Hack UNT 2020

Group members

Alex Bacallao

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Alex Pisbo

Casey Kinnamon

Team name: Mean Green Walkers

Project name: Restep

**Challenge:**

We decided we are pursuing the Respec office culture challenge. The challenge is meant to bring office spaces together and improve the daily experience of employees both in and outside the office.

For this challenge, we have a few key goals to consider in our ideas and design:

* Promotes good fun/family culture
* The game should interfere with normal work as little as possible
* The game should connect all offices abroad
* The game should be inclusive to employees “in the field”

**Idea:**

App based step tracker that collects and uploads user step count to an office database.

How does this idea fulfill our goals?

* Promotes health and longevity of employees by rewarding physical activity
  + Workplace culture enhanced due to team based event
* The game is passive and doesn’t require any time taken away from typical workflow
* A leaderboard system that compares offices’ average steps per employee would promote healthy competition between offices
* The game is inclusive of “in the field employees” who can also play the game passively
  + An idea we had was implementing a .75 multiplier to employees in the field since they are inherently more active than desk-based employees.

**Process:**

We started by brainstorming different ideas on a whiteboard, and clearly defining our goals. We pretty quickly decided that our project would be a game of sorts. Some of the original ideas included adding sensors to a pool table that would calculate best scores and time trials between offices, but we decided against this as it wasn’t an inclusive game to employees in the field and the time constraints of playing a game of pool would take away from work flow.

Another idea we had was a scavenger hunt type game, where employees would receive points for finding objects hidden around the office locked in NFC lockboxes. We would develop an application used to unlock these boxes, and there would be a small prize inside. The finder would then take this object, and leave an object of their own for the next person to find. We decided not to pursue this idea due to lack of materials for developing a lock box.

All these ideas required the user to actively engage with the game, which goes against keeping work time interference minimal. With this in mind, we decided to brainstorm on passive games that everyone could play. Alex B. came up with the winning idea of building an application that pulls data from the built-in pedometer within modern smartphones. We would use that step data pooled from all participating employees in any given office to calculate the average steps per person. This average would then be used in comparison with scores from other offices to create a competitive scoreboard. We decided against ranking individual scores within each company as individuals within unique offices would be able to see the contributions of their peers, which could create a hostile, competitive work environment. At the end of the game period, the top winners will be announced and receive their respective prizes.

**Problems:**

Alex B: Worried that his portion is not achievable in 24 hours. Pulling data from samsung into google fits’ software wasn't a problem. The problem is actually using google healths’ API. The problem is that we need to register a domain under that and have a verified authentication key. Afterwards, the code implementation shouldn’t be difficult, but the aforementioned issues are what will slow us down the most and may even stop our project in its tracks.

Upon further investigation, we found that there are HIPPA legality issues when extracting step data from google fit. Also licensing issues, but the HIPPA problem really kills the idea. Instead, we decided to just use a published data set of a whole month of walking to use as test data.

Brandon Staley: No real difficulties coding the average function. Was unfamiliar with how to import functions from different files, but as long as the files are in the same directory, the files can communicate with each other through simple function calls.

Tyler Martinez: No real issues in the development cycle prior to API data integration.

Alex : Had issues getting pull data from the built in iPhone pedometer.

Casey Kinnamon: No real issues in the development cycle.

**Implementation:**

We have two ideas of implementation:

* Using default integrated pedometers to pull step data from, or
* Develop our own step counter application.

Due to the constraints of the competition, we feel more inclined to use the pre-existing software on each of the major mobile operating systems.

**Contributions:**

Brandon Staley (Back end developer): mathMethod.java. This method accepts an integer array containing the step count of the list of employees. An integer “total” holds the collective steps of all employees in a given office. The length of the array is used to calculate the total number of employees, which is then used as a divisor for “total” to calculate and return the average steps per employee. Brandon was also the lead writer in this design document.

Tyler Martinez: Designed the website that our app is

Casey Kinnamon (Front end developer): Developed the mobile application’s user interface. Integrated code from back end developers to front end software.

Alex Bacallao: Assisted on front end app development as well as helping set up a mock website

Alex Bispo: Designed the layout of our mobile application. Fully developed the iOS app.