

Proposal

COR

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the requirements of CSC-431
Software Engineering course project

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Preface

This is a proposal for the “COR” project for partial fulfillment of the requirements of a Software Engineering course (CSC431) project in the Department of Computer Science at the University of Miami.

This proposal provides the scope and context of the project to be undertaken. It details the intended user group and the value that the system will have to them.

The intended audience of this document is the course professor and teaching assistants so that they can determine whether the project should be approved as proposed, approved with modifications, or not approved.

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1.0 Overview

1.1. Purpose, Scope, and Objectives

The purpose of our project is to create a community-based fitness mobile application for those who love to track their workouts, improve their fitness level, start their fitness journey, and collaborate with others in their communities. The product plans to utilize machine learning algorithms to track a user's workout, and their day-to-day routines, to recommend both better workouts and strategies. Specifically, the application focuses on heart rate data and optimizing the heart rate for whatever the user's fitness goals are. The application will go beyond the gym into recommending local exercise establishments and events as well as rehabilitation services such as spa services to improve mental health and wellbeing. The intended audience is either those just beginning their fitness journey as well as those who already use fitness tracking applications such as the Apple Health/Fitness app, Garmin, NikeRunClub, Strava, etc, and are looking to have a more personalized and community-based approach to their fitness experience.

The platform would largely be used as a mobile-first service and would not prioritize a website at first beyond a page to advertise the product and have some basic information. The platform will require that the device has an internet connection. Due to all the data being pulled from 3rd party health services the user would already have installed, it requires the user to sign into those services and allow our product to view that data - it should not need any way to manipulate the data in these 3rd party applications. We are looking to integrate this into the most popular 3rd party services, so going cross-platform across iOS and Android is also a priority. Other services such as data presentation (graphs, charts, etc.), data analysis (seeing how changes in activity could affect the user's data, grouping exercises into high/low-intensity workouts), and mapping tools will also need to be integrated into the application. For smartwatches with downloadable apps, a watch app with basic data necessary during workouts would also be developed.

1.2. Project description

This proposed system will allow users to create either a public or private account, where they will sync their other fitness / health tracking applications and input their fitness and lifestyle goals through an extensive user survey. Users can connect with other users by following them, messaging them, and creating public or private groups

that can be utilized for virtual or real-life meetups, workouts, wellness, etc. Users will receive workout, training, and wellness advice from the software based on where their current fitness level is and where their goal level is. The system will recommend certain workouts and/or recovery sets based on the health and fitness data of the user. The system will also recommend nearby fitness studios/classes and wellness establishments in the user's community. Users will also be able to search for workouts and wellness activities in their community that other users they collaborate with (messaging, group challenges, etc) are involved in.

Features Overview:

- Login page and account creation
 - Social media share options will be here
 - Will be taken from open-source existing platforms
- Public and Private Workout Collections by other users or brand ambassadors
 - Will create from scratch
- Groups of Workouts
 - Can be sorted by fitness goal, type of workout, creator, or name
 - Sorting will be taken from an open-source existing software
 - Implemented from scratch based on research
- Workouts can be posted and viewed by others in the community, as will other forms of posts like pictures, motivational posts, etc.
 - Created from scratch
- Search functionality and leaderboard for public
 - Taken from open-source existing software
- Messaging capabilities
 - Implemented from scratch, using open-source platforms as reference