Autonomous Robotic Submarine Project/ Supervisor Meeting Agenda
(Meeting #6)

Sixth Meeting:
Day: Wednesday, August 8th, 2018
Place: Innovation Den, 418 E Lakeside Ave, Coeur d'Alene, ID 83814
Time: 9:30 am

Team Members:
Adrian Beehner
Samantha Freitas

Client:
Dr. John Shovic

Points of Discussion:

- Accomplishments (5 min)
  - Adrian, Samantha
    - July 26th launch
    - Examining issue of communication module
    - Portfolio work

- Original Project Goals (10-20 min)
  - Adrian, Samantha
    - Have tool-chain properly testes and modified for any needed fixes/changes correlating to the project
    - Documentation – both professional (team based) and personal (logbook)
    - Complete documentation and understanding of tool-chain
    - Current and voltage sensor for both Raspberry Pi and PWM Motors
    - Perform successful launches of the G2X submarine, both on a dock and boat (field test reports)
    - Create GitHub repository that contains all documentation, code, and additional items for the research project

        - Work with Department of Civil and Environmental Engineering Center for Echohydraulics Research, whom will create the sensor pod for the G2X submarine
        - Determine how to properly launch the submarine and retrieve the submarine from a dock/boat
    - Adrian
        - Develop and research underwater autonomous navigation
        - Show autonomous capability
        - Have software cooperate and be integrated with ROS
        - Test sonar & ROS software on Turtlebot3 as prototype
        - Configured and modified tool-chain
        - Prototype sonar sensors (TurtleBot3)
        - 3D print/design sonar holders on both the TurtleBot3 and the G2X Vehicle
        - Laptop specifications for G2X software and additional software (ROS, Gazebo, Octomap, etc) to run properly
        - Explore tetherless options for commanding Submarine (acoustic modem, only internal software, pinging device, etc)
        - Linux support (ROS) for software
    - Samantha
        - Develop wireless protocol to transmit data from sensor pod to submarine
        - Operations manual of entire tool-chain
        - MQTT Wireless Protocol
        - Catfish Logo Design
        - Illustrations and diagrams for the entire tool-chain/system of the submarine
        - Create system diagram of all components of the project

- Additional Project Goals (10 min)
    - Adrian, Samantha
        - Add extra fuses and determine fix for blowing fuse in the Navigation Module due to the fiber optic plug
        - Determine and fix the problem of the Communication Module leaking, which damaged some internal components
        - Perform extra boat tests for July 26th Media Launch

        - Determine how to properly haul gear to University of Idaho's boat at the Harbor Center
    - Adrian
        - Modify/fix existing G2X software issues, and clean up some code
        - Update/edit G2X software dealing with supported controllers for manual control
        - Update/edit G2X software dealing with fixing PWM thruster overload issue
        - Update/edit G2X software dealing with correct controller mapping on Linux Kernel 4.10+
        - Set up network configuration for Navigation Module Pi and Communications Module Pi, utilize TP_Link as wireless shared network for communication, and static ip for ethernet on Windows/Linux
        - Check G2X software for any issues/conflicts that Websockets may present
    - Samantha
        - Create access point to allow for MQTT communication between Pi (Sub) and Arduino (Sensor Pod)

- Go Over What Goals Team Accomplished (10-15 min)
    - Adrian, Samantha

- Why Team Failed to Meet Certain Goals (10-15 min)
    - Adrian, Samantha

- The future work/goals of the project and moving forward (15-20 min)