

Team Umbrella
Milestone 2

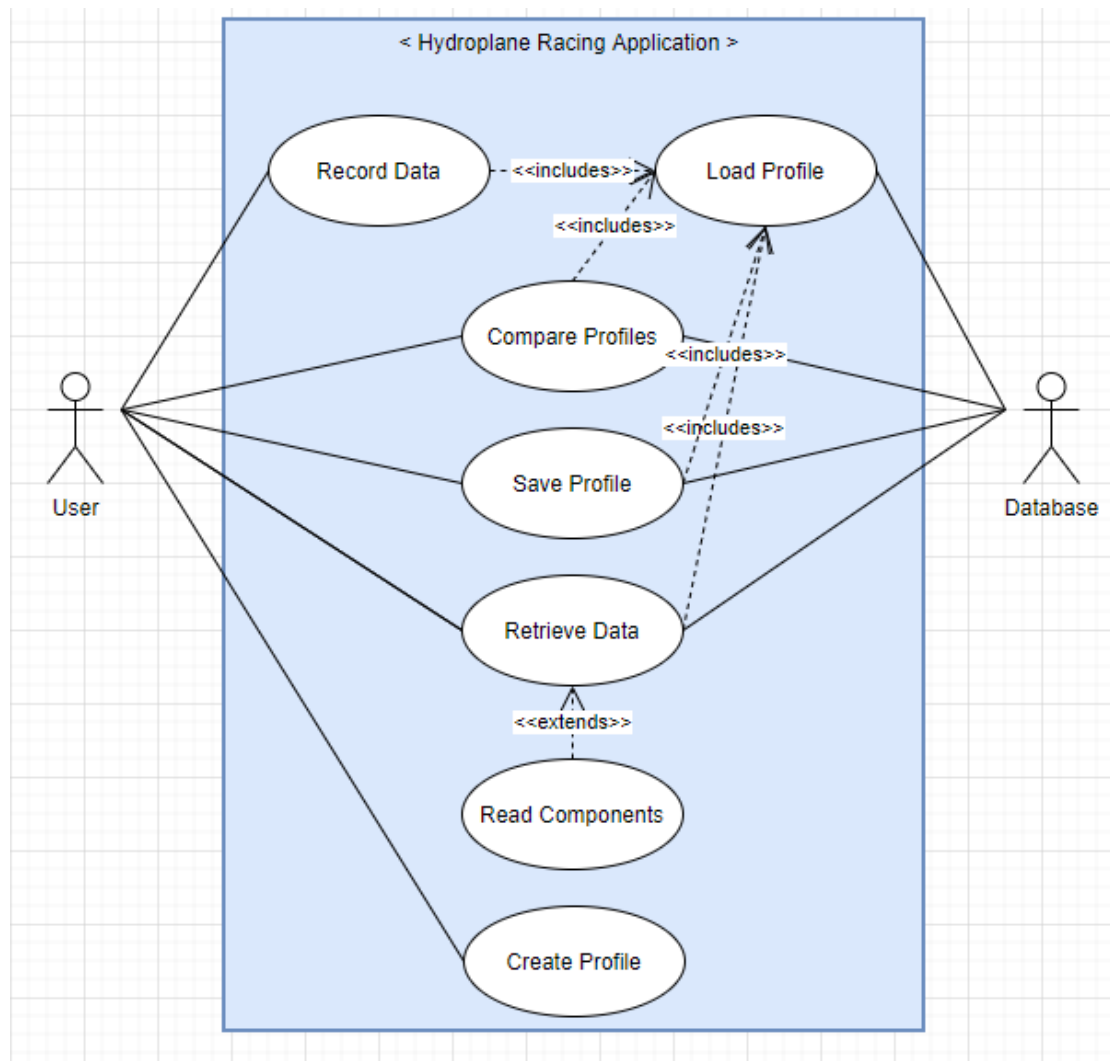
Stakeholders

Team Umbrella was approached by a family who races outboard hydroplanes. In the short term this project will assist a total of five racers within that family who are currently struggling with their data organization and processing.

In the long term, this project can be sent to the hydroplane racing community, many of which are struggling with the same issues presented by our initial stakeholders. This shows that in total our project could impact upwards of one hundred racers across the country, from Washington to Florida.

The problem that is being addressed, is the current software that is shipped with the mychron 5 hardware device. The software is designed for GoKart racers, who have to worry about complicated race courses, tire slippage, clutch controls and many other data points. Hydroplanes race on an oval course and only need to focus on roughly six to seven data points. This means that the current software program is overcomplicated and difficult to use effectively for the hydro racing community.

Use Case Diagram:



Record Data

Actors	<ul style="list-style-type: none">• User(Racer)
Goal:	<ul style="list-style-type: none">• To record the data from the mychron5 from each hydroplane to a document.
Preconditions:	<ul style="list-style-type: none">• User has loaded a profile
Scenarios:	<ul style="list-style-type: none">• When you race a hydroplane and want specific details about that certain hydroplane setup.
Exception:	<ul style="list-style-type: none">• Profile has not been created for current configuration.

Retrieve Data

Actors:	<ul style="list-style-type: none">• User(Racer)
Goal:	<ul style="list-style-type: none">• Retrieve data of the race from the mychron5
Preconditions:	<ul style="list-style-type: none">• Data has been recorded• User has created a profile
Scenarios:	<ul style="list-style-type: none">• Retrieving recorded data from last race.
Exceptions:	<ul style="list-style-type: none">• Data has already been retrieved• Data has not been recorded• Profile has not been created for current configuration.

Read Components

Actors:	<ul style="list-style-type: none">• Database
Goal:	<ul style="list-style-type: none">• Check the hydroplane hardware specifications.
Preconditions:	<ul style="list-style-type: none">• User has created a profile• The hardware data is already recorded into the database (Does the database need existing knowledge of the hardware or can Mychron 5 read what components the hydroplane is currently running?)
Scenarios:	<ul style="list-style-type: none">• Wanting to compare different component setups
Exceptions:	<ul style="list-style-type: none">• Hardware is not available

Profile Creation

Actors:	<ul style="list-style-type: none">• User(Racer)
Goal:	<ul style="list-style-type: none">• The user creates a hydroplane configuration profile to record data from races.
Preconditions:	<ul style="list-style-type: none">• Hydroplane configuration is unique.
Scenarios:	<ul style="list-style-type: none">• After modifying a hydroplane, users can compare and contrast the stats of different profiles.
Exceptions	<ul style="list-style-type: none">• Hydroplane configuration is already saved under another profile.

Profile Saving

Actors:	<ul style="list-style-type: none">• Database
Goals:	<ul style="list-style-type: none">• Save Hydroplane configuration and any data added
Preconditions:	<ul style="list-style-type: none">• Profile has been modified
Scenarios:	<ul style="list-style-type: none">• User has created a profile and wants to save the configuration.• User has loaded an existing profile and wants to save changes. (If we are saving changes should It just be a new profile instead considering the configuration is now different)
Exceptions:	<ul style="list-style-type: none">• Profile has already been saved.

Profile Loading

Actors:	<ul style="list-style-type: none">• Database
Goals:	<ul style="list-style-type: none">• Loads a previously saved profile
Preconditions:	<ul style="list-style-type: none">• Profile must exist.
Scenarios:	<ul style="list-style-type: none">• Test hydroplane configuration.• Retrieve data from previous runs using profile configuration
Exceptions	<ul style="list-style-type: none">• Profile does not exist.

Profile Comparing

Actors:	<ul style="list-style-type: none">• Database
Goals:	<ul style="list-style-type: none">• Compare and rank the data
Preconditions:	<ul style="list-style-type: none">• There must be more than 1 profile
Scenarios:	<ul style="list-style-type: none">• Wanting to see which configuration has better statistics and performance.
Exceptions:	<ul style="list-style-type: none">• There are no profiles in the database