Marathon App Requirements Document

1. Introduction

1.1 Purpose

The purpose of this document is to define the requirements for the Marathon application, a fitness and activity tracking app tailored for users exploring trails around Georgia Gwinnett College (GGC).

1.2 Scope

Marathon will provide users with an interactive map featuring pins for trails, exercises, and activities. It will integrate Google Street View and support user interaction with pins, linking to external resources like YouTube. The application will ensure privacy and anonymity while enabling community engagement.

1.3 Definitions, Acronyms, and Abbreviations

- GGC: Georgia Gwinnett College
- GSV: Google Street View

1.4 Overview

This document outlines the functional and non-functional requirements, system architecture, and user interface design for the Marathon app.

2. Functional Requirements

2.1 Map and Trails Features (Priority: High)

- Use Google Street View for trail visualization.
- Display pins on the map for:
    - Trail locations.
    - Exercise and activity points.

    - Links to YouTube videos (uploaded by professors).
- Enable users to click pins to view associated activities and resources.

2.2 User Authentication (Priority: High)

- Log in anonymously using email or username (no real names required).
- Support account creation with the following fields:
    - Email.
    - Username.
    - Birthdate.
    - Checkbox for GGC community membership.
    - Checkbox to confirm residence in Gwinnett County.
- Email confirmation for sign-up.
- Display sign-in status on pages.

2.3 Privacy and Consent(Medium priority)

- Obtain user consent to use their information.
- Ensure anonymity by avoiding real names and school ID numbers.

2.4 Feedback and Issue Reporting - (Low Priority)

- Provide a mechanism to report issues through email (GGC or Gmail accounts).

2.5 Website Enhancements(Priority-Medium)

- Replace ethnicity field with a username.
- Display usernames instead of email addresses.
- Allow users to delete their accounts.

3. Non-Functional Requirements

3.1 Security (Priority: High)

- Ensure secure handling of user data.
- Use encrypted communication for authentication and data transfer.

3.2 Performance (Priority: Medium)

- Support real-time map interactions and smooth pin rendering.

3.3 Scalability (Priority: Medium)

- Design the system to handle increased user traffic.

4. Domain Requirements

4.1 Mapping (Priority: High)

- The application must enable users to visualize trails around Georgia Gwinnett College using Google Street View.
- Pins on the map must represent distinct activities such as walking, running, or cycling.
- Activities linked to pins can include instructional videos uploaded by GGC professors.

4.2 QR Code Scanning (Priority: High)

- The app should deliver location-based content through QR code scanning.
- Enhances user engagement by providing relevant content based on their current location on the trail.

4.3 Privacy and Anonymity (Priority: High)

- The system must not collect sensitive data such as ethnicity or personal information that are provided by the user.
- User profiles must not contain real names or student ID numbers(900 number)

4.4 Feedback and Bug report (Priority: Low)

- Users should be able to report issues via emails and be sent to developers through emails.
- Feedback data will be stored and only used to improve the application.

5. User Interface Design

5.1 Mobile Interface

- Intuitive navigation with map and pin interactions.
- Log in and sign-up forms with clear instructions.

5.2 Web Interface

- Display trails and pins.
- Include account management features.

6. System Architecture

- Backend: Node.js with Express.js.
- Frontend: React.
- Database: MongoDB.

7. Data Management

7.1 Data Storage

- Store user information securely in MongoDB.

7.2 Data Privacy

- Ensure compliance with data privacy policies.

7.3 Backup and Recovery

- Implement regular backups to prevent data loss.

8. External Interfaces

8.1 APIs

- Integrate Google Street View API for map functionality.

8.2 Third-party Integrations

- YouTube links for additional resources.

9. Constraints

- Avoid collecting real names and school ID numbers.

10. Assumptions and Dependencies

- Users will provide accurate information during sign-up.
- Google Street View and YouTube will remain reliable resources.