COMP 491/L. Senior Design Project I and Lab (2/1)

Spring 2025

User Acceptance Test (UAT) Report

For

FitGenius

Team Members

| **Role** | **Name** |
| --- | --- |
| **Team Lead** | Emanuel Diaz |
| **Team Member** | Sergio Garcia |
| **Team Member** | Arpa Hakopian |
| **Team Member** | Isai Flores |
| **Team Member** | Mirna Farahat |

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## 

## 1. Test Overview

**Project Name:** FitGenius

**Team Name:** 3

**Date:** April 29, 2025

**Prepared By:** Mirna Farahat

## 2. Objective

The goal of UAT was to validate that the core functionalities of the FitGenius app were operating as expected in real-world conditions. This included account setup, avatar customization, HealthKit integration, AI chatbot interactions, activity tracking, and workout plan management.

## 3. Scope of Testing

### 3.1. In-Scope

The following features and functionalities were tested during this phase of User Acceptance Testing (UAT):

* **User Registration & Authentication**
  + Sign in / sign up process
  + Data persistence for user profile (height, weight, health conditions)
* **HealthKit Integration**
  + Requesting user permission to collect health data
  + Asynchronous updates for calories burned and steps taken (data may not reflect instantly)
* **Avatar Customization**
  + Creating a personalized avatar with unlocked options
  + Display and persistence of avatar selections
  + Reward system for unlocking avatar accessories
* **AI Chatbot**
  + Answering fitness and nutrition-related questions
  + Generating workout plans tailored to user needs
  + Memory of previous user conversations stored in Firebase
  + Limiting responses to only health- and fitness-related topics
* **Workout Plan Module**
  + Adding routines from chatbot suggestions
  + Viewing and editing workout plans
  + Progress tracking through exercise checklists
  + Earning avatar rewards through milestone completion
* **Navigation & User Flow**
  + Homepage routing to Activity Page, AI ChatBot, Workout Plan, and Avatar
  + Feature transitions aligning with the app flow diagram
* **User Feedback Collection**
  + Manual feedback collected from testers
  + Additional clarification questions asked by the developer when needed

### 3.2. Out-of-Scope

The following items were not included in this UAT phase:

* **Stress and Performance Testing**
  + The app was not tested under heavy user loads or prolonged usage sessions to assess performance limits.
* **Accessibility Testing**
  + Features such as screen reader compatibility, text scaling, and color contrast for visually impaired users were not included in this testing phase.

## 

## 4. Test Environment

### 4.1. Environment Details

The UAT environment consisted of the following hardware, software, and configurations:

* **Device Types Tested:**
  + Any iPhone model iPhone 13 or newer
* **Operating System:**
  + iOS 17.6
* **Development Tools:**
  + Xcode (latest stable version)
  + Swift
  + Firebase (Authentication, Firestore, and Realtime Database)
  + HealthKit (Apple Health integration)
  + Ready Player Me (Avatar SDK)
* **Build Configuration:**
  + Internal test build deployed using Xcode on tester devices
  + Connected to development Firebase environment for real-time updates
* **Network Requirements:**
  + Stable Wi-Fi or mobile data connection for chatbot interaction and Firebase sync

### 

### 4.2. Access Requirements

To participate in UAT, testers needed the following:

* **Test Account or Sign-Up:**
  + Testers could either sign up directly via the app or use a pre-provided test account (with access to test HealthKit data)
* **Permissions Granted:**
  + Authorization to access HealthKit data (calories, steps, distance)
  + Permissions to store data in Firebase (user profile, chatbot history, workout plans)
* **Developer Access (Internal Use Only):**
  + Admin credentials for Firebase console
  + Access to Xcode for live debugging and pushing test builds
  + TestFlight not used in this phase; manual installation via Mac/Xcode

## 5. Roles and Responsibilities

### 5.1. Testers

| **Name** | **UAT Role** |
| --- | --- |
| Mirna Farahat | **Lead Tester** — conducted end-to-end testing across all features, coordinated UAT, gathered user feedback, and documented results. |
| Emanuel Diaz | **Functionality Tester** — validated account creation, login flow, and database storage accuracy. |
| Arpa Hakopian | **Integration Tester** — focused on Apple HealthKit syncing, steps, and calorie tracking accuracy. |
| Sergio Garcia | **Chatbot Tester** — tested chatbot behavior, filtered responses, and confirmed fitness-only answers. |
| Isai Flores | **UI/Avatar Tester —** ensured avatar customization worked correctly and new accessories were visually highlighted. |

### 5.2. Stakeholders

| **Name** | **Role** |
| --- | --- |
| FitGenius Development Team | Internal Stakeholders — responsible for app development, testing, and verification of requirements. |
| Friends & Family Testers | External Stakeholders — provided real-world feedback during UAT based on typical user interactions. |

### 5.3. Support Team

All team members were available and actively involved during the UAT phase, providing technical support, bug fixes, user assistance, and documentation. Each member contributed to ensuring a smooth and thorough testing process.

## 6. Test Cases

| **Test Case ID** | **Description** | **Expected Outcome** | **Pass/Fail** | **Comments** |
| --- | --- | --- | --- | --- |
| TC-001 | User creates account and signs in | Account is created and data is stored in Firebase | Pass | Functioned as expected |
| TC-002 | HealthKit data is requested and displayed | Steps and calories appear after user grants permission | Pass | Updates asynchronously |
| TC-003 | User customizes avatar with unlocked items | Avatar changes are saved and displayed | Pass | Gold highlight indicates new accessories |
| TC-004 | User interacts with chatbot | Chatbot responds with fitness-related answers | Pass | Non-fitness questions ignored or blocked |
| TC-005 | Workout plan is generated and saved | Plan appears in user dashboard and can be marked complete | Pass | Avatar items unlock based on milestones |

## 7. Issue Log

| **Issue ID** | **Description** | **Severity** | **Status** | **Resolution/Comments** |
| --- | --- | --- | --- | --- |
| ISS-001 | Chatbot responded to unrelated topics | Major | Resolved | Adjusted prompt parameters to restrict to fitness scope |
| ISS-002 | Avatar accessories were all unlocked by default | Major | Resolved | Updated logic to unlock accessories based on milestones |
| ISS-003 |  |  |  |  |

## 8. UAT Summary

### 8.1. Overall Results

All major functionalities tested passed successfully. Testers provided positive feedback on usability, AI features, avatar customization, and fitness tracking. Minor bugs were identified and resolved during testing.

### 8.2. Success Criteria Met

Yes

### 8.3. Major Issues

No unresolved major issues. Previous concerns about HealthKit syncing and chatbot topic filtering have been addressed.

### 8.4. Recommendations

* Finalize UI polish and responsiveness for smoother user interaction
* Add push notification system for future updates and reminders
* Consider accessibility testing in future releases (e.g., screen readers)

9. Sign-Off

| Name | Role | Signature | Date |
| --- | --- | --- | --- |
| Mirna Farahat | Documentation Lead / Tester | MF | 4/29/2025 |
| Emanuel Diaz | Developer / Database Engineer | ED | 4/29/2025 |
| Arpa Hakopian | AI & Chatbot Engineer | AH | 4/29/2025 |
| Sergio Garcia | Health Integration Lead | SG | 4/29/2025 |
| Isai Flores | UI/Avatar Designer | IF | 4/29/2025 |

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