sdmay19-37: Are Cross Country Courses Avoiding Hills?

Report 4

February 17th - February 23rd

Team Members

Connor Smith — *Ground Truth Engineer*
Thomas Chambers — *Ground Truth Engineer*
Ryan Hilby — *Data Handling Engineer*
Jacob Feldman — *Data Handling Engineer*
David Kirshenbaum — *Data Analysis Engineer*
Andrew Mumm — *Data Analysis Engineer*

Summary of Progress this Report

This week was largely a continuation of last week's work. Connor, Ryan, and Thomas all dedicated their time to fine-tuning their respective topographic signal detectors and beginning the process of converting the functions to Python for final implementation. Jacob and Andrew made significant process working with our data handling issue, allowing us to successfully and quickly interact with our LIDAR database for the first time. David continued his work on the website with a focus on developing the course map feature for the scorecard.

Pending Issues

There were no glaring pending issues reported by any team members this week.

Past Week Accomplishments

- Connor
  - Developed hardest/easiest segment detector
- Thomas
  - Cleaned up code and did more calibration in rolling hills detection. Posted results of using different parameters and identified remaining issues. Began transferring code to Python.
- Ryan
  - Fixed bug when steep section of hill was not detected of a long hill
  - Started process of converting to Python
- Jacob
  - Parallelized uploading code. I have not yet found the limit to the number of threads and therefore the speed at which points can be uploaded. Time to upload could be possibly reduced by 100 times.
- David
  - Worked on a banner on our website.
  - Tried getting the map redrawn on the scorecard page
- Andrew
  - Got Lambda connected to our database and successfully read point data.

Plans for Upcoming Reporting Period

- Connor

- ○ Convert all MATLAB code to Python and merge with Thomas and Ryan's programs
- Thomas
  - ○ Integrating work with other Data Analysts. Pseudo-coding a second approach to rolling hills that may overcome current shortcomings.
- Ryan
  - ○ Convert code to Python and merge it with other code for demo.
- Jacob
  - ○ Continue uploading data points. Finish uploading Story County, and polish off a way to upload an entire county at once.
- David
  - ○ Have website functionality demoable
- Andrew
  - ○ Need to connect lambda to our website and parse the data that is sent back.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Connor Smith	Developed hardest/easiest segment detector	4	22
Thomas Chambers	Continuing work on Rolling Hills Detection.	5	18
Ryan Hilby	Finishing large hill detection/started conversion	4	17
Jacob Feldman	Parallelized data upload.	6	25
David Kirshenbaum	Worked on QOL fixes on the website	3	19
Andrew Mumm	Connected lambda function to database	6	16