

Engineering Weekly Report 10/10/2024 - 10/17/2024

<https://docs.mbari.org/internal/projects/Engineering/Weeklies/2024/>

Executive Council Notes

-

Individual Activities

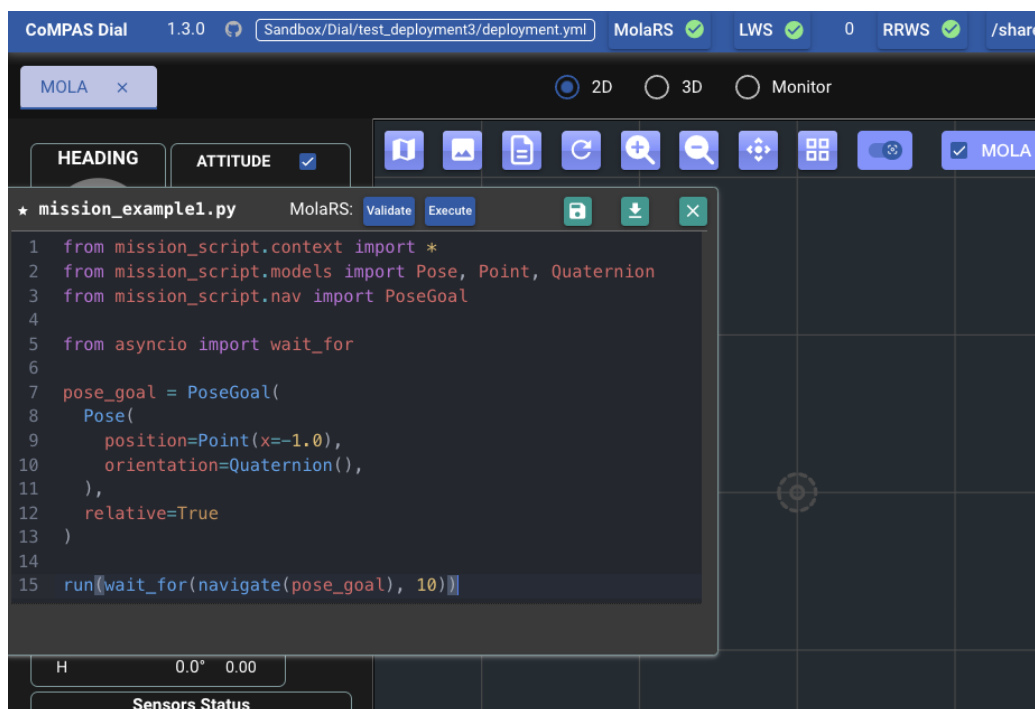
- Michael Anderson
- Kevin Barnard
- Francois Cazenave
- Danelle Cline
 - 902111 - Carbon Flux Ecology
 - Created query script to mine to class imbalanced ISIIS data
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Processed all Ventana 2020 dives; reviewed 2020 test results with the team.
 - Next steps are to run the most recent Haddock dive, 4581, with a modified pipeline to include more concepts, saliency-filtered exemplars, and no confidence filtering.
 - 901502 - Ocean Soundscape
 - Discussion on Kaggle Google multi-species model results and [OpenAI Whisper model](#); latter may prove more useful for general soundscape analysis.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - 5th Marine Imaging Workshop in Monterey poster presentation and 1-minute lightning talk
 - Testing new one-class detector model
 - Board update slides
 - Overhead
 - Presented video processing at AWS Non-profit Summit, San Diego, CA
 - Emails between video lab team/HR/group lead in preparation for a safe upcoming discussion on i2MAP labeling on October 24th.
 - Out of Office
 - Oct 8-11 - 5th Marine Imaging Workshop in Monterey
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - Team meeting
 - 901103 - Biodiversity & Biooptics
 - Team meeting
 - 901502 - Ocean Soundscape
 - Summarized progress using [Kaggle Google multi-species whale vocalization detector/classifier](#) with John R. and Danelle C. Very encouraging results with our test MARS 1 hour recording containing orca calls. Lots to do to continue evaluation and preparing additional MARS sound recordings for processing through the model. Run on Colab.
 - Assisted John and Carlos in hosting Jupyter notebooks for processing/demo on Google Cloud VertexAI
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach

- Generated a one-class detector model using our verified localizations for experimental addition to the detection workflow
- Out of Office
 - Oct 21 - Nov 8, 2024. Vacation UTC+1
 - Dec 8 - Dec 17, 2024. [Neurips](#) Conference. Vancouver, BC.
- Jon Erickson
- Kevin Gomes
 - Out of Office
 - Aug 16: Vacation
 - Sep 16: Vacation
 - Oct 7-11: Vacation
- Andy Hamilton
- Kent Headley
 - Out of Office
 - 10/10-17 Vacation
- Rich Henthorn
 - Out of Office
 - Oct 21 - 25: Next week WFH, phone, email, zoom, slack, vpn, you name it.
- Akshay Hinduja
 - 702108 - Deployable AI
 - Setup allied vision camera on AGX
 - 902204 - Scalable Robotics
 - Finished python driver lcm broadcast and viewer
 - 902101 - LRAUV Technology Development
 - Get started with Gazebo log playback on Omega Omen
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - MSC3 Tiva 1290 module draft, sent to Thom for checking, negotiating details
 - Troubleshooting 12V convertor on MSC3 Baseboard revB. Fails with combo of low Vin (eg 8V) and higher load (~750 mA is where problems appear)
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Picked out images from 10/7 dive, preliminary processing to make RGB images
 - Start white balance analysis
 - Overhead
 - 10/11 tour for MIW
 - 10/16 rec com BBQ
 - Out of Office
 - Sept 23-Oct 2: IEEE OCEANS / trip to Boston
 - Oct 7: Carson day
 - Oct 8-11: Marine Imaging Workshop
 - Oct 10: medical procedure
- Scott Jensen
 - Out of Office
 - October 7-9
- Brent Jones
 - Out of Office
 - 2 sick days
- Chad Keczy
 - Out of Office

- Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 10/23-29 (MST)
 - 11/06-12 (CST)
 - 11/15-12/2 (PST)
- Denis Klimov
- Eric Martin
 - 901217 - Chemical Sensor Program
 - Drafting slides as part of the energy analysis.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Troubleshooting the laser range finder
 - 902204 - Scalable Robotics
 - Board Slides
 - Blueboat training, dock testing
 - 2025 Prespending
 - Overhead
 - Marine Imaging Workshop last week
 - In Boston attending the Ocean Exploration Forum 2024 organized by NOAA OER, topically focused on Ocean Exploration
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Working a day a week. Duane has hardware changes. Cole tasked with LPC11e37 chip support library, validate backplanes.
 -
 - 901217 - Chemical Sensors
 - Working with Jessica on calibration setup and test harness. Jessica has created a python based MSC test framework. Connected MSC3 and ran pH. Minor fix needed and we'll be calibrating and noise analyzing pH.
 - Nitrate driver is coming along
 - Contractor Jacob Schloss has reworked i2c for the 1290 Tiva. Next step is NAND flash driver with FRAM caching.
 - 902004 - Planktivore
 - Weekly meeting
 - Planning or Synchro deployment
 - Out of Office
 - MIW2024 Presented a poster
 - Oct 24 two weeks vacation Colorado.
- Mike McCann
- Rob McEwen
- Paul McGill
 - 701147.99 - MARS IV Node Upgrade
 - Had monthly meeting with UW, progress is good
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Analyzed fluorescence data from last deployment and found some interesting signals
 - Reviewing engineering data from last deployment to investigate battery anomaly
 - Working with Giancarlo to set up SES as a mapping target for his group
 - 902401 - Geo-Sense
 - Made lots of progress on DAS sphere schematic

- Researching some system wiring changes to make system more usable and reliable
 - Disassembled a spare Ti McLane controller housing to see if we can use it for Deepsea Connect
- Overhead
 - Attended Marine Imaging Workshop last week
- Enoch Nicholson
 - 706008 - READI-Net
 - Mounted FIDO board
 - Supported testing of First fully wired instrument
 - 901007 - Benthic Biology & Ecology
 - Drained Tub
 - Let BRS Sit
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Working on BVLOS app
 - New sandwich board sign
 - Data organization plan
 - Out of Office
 - April 5-10 Vacation (Available via Slack & Email)
 - April 14-18 IEEE Oceans (Available via Slack & Email)
 - April 19-23 Vacation (Unavailable)
 - September 4-5 Vacation
 - September 19-24 Vacation (Unavailable)
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Offsite on Tuesday and Friday
 - January 16 - January 19, 2024
 - February 22, 2024
 - March 4 - March 8, 2024 - vacation
 - April 24, 2024 - vacation
 - May 20 - May 24, 2024 - vacation
 - June 17 - June 18, 2024 - vacation
 - September 3 - September 9, 2024 - vacation
 - November 6- November 7, 2024 - vacation
 - November 26 - November 27, 2024 - vacation
 - December 30 - January 3, 2025 - vacation
- Paul Roberts
- Brent Roman
 - 708165 - NOAA-MERHAB-UW
 - Tested libjxl compressing representative images supplied by NOAA
 - Great results (700kB ⇒ 6kB without visible artifacts)
 - Porting libjxl to a small ARM processor is going to be a challenge
 - 901205 - ESP SURF Center
 - Investigating how to limit sampling durations during upcoming sampler bakeoff at MBA.
 - 901913 - Wet Wifi
 - Had to return modems due to a loose transducer
 - Should receive replacements before the 22nd for integration onto miniROV
 - miniROV broadcast traffic is saturating the acoustic link
 - Exploring ways the Alana on how to limit this traffic

- Found Linux based Wago PLC100 controller that can filter this traffic
 - However, no time to incorporate this for the Oct 28th test deployment.
- Carlos Rueda
 - 701165 - OVAI P2
 - (overhead, actually) Some minor additions/adjustments to CMS UI. (The new 0.9.6 version also incorporates a significant refactoring done soon after the 0.9.0 release.)
 - 901502 - Ocean Soundscape
 - Set up and now successfully running PBP notebook in Google Cloud Vertex AI environment. Thanks Duane for the assistance and testing.
 - 901513 - Targeted Sampling by AUVs
 - Met with Yanwu about tentative planning to implement patch tracking for the wave glider.
 - 902101 - LRAUV Technology Development
 - Dash4 is now [4.81.1](#), and TethysDash backend [4.81.0](#) – bug fixes and enhancements.
 - XML mission script cleanup and migration to TethysL has been [resumed](#). I've submitted PRs ([this](#) and [this](#)) toward cleaning up/removing obsolete XMLs. Yanwu has completed all his missions!
 - 902204 - Scalable Robotics
 - Dial system now [1.3.0](#). [Deployment documentation](#) now up-to-date.
 - Successful testing of initial MolaRS / Dial interaction: Dial shows status of MolaRS services and current mission, and allows to validate and issue missions.



- Overhead
 - Presented Vue/Quasar in IE brownbag meeting.
- Karen Salamy
 - Overhead
 - Helped with some precruise access issues for DMO.
 - Out of Office
 - US React Summit Conference: November 19-24, 2024, NYC.
 - Monday, Oct. 7, 2024 - Vacation day.
 - Friday, Oct 11, 2024 - School Chaperone Activity for my daughter's class to UCSC
 - On-campus 3 days/week (T, W, TH).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG

- [Adding support of ad-hoc queries in the annotation microservice](#)
 - Addressed issues with some CORS-related nits in the m3-quickstart project that need to be addressed for Paul Rogers work on the new VARS KB Web interface
- 902404 - 5th Marine Imaging Workshop
 - The workshop went off smoothly and we've had nothing but positive feedback from attendees.
Thank you to everyone who pitched in and helped make it a success!
- Out of Office
 - Oct 7-11 - 5th Marine Imaging Workshop in Monterey
 - Oct 14-15 - Out sick
- Alana Sherman
 - Out of Office
 - Took vacation day Friday
- George Stern
 - 902204 - Scalable Robotics
 - CTD harness build instructions and planning
 - 902304 - Piscivore Cam
 - Memorandum of Understanding/Scoping for Rhonda Software contract
 - 902306 - SINKER
 - Battery interface board testing with real batteries and planning
 - 300078 - Dorado AUV Thruster
 - Low rpm motor search
 - 706008 - (READI-net)
 - Puck Antenna retuning and antenna PO
- Justin Tucker
 - 300078 - DMO Support - AUV
 - Travel booking for DSPL trip
 - 902010 - Mesopelagic LRAUV
 - Continuing design/drawings for DVL housing
 - Out of Office
 - Oct 22-23 - INS 6000m pressure test San Diego DSPL
- Johann Voigtlander
 - Out of Office
 - April 16th - May 7th Germany CSEM
 - May 8th - May 12th Vacation