Team 5 Phase 1

In this phase, the team will focus on developing the project and analyzing requirements. The following are deliverables.

• Project Description

- Project title

Gym Generator, Workout Generator, Fitness Buddy, Gym Buddy

- Team members & roles

Scrum master -
Development team members - Adam Passalacqua, Alexander Antonich, Philip Przekora, Shawn Suttie, Sichang Su

- Problem Statement

§ Describe the problem to be addressed by the development.

Fitness is an important lifestyle choice with too many obstacles in the way. Beginners at the gym, and people in general, don't always want to or know how to program a workout in the gym. With our application, all you need to know is your goals and how much time you plan to spend in the gym on a given day, and the application will do the rest in generating a specialized workout program for your gym session.

- Objectives and Impact

§ Describe the goal of the development and its potential impact on individuals, organizations, and society.

This application is designed to help people who are new to the gym and don't know how to plan out their workouts to best suit what they want to accomplish. This program will help people achieve a higher level of fitness and allow them to lead healthier lives by generating a complete workout for them.

- Functional requirements

Take input based on goals/targets
Goals: endurance, hypertrophy, strength
Targets: time constraint, favorite workouts, muscle groups

The user can also "favorite" workouts to make sure they are included when the program is randomized

Output a workout program based on inputs

Provide a description of specific workouts and possibly provide pictures or linked videos of specific workouts

- Non-functional requirements

When it comes to set/rep ranges, workouts will follow specific guidelines, but will ultimately be randomized within these guidelines e.g. it is often recommended to do around 3-5 sets of a workout and around 10 sets per muscle group per week, so the application might generate a program of 5 sets of barbell bench press, 3 sets of push ups, and 3 sets of dumbbell flyes for a total of 11 sets of a chest workout

Inputs should be in the form of a menu/list except for time constraint
e.g. When selecting a target muscle group you are prompted to select from a list: biceps, triceps, chest, quadriceps, etc.

The user can view, edit, and delete items from their favorites list

When selecting a goal you are prompted to choose between endurance, hypertrophy, or strength.

- **Endurance will prompt the application to program a combination of HIIT exercises and high rep range workouts**
- **Hypertrophy will prompt the application to program medium rep range workouts**
- **Strength will prompt the application to program low rep range workouts**

Time constraint can be typed and maybe a slider. Should probably be a range e.g. 30-45mins

Overall the user should

- **select between the 3 goals (endurance, hypertrophy, or strength)**
- **select as many muscle groups as desired**
- **"favorite" as many workouts as desired**
- **set a time constraint on the program**

- Target Environment

Web Application

- Technologies & tools

§ Describe technologies and tools being used for the project. The following are example categories.

• Development platform

Azure or possibly Heroku

• Programming languages

HTML, CSS, Javascript

• Database

MySQL

- Network protocols
- Web technologies
- Algorithms
- COTS/Open source components
- Security techniques
- User interface
- Hardware
- Simulation

• Process model

- Describe the process model (e.g., Scrum, UP, XP, Spiral, Waterfall, or any combination) being used for the project and a justification for choosing the model.

Scrum, as most of us are familiar with how to use it and generally feel it will help us keep track of all the tasks that need to be done throughout the duration of the project.

• Project schedule and estimation

- The project schedule for the activities in the process model.
- Effort estimation (e.g., person hours, line of code)

Product backlog: 10/16
Number of sprints: 3
Days per sprint: 14
Sprint 1: 10/17 - 10/30
Sprint 2: 10/31 - 11/13
Sprint 3: 11/14 - 11/27
Final submission: 12/1

• Risk analysis

- List of potential risks (e.g., learning curve for new technologies, a team member falling behind or dropping the course) with priority during the project and contingent plans for the risks.

Potential struggle in choosing a language we are all familiar with, as well as a development tool that we all know how to use. (high priority)
How does the program handle extreme cases? E.g. The user selects all muscle groups for a workout, or the user sets the workout to be an extremely long or short time (medium priority)
How does the program determine how long each workout would take? (high priority)
How should rest times between sets be accounted for? (high priority)
Should the user be able to adjust the program after it has been generated? (low priority)

For these risks, our team is in the process of discussing the appropriate courses of action and contingencies

• References
    - List of references (e.g., books, papers, web sites) used in the project description.

Submit the deliverables via Moodle. Only one submission is needed per group. Due: 10/3 (Monday). Name the file as “Team#-Phase1.pdf”. This submission is for feedback only and will not be graded. The feedback should be reflected faithfully in the final report. Otherwise, points will be deducted