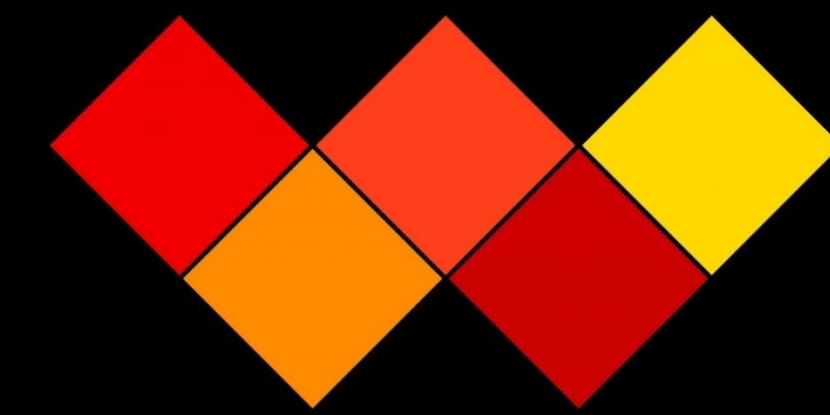




So Close Yet Sonar

Wentworth Institute of Technology BSEE



Rayyan Alabad

Abdullah Aldkhel

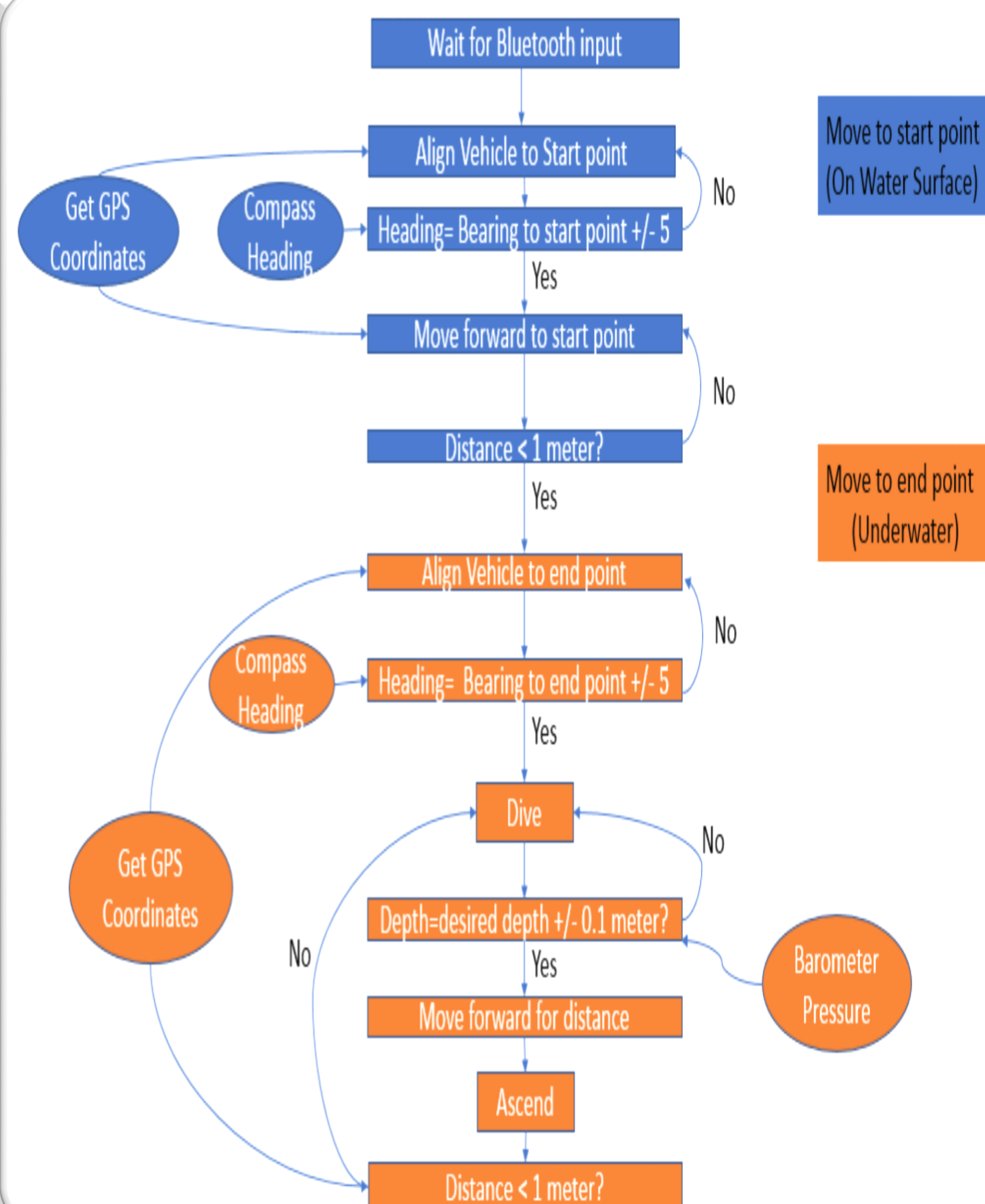
Patrick Jochim

Prof. Joseph Santacroce

Abstract

- Design and build the autonomous underwater vehicle (AUV).
- Develop algorithm using C language on Arduino controller to control AUV motors to move to desired location.
- Utilize compass and depth sensors with the GPS as inputs to the system for the AUV's positioning.

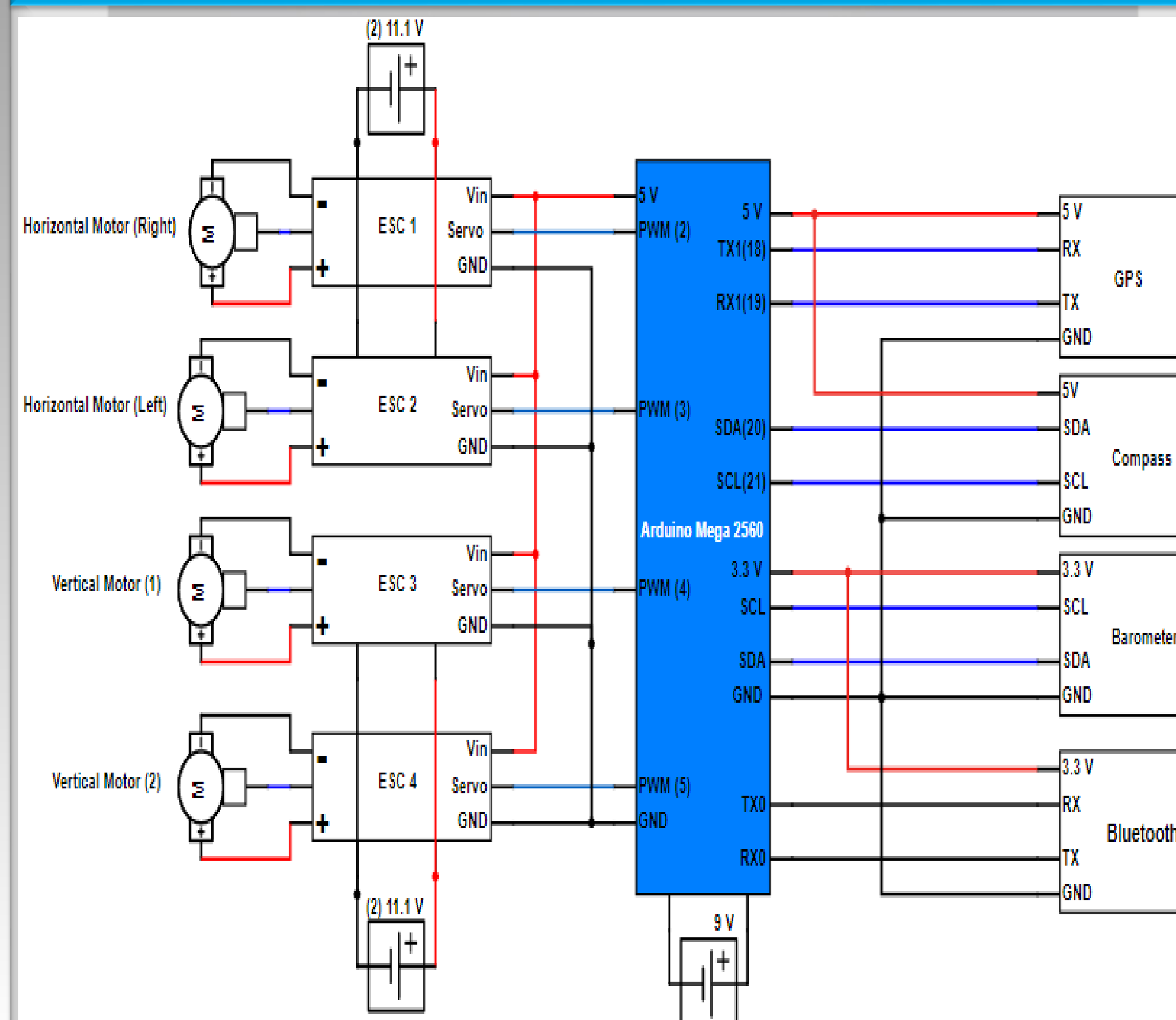
Flow Chart



Design Concept



Schematics



Components

1. Microcontroller:
 - Arduino Mega 2560.
2. Localization:
 - Ultimate GPS Module.
3. Depth Measurement Sensor:
 - MS5803-14BA Barometer.
4. Magnetometer:
 - HMC388L
5. Hardware :
 - (4) 11.1 V batteries, 9 V battery, (4) Brushless Motors, (4) ESCs, (4) propellers, 1-1/2" PVC pipes.
6. Bluetooth transceiver:
 - Bluetooth: SH-HC-08
7. SD card Data Logger :
 - Virtuabotix SD Card Reader/Writer

Conclusions

- Sensors were tested using LED lights as actuators to achieve expected results
- The AUV is designed to be less dense than water but only to a degree which the motors can control its depth.
- Motors operate by user input.
- Bluetooth connection was established to send desired inputs to microcontroller.