1. How to turn it on and off?
2. How long does it last in the water?/power requirements?
3. How do we put it in the water?
4. How to hook up the batteries, if it runs off the batteries?
5. How do we install the sonar?
6. How do we know when something is failing?
7. Procedure for removing from water?
8. Is it autonomous? (How to run if not)
9. Software’s capabilities as of last year?
10. Obstacle avoidance?
11. Must we have the sonar installed to run tests?
12. Breakdown of what the components are and what they do.
13. What were some issues from last year?
14. What is the communication to the vehicle?
15. Is there a GitHub?
16. What is mavlink and how does it relate to the pi / pixhawk?
    1. How to open telemetry files?
17. Is there a mission control software for the pixhawk?
18. How was the Nuk (?) used?

-check on the o-rings

-re-lube the o-rings

-remove the electronics

-batteries in, make sure all cables are plugged in, pixhawk and pi are powerd by internal battery

Yellow connectors go to motor

These two go to pi and pixhawk

-should be powered on

-to get it running, giant ethernet cable, tether, goes at waterproof connector, (antenna looking)

-tether is ethernet and goes to someone’s computer

-tether goes to pi, pi uses Putty, putty, tether , pi, pixhawk, RGsub, use the xbox controller to control manually, and there should be able to run the motors, motors should not be run on dry land

-RBSub, it will float, that hole at the front end is for the pressure sensor, depth sensor, red looking thing, like a screw wth a giant head, a wire on the end goes into the I2C (pixhawk?)

-take all the electronics out and throw it in the water to make sure it’s still water proof, relube the O-rings and check for cracks

-GitHub, they only modified like one file, based on communication with the pixhawk through the tether

--wireless communication underwater, trying to get the antenna , need an external trigger, there is a separate thing on the pixhawk switch? To connect to an antenna to

-it can run prescripted missions, the depth sensor, it can maintain certain depths, figure 8s and things like that,

-no sonar or obstacle avoidance

-it can go down like ten feet, that’s the max depth that they’ve done so far

-never stress tested it

-getting the sonar to give data back

-NUC, didn’t really use it, the pi is what they used with puddy, the NUC is better, can set puddy up with the pixhawk, things like live video feed would be with the NUC

-underwater camera setup, had two lights, light on, camera, temperature of the light will affect the image, it will alter the color of the object you are seeing, if you take that into accoiunt when you are detecting color, you have to take into account the color temperature

-FailSafe: there is a sensor that kind of like a barometer, detects moisture, plugs into pixhawk, RGsub has the failsafe, so you can use whaterver sensor to trigger it, and it will automatically surface

-hooking up the sonar, they didn’t mount the sonar

-with the cables, have a certain gauge wire, the little rubber parts, certain gauge, from there you unscrew it, put the wire through, and tighten it up

-heat problems, they never noticed any issue, there wasn’t any heat, but if the NUC is there, there might be heat problems, hook internal temperature sensors to the Pixhawk

-ARDUSUB

-its a firmware they flashed onto the pixhawk, use QGround Control Station that interfaces to the pixhawk through the Pi with Puddy

-careful with how many degrees of freedom that you have, you don’t need much because the UUV can move around on its own

-unsolved issues: the only issue was integrating the sonar and getting the NUC integrated, contact Michael to set up the NUC, he has the software now, he knows how to set the NUC up with the Pixhawk

-Mavlink protocol, ardusub already had preexisting mavlink setup, pi and ardusub are already written in the library, don’t have to worry about mavlink, pixhawk to pi is nothing, pi to computer,

-annoying bug, every 5-10 minutes, the pixkawk would disconnect, and reconnect, 15 seconds to reconnect, it would keep running whatever it was running, might be the puddy,

--they don’t use the seventh thruster, make sure you have the motors at the different speeds to make it balance

-if water gets into the LiPo, theyll explode, the Lithium ferrous is marine safe

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