

Engineering Weekly Report 1/19/2023 - 1/26/2023

Executive Council Notes

-

Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Explored YOLOv8 as an option for future object detection models
 - 902204 - Scalable Robotics
 - Calibrated Mola 4K camera
 - Added fisheye calibration to camera calibration library
 - Collected calibration dataset from Mola in TT
 - Wrote Dash app for visualizing live position data from Mola USBL via LCM
 - Overhead
 - Situating new office
- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Inspected tether
 - Designing new tether guide
 - 902106 - Niobicon-Based AUV Docking Development
 - Building mooring
 - 902306 - SINKER
 - Attended meeting
 - Overhead
 - ME hiring committee meeting
 - 1 day due to sick child
- Danelle Cline
 - Out of Office
 - Few sick days
 - Tentative out of office vacation Jan 25, 26, 27
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - Working on deepsea-ai documentation. Our task is to meld in vaa-docs to form one up-to-date documentation repo.
 - 901009 - CANON
 - Reviewed 2023 project kickoff slides
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Looking into yolov8 documentation, multi-gpu training, etc.
 - 901502 - Passive Acoustic Sensing
 - Team meeting Jan 18, 19
 - Overhead
 - Continuing Coursera AWS Security course.

- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Updated firmware on the Moxa NPort in my office to prep for both Ventana support and possibly use it for a simple simulator for Packard.
 - Mid-sprint meeting to discuss status updates
 - 300059 - DMO Divisional Support - David Packard
 - Finalized diagram and I think it got sent off to the shipyard for cabling.
 - 300062 - DMO Divisional Support - Doc Ricketts
 - Meeting with SMD to discuss UDP/NMEA message structure for telemetry upgrade.
 - 901009 - CANON
 - Working on fixing the base layer on ODSS. ESRI deprecated the current layer and after the new year, tiles are coming up empty. They have a new layer, but it needs API key and such so it's taking a bit to get that implemented. Have it working on test and a new image built and pushed to DockerHub, need to find a good time to replace the image on production ODSS.
 - DQ2210 - READI-net
 - Meeting with contractor to discuss new UI prototypes and hardware
 - Overhead
 - Performance reviews preparation
 - Strategic roadmap review and gave input on implementation part.
 - Strategic roadmap committee meeting
 - Group meeting
 - MiniROV/EE Hiring committee
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - helping DMO (French) with metsys/vaisala issue: latest vaisala wind sensor not working with metsys. The metsys uses a campbell scientific CR10X data logger (c. 1993) to collect data from the sensors. The CR10X has a very arcane programming language: numbers that encode instructions and parameters, much like raw machine code. I took a quick look last year, and didn't have time to figure out CR10X programming. I recently found the original manual, and a trial version of a modern software tool that "disassembles" the program to describe the instructions. After looking at the code, I think that the CR10X communicates via SDI-12 bus, but the Vaisala may be configured to use RS232. Dave has ordered a cable needed to reconfigure the Vaisala; we'll test that hypothesis, and hopefully resolve the issue.
 - 901101 - Seafloor Mapping
 - chatted with Dave a bit about the year ahead. I need to get the MB-System codebase synched up before the vehicles ship to the Mid Atlantic in late Feb
 - Nice article on using TRN with Sentry appeared in the WHOI newsletter: https://www.whoi.edu/?p=559452&post_type=oceanus_article&preview=1&ppp=ec7bd175aa
Dave and Raul told the story very well.
 - 902204 - Scalable Robotics
 - meeting, planning
 - Overhead
 - annual reviews (3), feedback
 - hiring: app review, reformat app review input, scheduling screening
 - SRSC meeting (2nd half)
 - Out of Office
 - medical (1/25 afternoon)
- Rich Henthorn

- 300078 - DMO Divisional Support - AUV
 - Build latest repo and run simulation
 - Got fastsim to run after setting env vars
 - Used i2map.cfg for a mission
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Looking at re-architecting a little to simplify the main TRN application
- 901405 - PowerBuoy Development
 - Prelim design of simulated Logger
 - Design of trefoil and battery controllers
- 901618 - Pelagic-Benthic Coupling
 - Weekly meeting
 - Investigating Rover and SES failures
- 902305 - Event Detection using the Sedimentation Event Sensor
 - Meeting to discuss what image processing can be done onboard during a mission
 - Some project planning
- Overhead
 - Annual Eval
 - Re-eval of task management and documentation tools
- Out of Office
 - Jan 23 - 27: WFH (MWF), vacation (TuTh), all-access, PDT
 - Feb 2 and 3: Some lingering appointments, WFH TBD
 - Feb 13 - 17: WFH (MWF), vacation (TuTh), all-access, PDT
- Brett Hobson
- Scott Jensen
 - 901405 - PowerBuoy Development
 - Found a possible solution to the battery BMS and have ordered development boards
 - 902106 - Niobicon-Based AUV Docking Development
 - Supporting James as he brings up the electronics.
 - DQ2210 - READI-net
 - Making good progress on bringing up the 47mm mechanism. A few printing errors are needing to be fixed. Most axis work, move but position is a bit off.
 - Overhead
 - Interviews and evaluation
- Brent Jones
- Chad Kacy
- Brian Kieft
 - 300082 - DMO Divisional Support - Wave Glider
 - Assisted troubleshooting and supported recovery for Tiny
 - Reviewing elevation data for more accurate hotspot geolocation of underwater assets
 - 300083 - DMO Divisional Support - LRAUV
 - On call for Daphne MBTS run last week. Updated software release on vehicle.
 - 901513 - Targeted Sampling by AUVs
 - Went over CANON mission design and pointed Yanwu to acomm's receipt examples
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Went over UX feedback for alpha test deployment
 - Integrating Waterlinked DVL into Galene. Testing offshore later this week
 - Simulated mass only mission for bioacoustic deployment
 - Ahi battery configs
 - Delivered new modem and RX card to Elecia for binary mode testing between the modems.

- 902102 - Multi-LRAUV Simulation Environment
 - Dealing with budget overruns with accounting
- Overhead
 - Screening call and applicant review for embedded position
 - WHOI meeting to discuss Stella deployment.
 - Troubleshooting Stella and getting configuration corrected. Shipped SOMS and reviewed vertical mode debugging.
 - Reviewed internal LRAUV article for behind the scenes
 - Debugged failed nand chip on WHOI SOM for Proxima.
- Out of Office
 - 01/30-02/03 (MST)
- Denis Klimov
- Eric Martin
 - Out of Office
 - Last Tues/Wednesday
- Thom Maughan
 - Out of Office
 - mid-Feb vacation
- Mike McCann
 - Out of Office
 - Jan 18-20 Vacation
- Rob McEwen
- Paul McGill
- Tom O'Reilly
 - 901112 - Monterey Bay Time Series
 - Attending Imaging Flow Cytobot (IFCB) workshop at UCSC
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Took delivery of Trinity 90+ VTOL drone. Configured aircraft, learning operation, preparing for flight
 - Overhead
 - Contingency
- Mike Risi
 - Out of Office
 - Out of office on Fridays
- Paul Roberts
 - 901809 - Deep Sea Bioinspiration
 - EyeRIS calibration and validation for Octopus paper
 - 902001 - Ventata 4k camera
 - Planning for assembly and testing of second camera and new corrector optics
 - 902004 - Planktivore
 - Review of controller design
 - 902204 - Scalable Robotics
 - Sprint 0 reviewing options for stereo camera on Mola
 - 902306 - SINKER
 - System diagrams and planning
 - Hardware procurement
- Brent Roman
 - Out of Office
 - March 8-15 visiting my dad in Sarasota, FL
- Carlos Rueda

- 901009 - CANON
 - Preliminary review of the odss-planning component toward fixing/removing the ESRI base layer deprecation warnings. (something actually affecting a number of our webapps)
- 901502 - Passive Acoustic Sensing
 - Very productive work session with pyPAM's lead. New release will eventually be published soon.
- 902101 - LRAUV Technology Development and Fleet Operations
 - Lots of TethysL work, with various fixes, adjustments, and additional features mainly intended to facilitate [migration of XML scripts to TethysL](#). (hopefully to be resumed soon with the help of XML authors and the new LRAUV member joining at the end of this month).
 - Some exchanges with Jim J., and input to the google doc re bugs and possible additional (or missing?) features in the new dash UI implementation.
- 902204 - Scalable Robotics
 - Brief conversation with Giancarlo toward planning.
- Overhead
 - HR Hiring committee
 - Trying to help Brian with LRAUV Gazebo simulation dockerization
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Met with Ed P., John R., and Kevin B., to go over the ROV CTD QC steps to update the CTD data into the EXPD. I am now taking over the updates to the EXPD for the team.
 - Need to speak with Neil C. regarding some scripting issues failing after maintenance on the coredata server.
 - 300057 - Mooring Maintenance
 - Performed weekly checks on data downloads and scripts.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Working on building LRAUV Dash from updated code on Github. Working through dependency build issues.
 - Spent some time working with React JS from online courses on Pluralsight.
 - Out of Office
 - Now in the office 3 days/week M, T, Th..
 - Feb 9-17: vacation/father's estate finalizations.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - The latest [Sharktopoda video player](#) is now running in the video lab for evaluation with VARS Annotation. This allows visualization, creation, and editing of localizations created by hand or via machine learning directly on video.
 - Worked through Apple's latest code signing and notarization requirements for both [Sharktopoda](#) and [VARS Annotation](#).
 - Dealt with the usual Iron Mountain video imports.
 - [Started work](#) on updating the import of ML generated annotations into VARS to work with the latest version of the deepsea-ai graphql API.
 - [Imported Mini ROV annotations](#) for dives M0180 through M0192 into the main VARS database.
 - Fixed a bug in VARS that [prevented the frame-advance feature](#) in a shuttle controller from working with the new Sharktopoda.
 - 901221 - Midwater Time Series
 - Ran merge between AUV metadata and VARS for i2MAP deployments. Investigating why this task is failing when run from a cron job on quasar.
 - 902002 - FathomNet

- FathomNet has an automated task that notifies image owners when an image link is broken. [Fixed a bug](#) so that notifications will stop being sent when the owner fixes the link.
 - [Staged labeled images](#) to an external server for use in a FathomNet/Kaggle competition.
- 902308 - M3/VARS for the Masses
 - Starting work on adding auto-generated OpenAPI docs to [vampire-squid](#)
- Overhead
 - Wrote 2023 work plan
 - Meeting with Jennifer Durden and Timm Schoening about forming a Marine Imaging Society
- Out of Office
 - Feb 27 - Mar 3 - Vacation (Backpacking Haleakala so not internet)
- Alana Sherman
 - Overhead
 - Working on annual performance reviews all week
 - Starting up MiniROV hiring. Reviewing applications and holding first meeting with hiring committee
 - Out of Office
 -