

# CS 3200 – Spring 2019

## Course Project – Fitness Tracker

### Introduction

This is the final course project and is worth 20% of your final grade.

### Overview

It's Springtime and it's time once again for the annual pretend to commit to get in shape. Normally I just buy a new pair of running socks (that will soon become my regular socks). This year, we're going to build a whole app to prove our commitment.

If you've used apps such as RunKeeper or MapMyRun, you'll have an idea of what you'll be building. Of course, you'll be building what was their version 0.5, not their current app. The main purpose of the app is to track exercise activities. More specifically, you'll be tracking outdoor activities where you actually change locations; things like walking, running, and biking.

Your job is to create an app that lets users record activities, monitor their progress/history, and encourage them to keep going. It should be easy to use and have a number of features. The design of the app is up to you, as long as it meets the basic requirements.

### Requirements

Create a program that does the following:

1. (10 pts) Custom app icon and loading page graphics
2. (15 pts) User Friendly Screens and Navigation – This is up to you but will be graded subjectively. You must provide navigation to multiple screens for an intuitive user experience. A good Cognitive Walkthrough document would help argue why your design is good in the event that you lose points.
3. (20 pts) Cognitive Walkthrough
  - a. Task from app launch through completing an activity
  - b. Task from app launch to viewing a sorted list of activities by duration
4. (25 pts) Start Activity
  - a. Select Type (at least 3 types)
  - b. View start point (on map)
  - c. Weather info (temp and precipitation/cloudiness)
  - d. Start
5. (25 pts) During Activity
  - a. Duration
  - b. Distance (value only, no map. Tracked with GPS)
  - c. Pace
  - d. Pause/Resume
  - e. Stop
6. (25 pts) After Activity
  - a. Summary: Duration, distance, pace
  - b. Map with path (GPS points create path)
  - c. Weather begin and end
  - d. How do you feel?
  - e. Take Photo (Create a record of worst looking selfies!)
  - f. Save/Delete
7. (30 pts) Camera
  - a. Change camera mode (front back)
  - b. Save/Cancel after taking picture
  - c. Ties a single picture to the Activity
8. (40 pts) Activity History
  - a. View by List

- i. View
      - 1. All
      - 2. Type
    - ii. Sorted
      - 1. Date
      - 2. Pace
      - 3. Duration
    - iii. Range
      - 1. Week
      - 2. Month
      - 3. Year
  - ~~b. View by Timeline~~
    - ~~i. Order by date~~
    - ~~ii. View by~~
      - ~~1. Pace~~
      - ~~2. Duration~~
    - ~~iii. Type is clearly identified~~
9. (25 pts) Activity History Individual
- a. View After Activity info
  - b. View picture associated with activity
  - c. Any rewards associated with activity
  - d. Delete Activity
10. (35 pts) Rewards Summary
- a. You devise a scheme
  - b. At least 3 types of rewards
    - i. One reward is a level-based type (Example: 5 workouts makes you level 1. 10 makes you a level 2)
    - ii. One reward is a personal-best type (Examples: Best pace, longest activity, etc)
    - iii. One is up to you
  - c. Screen with rewards listed
    - i. Link to activities where personal bests were earned
11. (50 Bonus pts) Extra Features
- a. These are features of your own design
  - b. 20 point bonus
    - i. Make the completed activity map editable
    - ii. User can move around or delete an individual point on the completed path
    - iii. Distance and other data is updated as well
  - c. 15 point bonuses
    - i. Use a 3<sup>rd</sup> party library for something we haven't done in class
      - 1. Notifications
      - 2. Voice recognition to start/stop activity
      - 3. Push to social media post
      - 4. Etc.
  - d. 10 point bonuses
    - i. Add an additional feature to the app without additional 3<sup>rd</sup> party libraries
    - ii. Examples
      - 1. Add a "sub-pace" feature. This tells you your current pace (last XX feet/miles/minutes rather than your overall pace)
      - 2. Add an elevation tracker to your activity
      - 3. Auto rate an activity. Tell user "Good job" or "Slow day" or whatever you want after an activity is completed. It should be based on a comparison with past performance.
  - e. You must include an Alert pop-up when you app starts telling us what you implemented, how to find/test it, and how many points you think your deserve for each bonus feature.
12. NOTE:
- a. The project is worth 250 points

- b. The extra features are worth up to 50 bonus points.
- c. The project is 20% of your grade, but the bonus points will overflow into your final grade. This means you can earn an extra 4% points towards your final grade.

### **Notes**

For the maps you will need to create a Google Developer account. They have a 30-day trial, but you still need to put in a credit card. After that you can turn on billing and will be charged for anything over a \$200 monthly credit they give you. The \$200 is plenty to build and test apps typically. If you start your 30-day trial after the 24<sup>th</sup> or so, you won't even have to turn on billing. If you have concerns with this, please come talk to me and we'll figure something out.

### **Submission**

Submit your files on Canvas. If you followed the guidelines in the class conventions documentation you will be fine.

**Due: April 22, 2019 (No late submissions will be accepted)**