

Engineering Weekly Report 12/16/2021 - 12/23/2021

Executive Council Notes

- 902106 Niobicon AUV Dock Development - This project is in full swing this week with tests offshore and final assembly of the dock mooring in the high bay. LRAUV Tethys has been docking to a test mooring while Brian and Ben refine the acoustic homing and dock latching software. Francois, James, Johnny, Aaron, Paul and of course Jose, have been assembling and wiring up the dock mooring as we get ready for full system testing beginning next week.

Individual Activities

- Kevin Barnard
 - 902005 - VARS Annotation Assistance
 - Several new BoxJelly features/fixes
 1. Implemented undo/redo stack for track edits
 2. Broke out video & track file load into File menu operations
 3. Refactored to support model-view-delegate pattern
 - Performed cost/performance analysis model training
 - Trained first yolov5l6 model at 1280x1280 image resolution on 33k image set
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Discussed replacement tether with vendor
 - 902106 - Niobicon-Based AUV Docking Development
 - Testing system
 - Preparing mooring
 - Making plans for 2022
 - Out of Office
 - Took 1 day off
- Mark Chaffey
- Danelle Cline
 - 901502 - Passive Acoustic Sensing
 - Working with J.Ryan and W. Oestrich to analyze potential fin 40 Hz labels generated from clustering. Continued work on cluster sweeps to find the best parameters.
 - Blue A calls are almost completed and ready for AWS batch processing.
 - 902005 - VARS Annotation Assistance
 - Team is working on AWS cost/performance benchmarking. Cost per video thus far ranging from \$1.70 to \$4.40 per video for detailed annotation, \$70-170 for training, depending on the size of the model (640x640 or 1280x1280) with varying mAP. Performance plots forthcoming, probably after the holiday break. Thus far, 794673 unique detections and 4846 annotations have been generated during testing.
 - Working on Vue app to consolidate all the AWS job/training management
 - Updates to deepsea-ai-py code to support latest schema changes. Those are in the branch [db1.11.0sync](#)
 - Out of Office
 - Vacation Dec 24 - Dec 31
- Duane Edgington

- 902005 - VARS Annotation Assistance
 - Continuing test runs/benchmarks of tracking against full resolution 15min benthic videos.
 - Out of Office
 - Holiday/vacation Dec 24 - Dec 31
- Jon Erickson
- Ben Erwin
- Kevin Gomes
 - Out of Office
 - Out sick
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Committed a large set of code cleanup changes to the libtrnav repository; thanks to Rich and Rob for reviewing those changes.
 - Overhead
 - Annual review prep
 - Released engineering resource spreadsheet update (thanks to Mandy)
 - Other admin
 - Out of Office
 - Dec 24-Jan 1 (vacation-ish)
 - Jan 11 (jury duty, tentative)
- Rich Henthorn
 - Out of Office
 - Dec 17 - 31, Holidays and vacation. Happy New Year!
- Brett Hobson
- Scott Jensen
 - Out of Office
 - Vacation
- Brent Jones
- Chad Keczy
- Brian Kieft
 - Out of Office
 - 12/22-29 (PST)
- Denis Klimov
- Diana LaScala-Gruenewald
- Eric Martin
 - 708164.50 - Y2 Research Labor funds
 - Almost done with pcapng -> hdf5 conversion tool.
 - Meeting last friday with JHU collaborators.
 - 901101 - Seafloor Mapping
 - Planning for 2021 given new ship schedule.
 - Bi-weekly meeting with Dave and Giancarlo, discussing a new field report publication.
 - 901206 - Coastal Profiling Float
 - Design reviews for SOM and LHE Primary PCBs
 - I2C LHE further troubleshooting for new primary design.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Completed writeup of failed cable. System back operational.
 - Brief meeting with Mark at South Bay to discuss options both for the long and short term.
 - 901911 - ROVVR
 - Brief meeting with ben to go over 2022 needs

- 902100 - Telepresence on MBARI Research Vessels
 - Purchasing spare components
 - designing rackmount system
- Overhead
 - Meeting with grad student Everardo Gonzalez to discuss ROV ML/RL needs, a potential future collaboration.
- Thom Maughan
 - 901009 - CANON
 - Meeting with Nate, elevator chat with Francisco.
 - Adding user accounts on DeepRip.
 - 902004 - Planktivore
 - Meetings with Larry and Paul R.
 - Review of housing, fitment, wiring and connectors with Paul Coenen.
 - Working to finish camera_controller board design and layout and get it out for fab.
 - Global parts scrounging. Electronics and connectors are hard to source.
 - Strobe, Strobe_energy, and Strobe Driver boards are assembled and ready to test. (thanks Jim Mo)
 - Out of Office
 - Vacation is TBD, sometime end of Dec. Staycation.
- Mike McCann
 - 500055 - Video Annotation DM
 - Explored issue with ROV frame grabs not appearing in time order on thumbnail pages
 - 901101 - Seafloor Mapping
 - Wrote code to scan datalist*.mb-1 files for potential missions that comprise a Compilation
 - Worked with Jenny on a “soft opening” announcement of <https://smdb.shore.mbari.org/>
 - Looking into Draco compression for making smaller 3D terrain .glb files
 - 901221 - Midwater Time Series
 - Loaded initial STOQS database to hold all i2MAP CTD data - it uses the 3D terrain .glb file created with [the software contributed by the capstone students](#)
- Rob McEwen
 - Out of Office
 - Dec 22-31
- Paul McGill
 - Out of Office
 - On vacation this week
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901007 - Benthic Biology and Ecology
 - Post dive analysis
 - Out of Office
 - Vacation days
 - Overhead
 - Clean up
- Doug Pargett
 - Out of Office
 - Sick Leave
- Ben Raanan
 - Out of Office
 - June 8-22

- Mike Risi
 - Out of Office
 - April 26-30: Ocean Imaging Cruise
 - May 3-7: Vacation
 - June 4-11: Vacation
 - June 28-July 2: Vacation
 - August 30-September 14: Ocean Imaging Cruise
 - September 14-17: Vacation
 - November 22-24: Vacation
 - Vacation on alternate Fridays
- Paul Roberts
- Brent Roman
- Carlos Rueda
 - 901009 - CANON
 - Some MXM work
 - 901513 - Targeted Sampling by AUVs
 - Some exchanges with Yanwu and Tom.
 - Out of Office
 - Dec 21–31: mostly vacation
- Karen Salamy
 - Out of Office
 - Vacation: December 22, 2021 - January 4, 2022. May extend this to spend some more vacation time with my daughter.
- Brian Schlining
 - 500055 - Video Annotation DM
 - Made a number of quality-of-life improvements for users in VARS Annotation
 - Integration with the [config/secrets server](#) has been completed.
 - Deployed config/secrets server: <http://m3.shore.mbari.org/config/health/status>
 - 902005 - VARS Annotation Assistance
 - Integrated [Cthulhu](#) video player with [VARS Annotation](#). Cthulhu allows users to edit/create localized annotations directly on video. Works with the new 4k video too.
 - Fixed minor issues in Cthulhu's handling of resized localizations.
 - Overhead
 - Addressed various issues with the migration from CentOS 8 to Rocky Linux on production servers.
 - Out of Office
 - Jan 31 - Feb 11 - Brian will be a visiting scientist at [DARC](#) to upgrade their video annotation system.
- Rich Schramm
- Alana Sherman
 - Out of Office
 - Dr appt Weds am
 - On vacation Dec 20-31 yay!!