

902004 - Planktivore

Week 52

1. Thom Maughan
 - a. Camera controller design and layout complete, board is out for fab
 - b. Starting on VS code / platform.io for camera control firmware
 - c. Reviewing housing design details as Larry is beautifully fabricating the compute housing.
 - d. Reviewed Jon's neutral buoyancy 200m battery housing

Week 51

1. Thom Maughan
 - a. Meetings with Larry and Paul R.
 - b. Review of housing, fitment, wiring and connectors with Paul Coenen.
 - c. Working to finish camera_controller board design and layout and get it out for fab.
 - d. Global parts scrounging. Electronics and connectors are hard to source.
 - e. Strobe, Strobe_energy, and Strobe Driver boards are assembled and ready to test. (thanks Jim Mo)

Week 50

1. Thom Maughan
 - a. DC/DC current limit testing. Polulu D36V50Fx is a great product.
 - b. Strobe, Strobe_Energy, and Strobe_Driver boards were sent out for fab on Thurs night. Worked thru tight spacing and 40amp/20usec for connectors.
 - c. In progress on the design and layout of the Camera Controller board. Designing around supply chain shortages is challenging - chips and connectors.
 - d. Parts inventory

Week 49

1. Thom Maughan
 - a. Parts ordering
 - b. Fitment review last Thursday with Larry and Paul. My preliminary design needed to be broken into smaller boards and mounted at the back of the optics frame.
 - c. Strobe v1 is complete, ready for fab. Connector selection challenges due to 40amp 20usec pulse, small area and tight board stack requirement. Found some good white papers about pulsed currents by Samtec and Tyco.
 - d. Strobe Energy v1 is complete and ready for fab.
 - e. Strobe Control v1 is in progress.
 - f. Met with Yui about Planktivore on Spray and goal for mid-March deployment. At issue is we are down to one Spray Glider due to housing corrosion on the 2nd Spray.

Week 46

1. Thom Maughan
 - a. Housing design is moving forward nicely. Working thru the details.
 - b. Battery housing requirements updated
 - c. Parts ordering and receiving
 - d. Rock lab cleaning. Many thanks to Denis for spearheading.

- e. Working on strobe and strobe control

Week 45

1. Denis Klimov
 - a. Optical assembly for camera and objective characterization is completed. Report is started, so far camera FOV and resolution characterized. Next, depth of field characterization
2. Thom Maughan
 - a. Meetings with Larry and Paul to review task list on housing design
 - b. Working with Denis on new lab location for optics testing. Setup laptop with software for machine vision cameras, handed off to Denis.
 - c. Project management, expense, budget
 - d. Strobe controller electronics design

Week 44

1. Thom Maughan
 - a. Met with Larry as he's back from vacation, wrapping up another project and should start Planktivore soon. Reviewed connector and pressure sensor plan for compute node. Titanium is required.
 - b. Located titanium pressure sensor from Keller. Quote requested, ordered.
 - c. Met with Paul to review progress. Quote and ordering cables and connectors
 - d. Budget update to Grants office / Henry
 - e. Laptop setup for Denis to use for optics testing
 - f. Lab space for particle flow tests in Fluum

Week 43

1. Brent Jones
 - a. Consulted with Thom M for external cable and battery orders
2. Thom Maughan
 - a. Draft of standalone battery pack requirements to Jon E.
 - b. Highest priority has been electronic parts ordering, design substitutions for camera control, strobe control and strobe designs.
 - c. 24MP global shutter cameras ordered.
 - d. Spray Batteries ordered (x2)
 - e. Measurements and connector spec for Spray to Planktivore cable.
 - f. Working lab space request for Fluum particle motion testing, thanks Doug for the help.
 - g. Charge coding and budget update
 - h. Looking at possible Fluorometer options (triggering) for Planktivore connector spec
 - i. 3D printed housings are done.

Week 42

1. Brent Jones
 - a. Spec'ing batts and cables for Spray integration
2. Thom Maughan
 - a. Project status meeting for Steve H, Francisco, Henry and Paul
 - b. Meetings with Denis. Parts for optical bench setup have been delivered and a few additional for secure mounting have been ordered. Tasks and schedules and risks discussed.
 - c. Temporary lab space request for fluum setup and flow testing
 - d. CamControl and Strobe parts ordering, painful to have inventory disappear from a digikey shopping card and see lead times of 76+ weeks! Sourcing thru multiple distributors, most parts have been ordered with only a few substitutions needed. Working on substitutions

- e. Thanks to Brent and Cindy for assist with Spray battery order. Brent also supplied info on Spray to Planktivore connector and cabling.
- f. Working on schematic / layout.
- g. Draft of standalone battery pack requirements for Jon.

Week 41

1. Denis Klimov
 - a. Sorting parts and setting up breadboard
2. Thom Maughan
 - a. Project schedule discussions, one on one, with Larry, Denis, Jon, Duane.
 - i. Critical path (housing) commit is in place.
 - ii. Shoreside ingest software deferred until 2022
 - iii. Benchtop image quality breadboard
 - iv. Jon to work battery housing with remaining hours in 2021
 - b. Working BOM and supply chain challenges.
 - i. Ordered 5MP global shutter cameras from FLIR ahead of image quality test, 25% restocking fee, due to low inventory alert from a distributor
 - ii. Ordered LEDs
 - iii.
 - c. Installed

Week 40

1. Duane Edgington
 - a. Brief discussion with PM on goals and timeline
2. Thom Maughan
 - a. Working towards a Feb. 15, 2022 at sea test on the Spray Glider.
 - b. Met with Jon E. on best use of his limited time for 2021. We'll be targeting the waveglider towbody as a test platform to tow behind the Paragon or other small boat. He needs a draft of Planktivore housing design files in 902004 project library before proceeding.
 - c. Met with Brent Jones, mostly on glider availability and integration. He indicated one of the gliders was done due to pinhole leak in buoyancy bag. Heard from Yui that a replacement is coming from Scripps.
 - d. Met with Duane on 2021 availability and task list.
 - e. Met with Denis on 2021 availability and task list.
 - f. Not yet able to meet with Larry yet or get email response about when he is able to start as he's been busy on other projects.
 - g. DeepRip setup by IS has been requested. On a side note, Andy asked questions about crypto mining on HiPP rigs and I sent a note to Todd Ruston to see if there are tools to detect.
 - h. Started on board bullets and other m-team requests for project status.

Week 39

1. Thom Maughan
 - a. Mechanical integration meeting on Monday
 - b. Submitted 2022 implementation plan to Mandy
 - c. Project planning. Who, what, when.

Week 38

1. Thom Maughan
 - a. Met with Paul and Larry to review planktivore housing design. Larry is planning fabrication starting next week. Requested 3D printed version of the imaging housings for use with Fluum integration.

- b. Met with Jon E. to discuss Spray mounting bracket task.
- c. Project planning and development setup.

Week 37

- 1. Thom Maughan
 - a. Setting up Deep6 laptop with latest development environment.
 - b. Working on project planning.

Week 34

- 1. Thom Maughan
 - a. Assembling parts, getting organized.
 - b. Met briefly with Larry on plans for housing fabrication. Larry should be starting in a couple weeks.

Week 32

- 1. Thom Maughan
 - a. Working on task list and priorities.
 - b. Maintenance and update of dev environment laptop

Week 30

- 1. Thom Maughan
 - a. Met one on one with Paul R. then Jon E, then Duane E., to discuss planktivore tasks. Ramping up.

Week 28

- 1. Duane Edgington
 - a. Project proposal
- 2. Jon Erickson
 - a. Proposals
- 3. Thom Maughan
 - a. Wrote Planktivore proposal, reviewed, submitted.

Week 26

- 1. Thom Maughan
 - a. Behind...

Week 23

- 1. Thom Maughan
 - a. Project management, working labor and budget for team meeting.

Week 22

- 1. Thom Maughan
 - a. Project proposal tasks and estimates.
 - b. Started setting up RAID on DeepRip. Not done yet. Linux is next and will try zfs.
 - c. Got estimates from Larry Bird for Planktivore Housng. Work start end of June and three to four weeks of labor.

Week 21

1. Thom Maughan
 - a. Processed action items from kickoff meeting.
 - b. Working on setup for remote office.

Week 20

1. Thom Maughan
 - a. Status/Kickoff meeting with Steve Haddock, Francisco Chavez, Henry Ruhl, Paul Roberts
 - b. Follow-up meeting with Paul to discuss technical direction.
 - c. Working on 2022 estimate for Henry
 - d.

Week 19

1. Duane Edgington
 - a. Returning to task of creating workflow to pull images into VARS (based on existing Frame Grab workflow)

Week 18

1. Thom Maughan
 - a. Working on board bullets. Getting ready for focused execution.

Week 17

1. Thom Maughan
 - a. Getting parts from Paul for strobe testing.

Week 16

1. Duane Edgington
 - a. Walking through GraphicsMagick and exiftool tools used to implement framegrab data flow.

Week 14

1. Thom Maughan
 - a. Project prep to begin work after commits on other projects, discussions with Henry, Paul
 - b. Requested extension

Week 13

1. Duane Edgington
 - a. Following up on information provided by Mike McCann regarding framegrab processing
2. Thom Maughan
 - a. Gathering status where possible. Not able to get status on housing development.
 - b. Putting together an update for stakeholders.
 - c. Met with Jose on DeepRip status. He has done a wonderful job on a challenging AMD based build.

Week 12

1. Thom Maughan
 - a. Small progress on updated project plan. Work will start in earnest after hitting some milestones on other projects. I'm about 6 weeks behind what was originally planned for focused execution.

Week 11

1. Thom Maughan
 - a. Thanks to Jose and James for getting the 220v power supply installed in DeepRip as this solves the power supply to motherboard software problem. Grateful for Paul M providing advice. Moving from 120v to 220v comes with a set of challenges working on options for the UPS next.
 - b. Updating Planktivore project plan to prep for update to stakeholders.

Week 10

1. Duane Edgington
 - a. Task to document on-shore 2021 image storage and processing plan

Week 9

1. Duane Edgington
 - a. Conference call with project manager March 1 to go over 2021 project plans.
2. Thom Maughan
 - a. Worked on kickoff materials and updating the project plan. Online meetings one on one with Duane Edgington, Paul Roberts and Larry Bird.
 - b. Messaged via Slack the delay due to family emergency.

Week 5

1. Thom Maughan
 - a. DeepRip mobo was swapped, did not fix the 'shutdown after 60 minutes' problem. We are now suspecting it's the power supply and thermal protection software. It may not be running yet, but the build quality is fantastic, well done Jose.

Week 4

1. Thom Maughan
 - a. Started drafting kickoff slides
 - b. Board bullets
 - c. DeepRip build is still working thru component problems. Motherboard is being RMA'd. Jose is doing a fantastic job.

Week 3

1. Thom Maughan
 - a. Working with Jose (remote) on DeepRip build. Sorting power supply prob.

Week 1

1. Thom Maughan
 - a. Organizing
 - b. Reviewed 2020 charges and found errors, working it.