Sailing Simulator

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Table of Contents

[Analysis 3](#_Toc143774609)

[Problem Identification 3](#_Toc143774610)

[Stakeholders 4](#_Toc143774611)

[Why the problem can be solved by Computational Methods 4](#_Toc143774612)

[Research 4](#_Toc143774613)

[Proposed Solution 4](#_Toc143774614)

[Software and hardware requirements 4](#_Toc143774615)

[Success Criteria 4](#_Toc143774616)

# Analysis

## Problem Identification

To practice sailing tactics, analyse your own decisions verses others or to know what the best tactic is currently requires a lot of other boats to practice against, lots of real-world data to analyse (like trackers on every boat) and it is impossible to know what the best tactic was with only the fastest boat being the best reference.

Given Sailing is a small sport, large gatherings of competitive boats usually only occur at events, giving little opportunity to put theory into practice outside of the real thing. This makes the only way to get better to go to training and events to learn theory and put it into practice, slowly working your way up the fleet, which is costly and time consuming, and irritating when you aren’t doing very well. This makes improving hard and inaccessible to many sailors, especially those without connections for example coming from a non-sailing family background, at clubs with fewer resources for training, less experienced coaches and without parents willing to commit time or money to sailing. Making a computer program to teach and practice tactics will be a valuable teaching tool, practice resource and lower the bar of entry to learning how to win a race, which ultimately makes sailing more competitive and interesting for all involved.

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| Advantages | Disadvantages |
| * Lowers bar of improving sailing   + Decreases cost   + Decreases time commitment   + Decreases * Increases opportunities to practice tactics   + No need to large fleet   + No need for big data as data can be created by the program | * Adds complexity as the program will require a device * Requires learning how the software works * Using a keyboard and mouse will not train the muscle memory you learn while sailing * Representing real world conditions on a screen will be challenging to represent and interpret in a way that translates to experiences on the water |

While there are disadvantages, I can take steps to make the system as intuitive, compatible and easy to learn as possible with feedback from stakeholders. As the tool isn’t compulsory and is a program to aid learning, it can focus on key points that can be supplemented.

To be a useful tool the fundamental feature would be to simulate sailing upwind. I would use abstraction to calculate the speed of the boat using the sail’s angle to the wind, wind speed, current speed

## Stakeholders

## Why the problem can be solved by Computational Methods

## Research

## Proposed Solution

## Software and hardware requirements

## Success Criteria