

Engineering Weekly Report 11/24/2022 - 12/1/2022

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 200103 - Core CTD Data - MDUC
 - Writing up transition docs
 - 500055 - VARS, M3/RS, DSG
 - Working on Sharktopoda 2 Python client controller
 - 902002 - FathomNet
 - Added explicit embargoed concept check to Twitter bot
 - Handling submission from Alexa Runyan
 - OVAI program manager interviews
 - 902204 - Scalable Marine Robotics Foundations
 - Evaluated & validated GIM RTAB-Map code modifications
 - Tested RTAB-Map performance with different feature detectors
 - Attempting to calibrate Mola AUV stereo cameras and 4K camera
- Francois Cazenave
 - Out of Office
 - 1 sick day due to sick child
- Danelle Cline
- Duane Edgington
 - 901502 - Soundscape Research and Education
 - Biweekly meeting
 - 902005 - VARS Annotation Assistance
 - Continuing work on Benchmark training/inference with Danelle and Carlos on ReID network
 - 902202 - MBARI Cloud Integration Exploration
 - Working through Coursera Cloud Solutions Architect Professional Certificate series
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Reading up on 'data distribution bus' on Packard
 - Reading up on '4DNavView' which will be Winfrog replacement
 - 300079 - DMO Support - Rachel Carson
 - Helping DJ with a spare Moxa while the boat will be in the shipyard
 - 901009 - CANON
 - Cleanup up source tree and cleaning out old, unused build related stuff. Condensing things to make dev docker-compose cleaner and upgrading components in preparation for deployment using this new docker compose method on Zuma.
 - 901915 - Improving the Impact of MBARI's Data
 - Web page stuff to get ready for launch of site
 - 902012 - Telepresence on MBARI Research Vessels

- A little background on existing data flows
- Overhead
 - Some preparation for year end and kick off new year
- Out of Office
 - 11/21-11/23: Vacation
 - 12/19-12/23: Vacation
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Refactoring ROV TRN code for Dec cruise; feature complete, testing/debugging
 - Working w/ Rob, Rich to integrate MB-System TRN beam filtering with Dorado simulator. Got this running for the first time this week. Testing.
 - 902204 - Scalable Marine Robotics Foundations
 - Working with Bastian to use image playback/capture pipeline on Gemini sonar dataset collected by Paul Roberts during a recent Barry cruise.
 - Overhead
 - Hiring committees (3)
 - Misc admin
 - Out of Office
 - Quarantining this week
- Rich Henthorn
 - Out of Office
 - Oct 24 - 28, WFH
- Brett Hobson
- Scott Jensen
 - Out of Office
 - Until further notice, working from home as possible.
- Brent Jones
- Chad Key
- Brian Kieft
 - 800139 - EyeRIS (Remote Imaging System)
 - Supported Galene deployment last week.
 - 902102 - Multi-LRAUV Simulation Environment
 - Trying to get Yanwu up and running
 - 902106 - Niobicon-Based AUV Docking Development
 - Lots of docking work with Tethys
 - Out of Office
 - 11/21 - 11/25 (MST)
 - 12/28-30 (PST)
- Denis Klimov
- Eric Martin
 - 901101 - Seafloor Mapping
 - Mounting new sonar
 - Working with Larry Bird on sled fit
 - Troubleshooting PPS issues
 - 901206 - Coastal Profiling Float Transition to Science Applications
 - Sleep on anchor close to tank tests.
- Thom Maughan
 - 901713 - Nearshore FOCE
 - Testing nsFOCE use case in latest pHFET-SOS release candidate

- 901805 - Coastal Biogeochemical Sensing Program
 - Driver testing for pico-ph, nanofet, ocr504, ctd sbe37 and 5860 with updated driver framework.
 - Verifying bug fixes, release prep for pHFET-SOS.
 - Industrial microSD stress testing - good so far.
 - BME280 support for nanoFET.
- 902004 - Planktivore
 - Reviewing Fluum updates from Denis
 - Reviewing Jon's housing design
 - Budget and project organizing
 - Parts ordering and kitting for board build at Indtec.
- Out of Office
 - Dec 22 - 28 Colorado
- Mike McCann
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Reprocessed Dorado diamond survey data with correct sensor offsets for pitch correction
 - Loading a parallel stoqs_mb_diamonds_t database to evaluate improvement in section plots
 - Overhead
 - Dusting off EMDB code to fix some bugs in preparation for ROV nav editing contract work
- Rob McEwen
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Worked on finding a replacement stepper motor for SES but will buy assembly from McLane instead
 - Wrote draft of text for Laser Measure Web page
 - Identified problem with Laser Measure cal files but can't test it until I reinstall Matlab with the new license
 - 901700 - Acoustical Ocean Ecology
 - Have resumed writing code to predict fish species based upon their sonar returns
 - Out of Office
 - Out on Mon for medical appointment
 - Out on Tue due to possible COVID exposure last week
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - May 5 - vacation
 - May 9-10 - vacation
 - June 2-8 - OI cruise
 - June 10-14 - vacation
 - June 20-22 - vacation
 - July 19-20 - vacation
 - August 8-9 - out of office
 - Out of office most Fridays
- Paul Roberts
 - Out of Office
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- Brent Roman
 - 708179 - Saildrone AK
 - Helped Preston and Nadia diagnose MV3 failure on Surveyor
 - 901205 - SURF Center
 - Participated in NOAA GLERL telecon to discuss how to support their 2G ESPs better

- 901913 - WetWiFi
 - Received pair of H150 modems and arranged payment of annual leasing fee
 - Failed at getting them to run in a bucket or large lab basin 😞
 - Managed to get reliable video transfer in the test tank with very careful positioning of transducers.
- Carlos Rueda
 - 901502 - Soundscape Research and Education
 - Manta/PyPAM discussion with John and Daneel. PyPAM testing of recent changes/fixes. Expecting an official new release to retry a few things, including use in Colab notebooks.
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Code adjustments per testing exercises done a couple weeks ago and in preparation for further testing happening today and tomorrow. CI back to using ubuntu-20.04 (due to issues with 18.04)
 - 902005 - VARS Annotation Assistance
 - More good progress with ReID training on our data, now obtaining 86.1% mean average accuracy with the resnet18 model (using 30 epochs for training). Various other models also [evaluated](#).
 - Wrote [blaise](#), a Rust implementation of [voc-cropper](#), mainly as a learning exercise but it might actually become a potential alternative especially for when processing larger image datasets for training/testing.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Dash system is now [4.23.0](#), mainly with configurability adjustments in preparation to incorporate Steve's status widgets for WHOI. Previous recent versions, 4.22.8 and 4.22.7/6, with more detailed cell connection information, now including last time the vehicle itself has connected via the DataLink endpoint; improved handling of reported git reference from the vehicle.
 - Out of Office
 - Nov 11–14, 23–30, Dec 8–9, 21–29: vacation; Early January (tentative): vacation.
- Karen Salamy
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Too much work on a [weird bug](#) in the TableView control in VARS. Started work on replacing the offending JavaFX control with a Swing version.
 - 4 VARS Annotation releases since the last weekly report.
 - Modified framegrab filenames so that the timestamp in the name now has millisecond resolution. Previously it was only second resolution; that prevented framegrabs from being taken very close together in time.
 - Iron mountain video ingest
 - Added a [count by dive endpoint to Charybdis](#) to support changes to EXPD.
 - Integrated automated image analysis via machine learning into VARS.



- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Met with Crissy to work out changes to loading tripod images from station M into VARS.
- 902002 - FathomNet
 - Continuing to work on VARS to FathomNet sync.
 - Merged a [pull request](#) for the OVAI games and redeployed them.
- 902005 - VARS Annotation Assistance
 - Started testing the new Sharktopoda 2 video player. Also starting work on integrating it with VARS for integration testing.
 - Migrating the code that ingests ML output into VARS from its [own repo](#) into [m3-support](#) to reduce duplicated code across projects.
 - Updated [m3-registrar](#) to manage issues that occurred while registering videos for VAA Benchmarks.
- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Debugged Rover optode failure, found that a fuse was mis-sized and blew before the first layer of protection
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - End of year shopping
 - 902208 - MiniROV Operations
 - Met with group from LA about using push core design
 - Working through ship schedule with MBA and sanctuary
 - Making plans for the end of the year efforts
 - Overhead
 - Sent out hours to EE group for 2023
 - Working on hours for new hires
 - Posted MiniROV position
 - Interviewing for Kakani's OVAI and starting up AUV groups SE position
 - Out of Office
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