

Binnacle

Release 1.0 Plan

January 11 2018

High Level Goals

An app for finding the fastest trajectories and routes for sailboats. The user will input start and end points and our app will calculate the fastest route between these points based on wind conditions. Our app will also tell the user how to maximize their speed by measuring the boats speed, angle of attack, and angle of list.

Sprint 1

1. As a Developer, I want a previewable [tns preview --bundle] app pushed to github repo that has been pulled and previewed by all CS teammates so that we can all start on the same app and test on our phones as we go. **(5)**
2. As a Developer, I want TravisCI to perform build test on every user story and sprint branch so that we can have system testing as part of our Definition of done. **(8)**
3. As a Developer, I want a visual mockup of the app we are going to build so I know what I'm going to build. **(5)**
4. As a Developer, I want to gather wind speed/direction and all the data we can gather from the phone. **(8)**

Sprint 2

5. As a user, I want to enter start and finish waypoints so that the app plan a custom route specified by me.
6. As a user, I want to know my boat's speed so that I know how fast I'm going.
7. As a developer, I want a testbed for repeated simulation of the algorithm so that I can easily compare results and runtimes for different parameters.

Sprint 3

8. As a user, I want the app to calculate a basic route between two points so that I can travel along the fastest route.
9. As a user, I want to know my boat's angle of list so that I can correct it because heeling slows the boat.

Sprint 4

10. As a user, I want to know my boat's current heading and optimal heading so that I can stay on course.
11. As a user, I want the app to inform me when to turn and give me some warning so that I can stay on course.
12. As a user, I want the app to take into account the boat's speed at different angles to the wind so that the app can give me a more accurate and faster route.

Backlog High Level Goals

If there is time in release one, we would like to prepare to integrate with the CS team. We would start this preparation by integrating bluetooth. Along with bluetooth, there are a few other functionalities we can begin working on like a mapview of the the route and adding more rigorous calculations of the route.

Backlog User Stories

1. As a user, I want the app to communicate with the onboard sensor package via bluetooth so that I can have access to the more accurate data without any messy cables.
2. As a user, I want the app to display this route in a map so that I have an overview of the route.
3. As a user, I want the app to take into account the costs in speed for a tack so that the app can give a faster route.