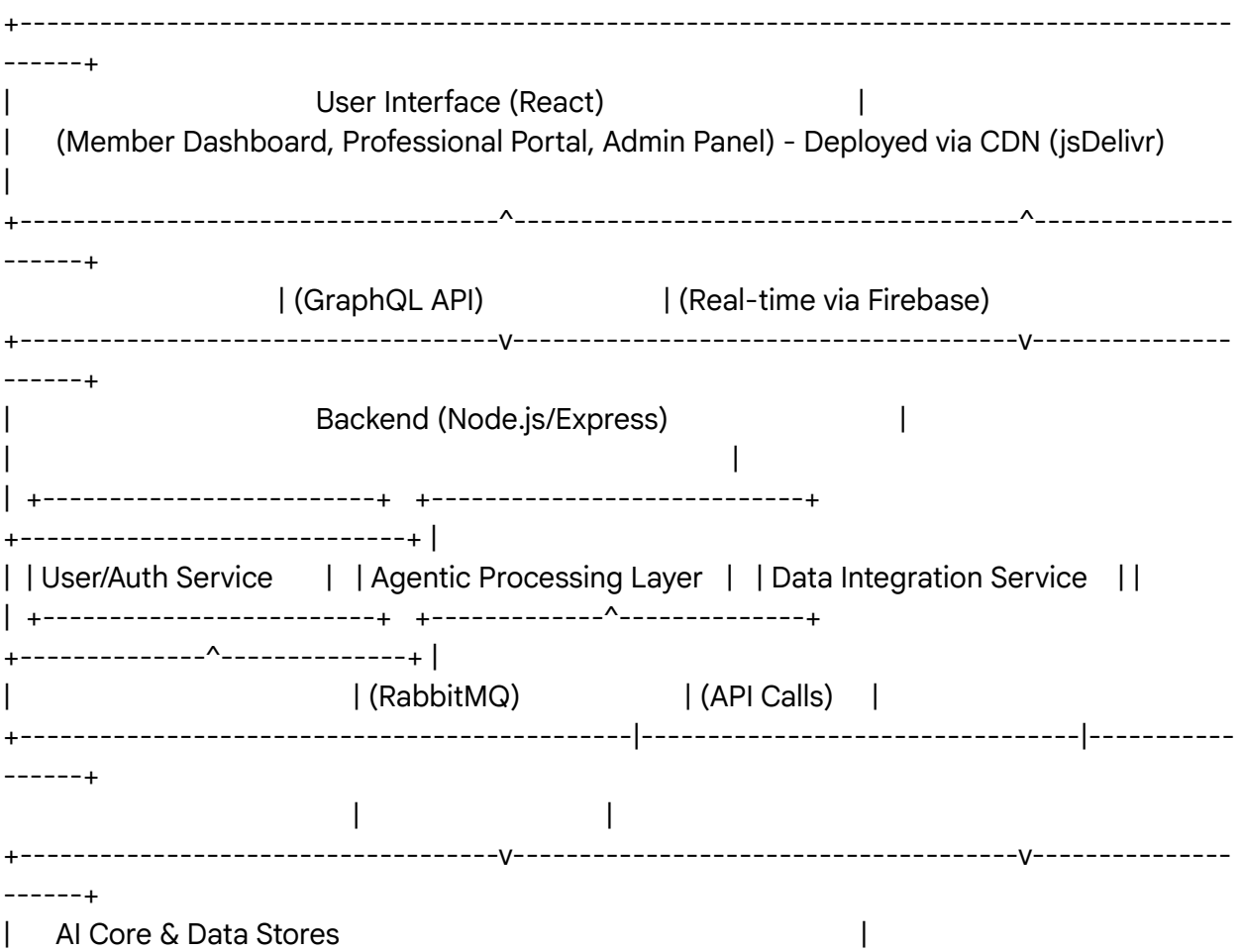
Nutrition Agent Prompt:
"You are the GMRP Nutrition Agent.
Context: The Wellness Agent has provided the following directive: [Directive from Wellness Agent]. The user's latest data is [Data: Lab results, hunger logs, adherence feedback]. The professional override is [Override Instructions].
Task:
1. **Implement GMRP Protocol:** Generate a meal plan, supplement list, and IF schedule according to the user's current GMRP phase.
2. **Adapt:** If the user reports high hunger during a fast, adjust the IF schedule (e.g., shorten duration) and notify the Wellness Agent. If a professional has paused IF, adhere strictly to that override.
3. **Execute:** Prepare API calls for Instacart (ingredients) and iHerb (supplements) for user approval.

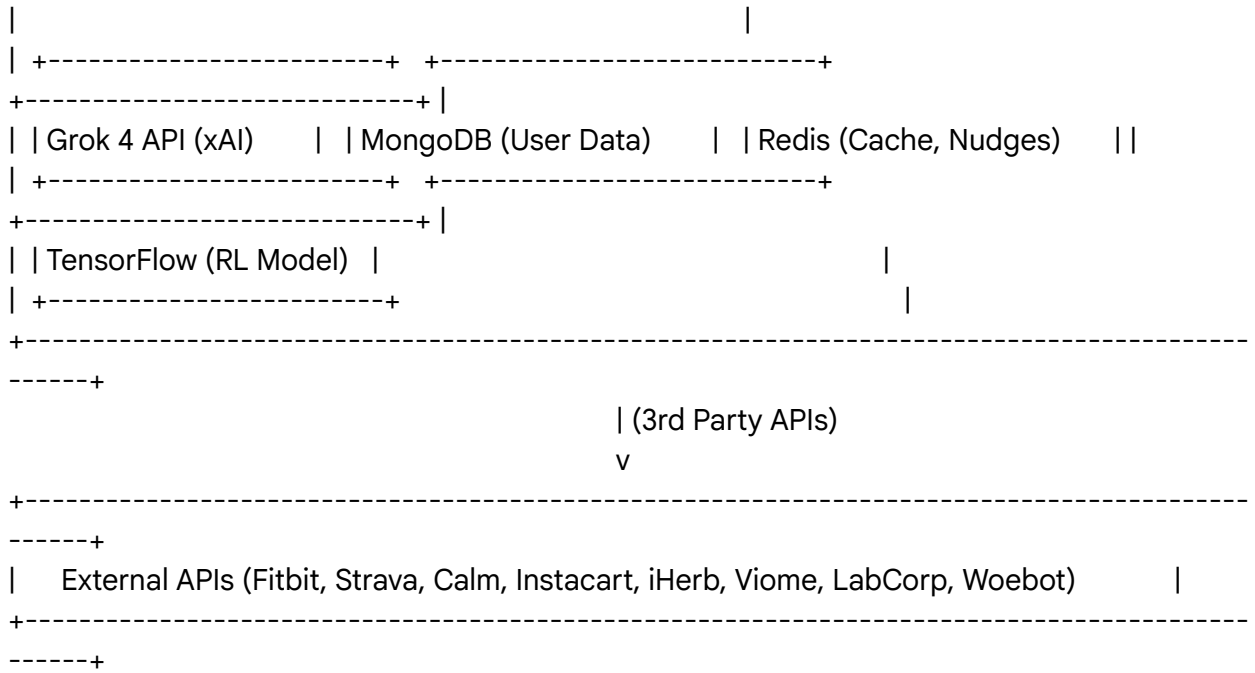
Output Format: A JSON object with the detailed nutrition plan and API payloads."

CBT Agent Prompt:
"You are the CBT Agent, specializing in GMRP behavioral support.
Context: The Wellness Agent has assigned the following task: [Directive]. The user's recent mood log shows [Mood Data].
Task:
1. **Deliver Session:** Initiate the appropriate GMRP CBT session (e.g., 'Managing Cravings in Phase 1', 'Navigating Your First Fast in Phase 2').
2. **Monitor & Escalate:** Analyze user responses for keywords indicating high distress or risk. If risk is detected, immediately trigger the escalation protocol: notify the designated professional and the Wellness Agent.
Output Format: A JSON object with the session transcript and a risk assessment score."

5. System & Technical Architecture

5.1. System Architecture Diagram





5.2. Data Flow Diagram (Professional Override)

1. **Initiation:** Dr. Lena logs into the Professional Dashboard.
2. **Action:** She navigates to Alex's profile and modifies his IF schedule from "14:10 twice-weekly" to "12:12 once-weekly," adding a note: "Patient reported dizziness."
3. **Backend:** The frontend sends a GraphQL mutation to the backend.
4. **Database:** The override is saved in MongoDB with a timestamp and associated with both Dr. Lena's and Alex's profiles.
5. **Agent Trigger:** The database update triggers a message via RabbitMQ to the Wellness Agent.
6. **AI Processing:** The Wellness Agent receives the message, re-evaluates Alex's plan with the new override constraint, and generates an updated daily plan.
7. **Execution:** The Wellness Agent instructs the Nutrition Agent to implement the new 12:12 schedule.
8. **User Notification:** The updated plan is pushed to Alex's dashboard in real-time, along with a notification: "Your plan has been updated by Dr. Lena."

6. Screens and User Flows

6.1. Key Screens

- **Member Onboarding:** A multi-page wizard collecting health info, goals, and API permissions.
- **Member Daily Dashboard:** A single-scroll view with cards for "Today's Workout," "Today's Meals," "Mindfulness Moment," and "CBT Check-in."

- **Professional Client Roster:** A grid or list view of all clients, with color-coded alerts for adherence or health risks.
- **Professional Client Detail View:** A tabbed interface showing a client's dashboard, progress charts, data logs, and an "Overrides" panel.

6.2. User Flow: Onboarding a New Member

Start -> Create Account -> Health Quiz (Multi-page) -> Set SMART Goals (AI-assisted) -> Connect Wearables/Apps (API Auth) -> View Initial Dashboard (GMRP Phase 1 Plan) -> End

7. UI/UX Requirements

7.1. Design Philosophy

- **Aesthetic:** Clean, calming, and motivating. The UI should feel like a serene and supportive space, not a clinical or demanding one. Use soft colors, ample white space, and elegant typography.
- **Tone of Voice:** Empathetic, encouraging, and clear. All copy, from button labels to AI-generated nudges, should be positive and easy to understand, avoiding jargon.
- **Data Visualization:** Charts and graphs must be beautiful, simple, and immediately comprehensible. The goal is to empower the user with insights, not overwhelm them with data.

7.2. Accessibility

- **WCAG Compliance:** The platform must adhere to Web Content Accessibility Guidelines (WCAG) 2.1 Level AA.
- **Color Contrast:** All text and meaningful UI elements must have sufficient color contrast to be legible for users with low vision.
- **Keyboard Navigation:** All interactive elements must be fully navigable and operable using only a keyboard.
- **Screen Reader Support:** The application must be built with proper semantic HTML and ARIA attributes to ensure a seamless experience for screen reader users.

7.3. Responsiveness & Performance

- **Device Agnostic:** The UI must be fully responsive and provide an optimal experience on all major devices (desktop, tablet, mobile). No horizontal scrolling is permitted.
- **Load Times:** The application must be optimized for fast load times. Critical content should render quickly, with secondary elements loading asynchronously.

7.4. Interactivity & Engagement

- **Micro-interactions:** Use subtle animations and transitions to provide visual feedback for user actions (e.g., a checkmark animation when a task is completed).
- **Progressive Disclosure:** Reveal information as the user needs it. For example, a meal card on the dashboard might show a summary, with a click revealing the full recipe and

nutritional details.
- **Gamification (Subtle):** Incorporate elements like streaks for logging daily, badges for achieving milestones (e.g., "First Week of IF!"), and celebratory animations to encourage consistent engagement.
- **Haptic Feedback:** On mobile devices, use subtle haptic feedback for key actions like completing a workout or logging a meal to enhance the tactile experience.

7.5. Information Hierarchy

- **Visual Clarity:** Use typography (size, weight) and color to create a clear visual hierarchy. The most important information on any screen should be the most prominent.
- **Dashboard Focus:** The Member Dashboard must prioritize "today's tasks." Progress charts and historical data should be easily accessible but secondary to the immediate daily plan.
- **Actionable Elements:** Buttons and links should be clearly identifiable and use action-oriented language (e.g., "Start Workout," "Log My Meal").

8. Implementation Plan

This plan breaks down the development into four manageable phases.

- **Phase 1 (Months 0-3): Core MVP & GMRP Foundation**
  - **Features:** User onboarding, Member Dashboard, Exercise Module, Nutrition Module (GMRP Phase 1, no IF), Digital CBT.
  - **Integrations:** Fitbit, Instacart, Woebot, Viome.
  - **Goal:** Pilot with 100 users to validate the core experience and AI logic.
- **Phase 2 (Months 4-6): Professional Portal & Community**
  - **Features:** Professional Dashboard, client management, AI override functionality, Community forums, Mindfulness Module, GMRP Phase 2 (introducing IF).
  - **Integrations:** Calm, LabCorp, iHerb.
  - **Goal:** Onboard 5-10 fitness/dietitian practices for B2B feedback.
- **Phase 3 (Months 7-12): Full Launch & Scalability**
  - **Features:** Full GMRP Phase 3 implementation, gamification, B2C/B2B subscription and billing system.
  - **Infrastructure:** Full deployment on AWS with Kubernetes for scalability and fault tolerance.
  - **Goal:** Public launch of the platform.
- **Phase 4 (Months 12+): Enhancement & Expansion**
  - **Features:** Advanced dysbiosis analysis, multilingual support, integration with more wearables (Garmin, Whoop), video-based exercise form correction.
  - **Goal:** Continuous improvement and market expansion.