Milestone 3

Project Title:
Happy Tracking

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Link to Initial Prototype: Here

Project Description:
Improve UPS tracking number system by creating an app that will give real time notifications of where a package is based off of tracking number and where it arrives. This app will allow the company to notify when a package is in the state, and when attempted deliveries were made.

Design Iteration:

(From last milestone)
Intention to improve:
After getting feedback from 4 participants, we realized that we definitely needed to make the buttons clearer. It was difficult to navigate to where everyone wanted to go. We also need to make sure that everything is readable and that the accessibility is made better, especially with having buttons back to the main menu and making it clear when packages were added. For future implementation possibilities, we could add an option to connect shopping accounts such as Amazon. We'll work on streamlining and fixing the prototype for future testing.

What we improved:

- We corrected all the broken buttons on all screens
- Buttons were clarified and added
- Amazon account link feature was added
- Archived mail option was decided it was too difficult in comparison to its use in the app and was removed
- All app screen pages were made more uniform
- A "package successfully added" screen was added to clarify when a task has been completed.

Our User Study Descriptions:

For our user study we informed the test subjects that they are currently both expecting a package and sent out a package today. Using Happy Tracking, we want them to add the package the package they sent to the application, and find out where the package they are expecting currently is.

Reminder: For the testing, remind the user to talk out their thought process. And write that down for every user. Do not talk after giving them their task, let them figure out a way to complete the tasks.

Study Tasks:

- Start tracking a package
- Locate your package
- Resolve a notification of a missed delivery

Hardware GPS Device:

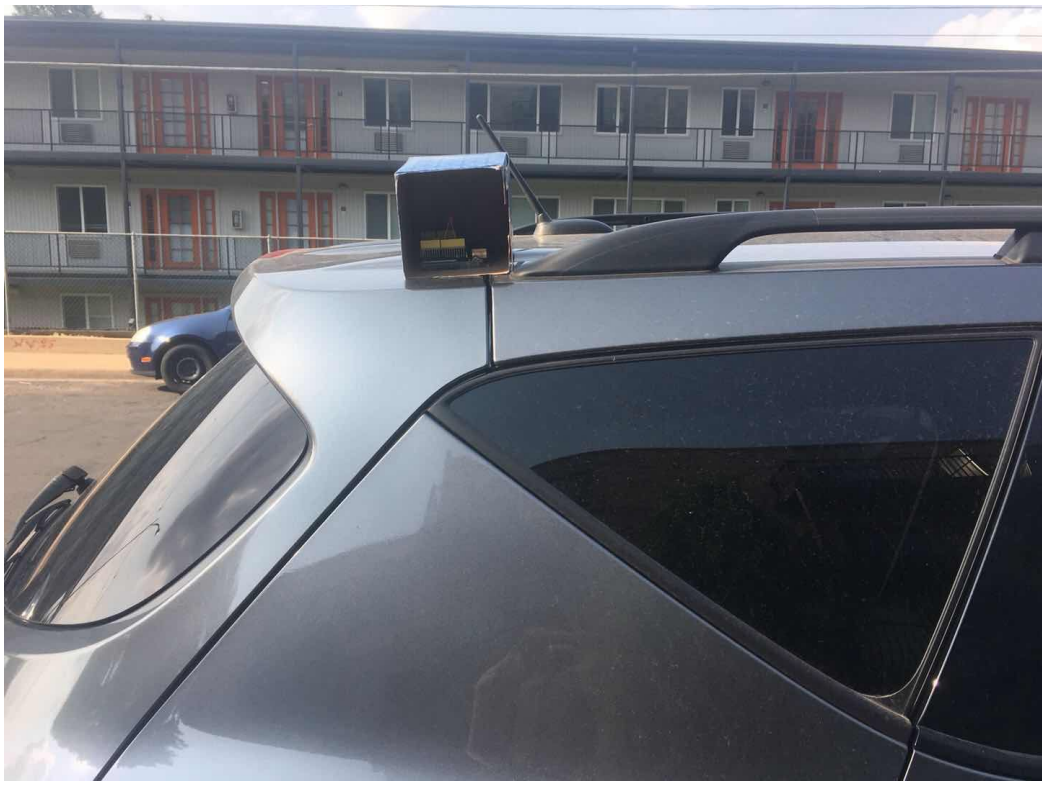


Figure 1. Prototype hardware GPS sensor bind onto transmit vehicle

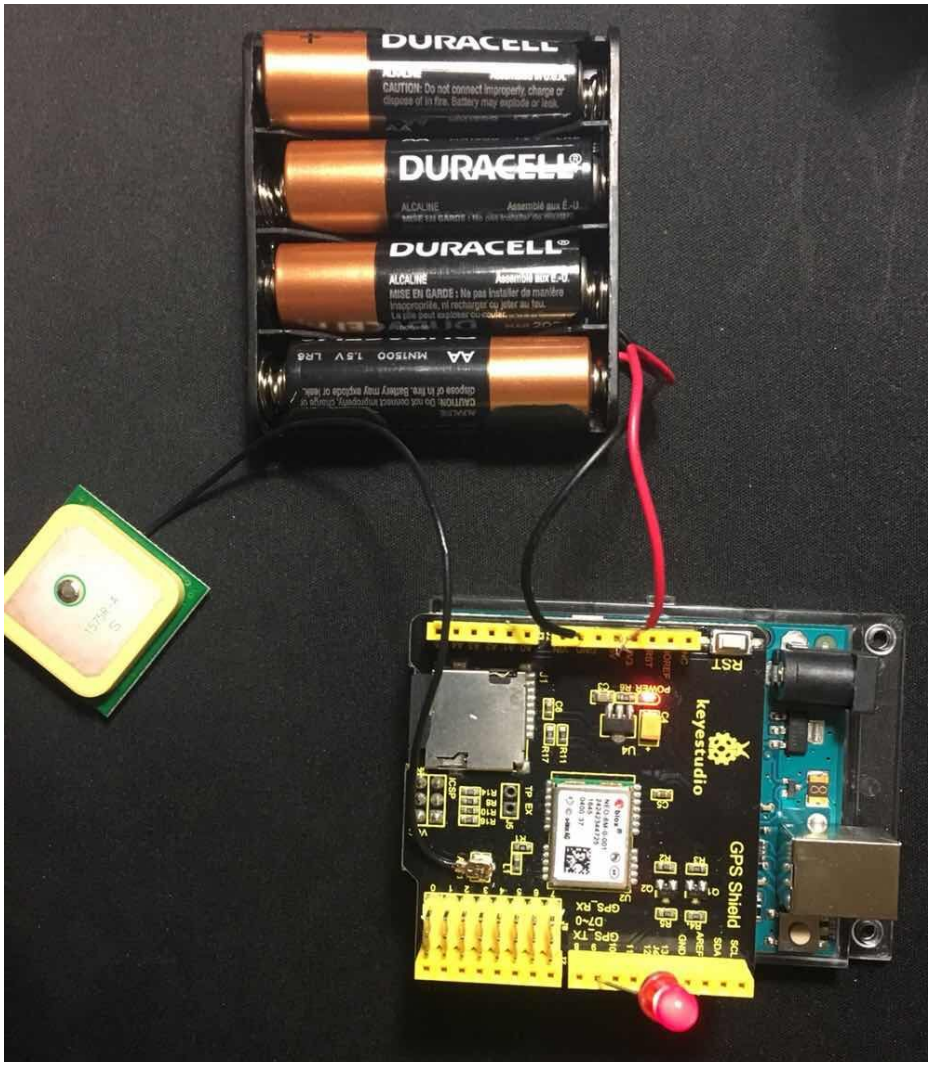
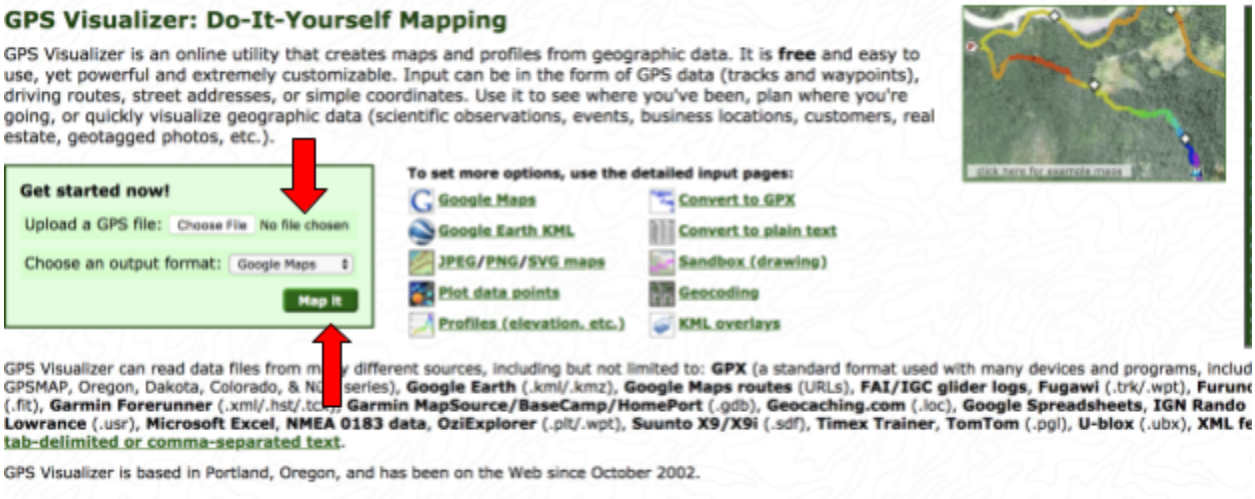


Figure 2. Hardware Sets powered by batteries

Figure 3. Store GPS location data into micro sd card & read data file from micro sd card



http://www.gpsvisualizer.com/

Figure 4.Use online tool : drop the data file here and "Map it"

Figure 5. Example map in google earth vision

Description:

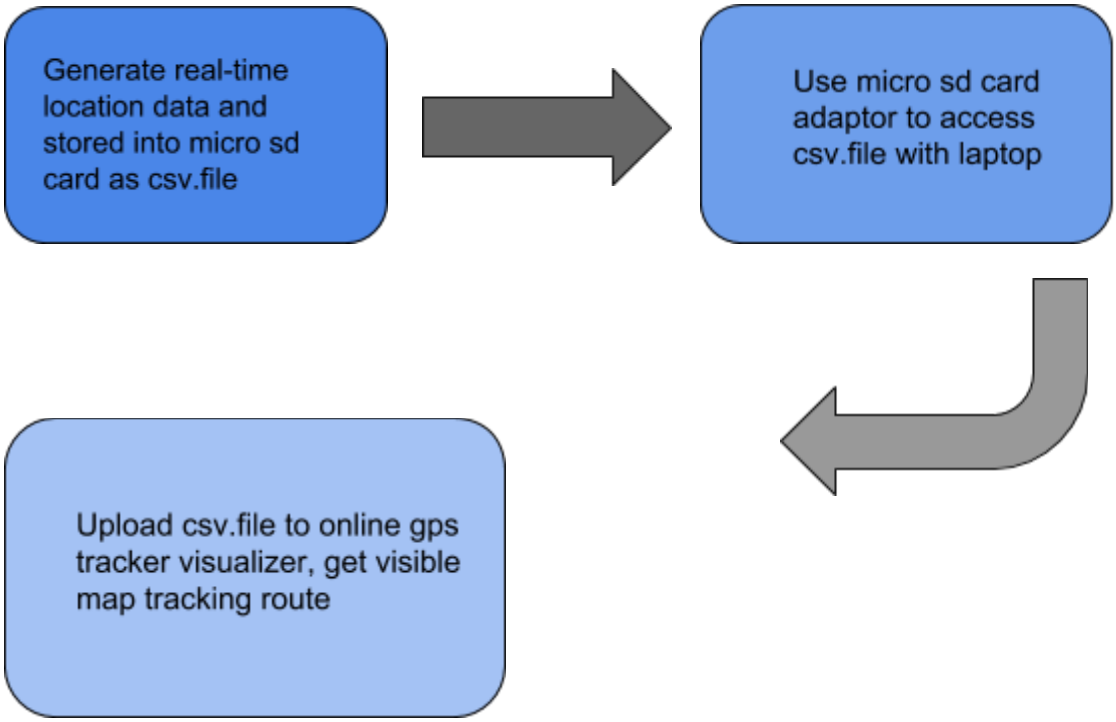
We still use following hardware components:

1*Arduino UNO

1*GPS Module with micro SD Card Shield

1*Micro SD Card

1*Battery Set



Currently the tricky part for our hardware set is that antenna is not always stable to receive gps signal, probably something wrong with antenna itself. We'll see if we can replace with a new antenna component. And it can't be access in our designed app interface built by Figma yet because Figma is not functionable right now, so we would demonstrate GPS device separately at final.

Intent to improve in future:

In order to monitor visible real-time location information for users to tracker their package, we'll add more powerful wireless module to communicate between terminal equipment like cell mobile or server and GPS hardware set. Beside, capacity of power also should be well considered, embedded with higher power density battery or connect to vehicle power system. And we might decrease response frequency to like update by every 20 minutes or hours, in order to let hardware sets intermittently work in sleep mode to save energy consumption.

Study 1:

Number of participants in session: 1
How long did this test take? 45 minutes
Where did the testing take place? Living room
Participant information:

- Age: 42
- Gender: Female
- Academic Background: High School

Description: The participant was asked to perform the task “Find your list of packages, add a new package to the list, and check your email.” The participant did not have any difficulty finding her list of packages, or checking her email. She was a little confused by the email functionality solely because “it’s a little different from Gmail”.

The participant stated that her favorite aspect of the app was the idea behind it, and that she would change the order of the buttons to put adding a package first, since it seems most important. She otherwise was satisfied with her experience.

Study 2:

Number of participants in session: 1
How long did this test take? 45 minutes
Where did the testing take place? Living room
Participant information:

- Age: 50
- Gender: Male
- Academic Background: High School

Description: The participant was asked to perform the task “Find your list of packages, add a new package to the list, and check your email.” The participant was a little confused by the home menu, stating that it was “hard to tell where to start first”. The participant was also the first to be confused by the mail icon, and stated that he didn’t realize that was how to get to the mail from the home screen.

The participant stated that he would like for the mail option to be clearer, but also that he doesn’t tend to use apps like this and that it made sense once he realized what it was for. The participant also said that the map made sense to him but he’d like to see a way to get more information from it.

Study 3:

Number of participants in session: 1
How long did this test take? 20 minutes
Where did the testing take place? Starbucks
Participant information:

- Age: 23
- Gender: Female
- Academic Background: College

Description: The participant was asked to perform the task “Find your list of packages, add a new package to the list, and check your email.” The participant completed the tasks quickly and seemed to enjoy using the app. She stated that she thought the interface was simple and easy to use, which she enjoyed.

She stated that she thought the mail system could be simpler, and that she wished that the package list was a bit “nicer to look at”, but otherwise said that she was satisfied with the app and her experience with it, and that it made sense to her to use.

Study 4:

Number of participants in session: 1
How long did this test take? 30 minutes
Where did the testing take place? Starbucks
Participant information:

- Age: 31
- Gender: Male
- Academic Background: High School

Description: The participant was asked to perform the task “Find your list of packages, add a new package to the list, and check your email.” The participant played around with the menu for a little while before actually accomplishing the tasks, and so was able to accomplish the tasks in a different way than anticipated. However, when asked why after, he simply said that it was “cool software [figma] and he wanted to mess around with it”.

He stated that the app itself was very straightforward and made a lot of sense, but that his least favorite part was how many steps were necessary to accomplish some tasks, and that he wished it was a bit more streamlined in that sense.

Study 5:

Number of participants in session: 1
How long did this test take? 20 minutes
Where did the testing take place? Starbucks
Participant information:

- Age: 25
- Gender: Male
- Academic Background: College

Description: The participant was asked to perform the task “Find your list of packages, add a new package to the list, and check your email.” The participant completed the tasks very quickly and without playing around with the other options on the app, focused on just getting the task done. He struggled only with deciding what to do with the packages after the fact, before deciding that it was fine. The participant stated that his favorite thing about the app was that it was easy to use, and that he would change some of the layouts to be more aesthetically pleasing given the choice.

Functionally, though, he stated that his only issue with the app was that it was “difficult to use the app when not everything functioned as he expected”, by which he means an app where the keyboard didn’t actually pop up, and functional issues like that.

Study 6:

Number of participants in session: 1
How long did this test take? 30 minutes
Where did the testing take place? Living Room
Participant information:

- Age: 21
- Gender: Female
- Academic Background: In College

Description: The participant was asked to perform the task “Find your list of packages, add a new package to the list, and add packages from Amazon.” The participant said that they would for sure use it when they send packages, and when checking for when packages are out for delivery. But, it seems that there is not much interest in seeing where the package is outside of their city. But, they complained about the aesthetics for a solid 25 minutes. In the post-test interview they said that the fact that it added Amazon packages does make a big difference for them.

Study 7:

Number of participants in session: 1
How long did this test take? 20 minutes
Where did the testing take place? Living Room
Participant information:

- Age: 22
- Gender: Male
- Academic Background: In College

Description: The participant was asked to perform the task “Find your list of packages, add a new package to the list, and add packages from Amazon.” They really liked the feature to scan the orders currently on their way on Amazon, and the convenience of adding multiple packages from the large website. The tester did take their time looking at all the information given to them on the track packages tab. But, the tester would have liked to see an edit option in the manage packages section in order to remove the old packages or any other unwanted packages from the application database.

Study 8:

Number of participants in session: 1
How long did this test take? 15 minutes
Where did the testing take place? Dining Room
Participant information:

- Age: 21
- Gender: Male
- Academic Background: BA in Computer Science

Description: The participant was asked to perform the tasks “Check an email in your inbox, look at the details of an old package, track one of your packages, and to add a package”. They found the application on a whole to be easy to navigate through. One of the things suggested by the participant was the ability to track just a single package at a time, instead of being shown all current packages on the map. The test went smoothly, as the user was able to complete the tasks at a reasonable speed. AFter the test, the participant also made some comments on the aesthetic of the app, noting changes to the manage packages window that would help the user know they’re able to click on a package to get more information and to spread it out.

Study 9:

Number of participants in session: 2
How long did this test take? 30 minutes
Where did the testing take place? Dining Room
Participant information:

- Ages: 50, 51
- Gender: Male and Female
- Academic Background: Both participants had master’s degrees

Description: The participant was asked to perform the tasks “Check an email in your inbox, track a package, and find where to get help with the app”. Both participants found the app

relatively intuitive. One found that the “Estimated Delivery Time” window to be repetitive after the “My Packages” window and that it contained details the participant found unnecessary to know, like the actual tracking number and the details in the bottom right corner of every package panel. The other participant mentioned that they didn’t like the colors coordinate of the inbox windows being different than the other windows to do with packages and whatnot. They liked the idea of having one way to reliably track packages from different companies.

Study 10:

Number of participants in session: 1
How long did this test take? 20 minutes
Where did the testing take place? Living Room
Participant information:

- Ages: 22
- Gender: Female
- Academic Background: BS in Mathematics

Description: The participant was asked to perform the tasks “Check an email in your inbox, find a package requiring a signature, and track your packages”. The participant commented on wishing the back button returned the user to the previous screen. When trying to find a package requiring a signature, they got confused between the “My Packages” window and the “Estimated Delivery Times” window. It was also mentioned that they wished that they were able to see the destination for a package when tracking them, as well as the package’s current location. The participant did say that if this app were real, they would use it to track packages.

Themes that arose:

- Give the user more freedom to delete unwanted packages
- Aesthetics needs work but that was not our concern
- Connection between our application and other large 3rd party programs makes people excited to use our application
- The button improvements made navigating the app much simpler.

The major limitation of our user studies were a lack of technology for users to really get the feel of watching a package start to arrive, and adding a package while using keyboard and everything else. We would need a prototype that was much more technologically complicated alongside GPS and similar things to test that properly.

A limitation of our user studies were a limited pool of people; we'd like to be able to test it on a wider range of ages and backgrounds, but were unable to find the participants.