ASSIGNMENT 1

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For The Course

Software Engineering Concepts

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Fitness Tracking Mobile Application

1) Introduction

1.1 Goals

The goal of this report is to describe software requirements for fitness tracking of mobile applications. This app will act as a guide for developers, designers and sensors under development, and confirm that the final product meets the user's needs and business goals.

1.2 Scope

Training tracking will allow mobile application users:

1. Tracking physical activities for example logging, walking and cycling.
2. Monitor health matrix as step, calories were burnt and heart rate.
3. Set daily/weekly training goals and track progress.
4. Integrates with portable devices (e.g. Fitbit, Apple Watch).
5. Get motivational notifications and training tips.
6. The application will be available for Android and iOS platforms.

1.3 Definitions, short, abstinent names

Word	Definition
SRS	Software requirements specifications
API	Application Programming Interface
UI	User Interface
GPS	Global Position System
BPM	Beats per minute (heart rate measurement)

1.4 Reference

- IEEE standard for software requirements (IEEE 830-1998).
- Apple human interface guidelines.
- Guidelines for Android material design.

2) General Detail

2.1 Product Perspective

Fitness Tracking Mobile Application is a outside system, but will offer another integration with training devices via API. This activity will use smartphone sensors such as GPS and Akceometer for tracking.

2.2 Product Work

The application will provide the following features:

- User registration and login.
- Real-time activity tracking.
- Health matrix checking (phase, distance, heart rate, calories).
- Goal setting and progress tracking.
- Information and training advice.
- Report and analysis (daily/weekly/monthly).

2.3 Perceptions and Addiction

- Users will have access to smartphones with GPS and accelerometer.
- Users want internet access for account sync and backup.
- Integration with external devices depends on the availability of API (eg Fitbit API).

3) Specific Claims

3.1 Functional Requirements

- **FR1**: The system will allow users to create and manage their profiles.
- **FR2**: The system will track steps, distance, heart rate and calories.
- **FR3**: The system will allow users to set and change training goals.
- **FR4**: The system will generate daily, weekly and monthly training reports.
- **FR5**: The system will send information to users to motivate users based on the activity level.
- **FR6**: The system will sync data with external devices such as Fitbit.

3.2 Non-Functional Requirements

- **Spokesman**: The app must have a clean, user -friendly interface.
- **Performance**: Updates on activity tracking should be postponed by more than 2 seconds in real time.
- **Reliability**: The app should work with at least 95% uptime during activity tracking.
- **Security**: Personal data should be encrypted during transfer and storage.

3.3 Requirements for External Interface

- **User Interface**: The app should be designed for mobile touch screen, according to mobile UI standards.
- **Hardware Interface**: Access to GPS, accelerometer and cardiac fitting sensor.
- **Software Interface**: Integration with API of Training Unit (Fitbit, Apple Health, Google Fit).

3.4 Obstacles

- The app must utilize minimum battery during continuous activity tracking.
- It should follow GDPR and other relevant laws on data privacy.

4. Appendix

4.1 Vocabulary

- **Training sessions**: recorded training period such as running or cycling.
- **Calorative burning**: Estimated energy was used during activity.
- **Step count**: A unit sensor that records the number of steps taken.

4.2 Assistant Documents

- Interview summary from training enthusiasts and coaches.
- Brainstorm session note on function ideas.
- Overview notes from using similar training applications.

Stakeholder Analysis

- **Primary user**: Fitness-enthusiastic, casual training, professional athlete.
- **Project developers**: Building of software developers - app.
- **Project Manager**: To preserve development and complete the time limit to ensure.
- **Third-party unit Manufacturer**: Fitness Hardware API (e.g. Fitbit) Supplier.
- **App Store Reviewer**: To publish and update the app.
- **Data Protection Authority**: Ensure compliance with privacy rules.

Need

- **Interview**: They are guessed to understand the most important features planned with training goals and coaches.
- **Questionnaire**: Potential apps were supplied online to collect users inputs.
- **Churning Session**: The feature was held with developers and designers to generate ideas.
- **Overview**: Users who interact with current popular training apps (eg straw, myfitnesspal).