CIS 350 Meeting Minutes
Disc Finders
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Introduction:
First meeting as a team regarding project goals, timelines, and workload. Plan on discussing the technological capabilities of the RFID chips.

Business from previous meeting:
N/A

Topics discussed:

- Elevator Pitch:
  - Have you ever been disc golfing and lost your disc in the bushes? We've got an app for that.
- Plans for the project and why is it useful/important/cool
  - We would like to build an app that implements RFID technology in a smart phone in order to locate a disc golfers lost disc. This app will theoretically eliminate the possibility of losing a disc and significantly reduce time spent on the course searching. This app will leave the player feeling worry free when trying new shots, or throwing on "blind" holes.
- Two features we plan on implementing
  - Log multiple RFID tags - The ability for the user to pair the passive RFID tag to their smart phone through the app. The player should have a list of their discs in the app which the app can identify on the course.
  - User feedback while searching - The app should provide feedback for the user to determine if the user is getting closer or further from their lost disc.
- Process for the project

  Linear, Iterative, Parallel, Evolutionary

  Proposed Approaches -
  a. Iterative
  b. Throwaway Prototyping

  Proposed Semester Long Assignments -
  a. Design App GUI
  b. Manage RFID Technology
  c. Implement RFID communications
- Where do we start on this project:
  - Research the technology required
  - Become familiar with Android Studio and uploading the code onto Github
- Anticipated Technologies:

    - Corey is using homebrew; Tim is using Github Desktop/Git Bash
    - Java
    - Android Studio
- Methods/Approach
    - Research Phase
- Estimated Timeline
    - Week 1 research available technologies
- Embedded Raspberry Pi vs Phone App
- Embedded active RFID chip vs having a sticker

Concerns raised:

- What languages/environments are we not familiar with:
    - Android Studio
- RFID might not be long range enough for the program. RFID might only be half a foot in detection radius.
    - Passive RFID chips 15 meters
- Can you access the signal strength through a phone vs a raspberry pi
    - Communicate with the raspberry pi through your phone

Tasks for the team:

- Do the introductory lesson on phone apps with Codeacademy (Tim)
    - By the end of the weekend
- Research Latest Technology
    - Passive RFID
    - Active RFID
    - UHF
    - NFC
    - Raspberry pi as a go between (piggyback)
        - Sticking the raspberry pi into your backpack and then having your phone interact with it through bluetooth
        - Pulling the data through the SDK and interpreting it with your phone app
    - Device Capabilities
        - Pro vs con table for the capabilities
- Research Github and how to do a shared project page

Issues that need to be addressed at the next meeting on 09/25/20 at 1pm (tentative meetings every Friday at 1pm)

- Select the technologies surrounding RFID and which one will be implemented
    - Reference the Google Doc for the information
    - Include discussion of Raspberry Pi capabilities

Sources for the discussion:

https://www.atlasrfidstore.com/rfid-insider/active-rfid-vs-passive-rfid

https://www.murata.com/en-sg/products/info/rfid/rfid/2017/0831