

Engineering Weekly Report 7/7/2022 - 7/14/2022

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 902002 - FathomNet
 - Improvements to the FathomNet Twitter bot
 - Custom image URL handling
 - Slimmed Docker image
 - Ran on JWST first images
 - Generated concept → class mappings for midwater model to be trained by CVision AI
 - 902204 - Scalable Marine Robotics Foundations
 - Created two Python/OpenCV tool libraries: [cv tools detection](#) and [cv tools calibration](#)
 - Integrating previous code
 - Feature detection: ORB
 - Feature matching: FLANN
 - Homography/motion estimation: essential matrix decomposition
 - Mono/stereo camera calibration
 - Calibration validation
 - Calibration visualization
 - Writing new code
 - AprilTag-based motion estimation
 - Modular feature detection → matching → homography estimation → camera motion estimation pipeline
 - Utilities for file IO, image manipulation, etc.
 - Set up BitBucket pipelines for unit tests, package builds, docs
 - Overhead
 - Proposals
 - Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
- Francois Cazenave
 - 902106 - Niobicon-Based AUV Docking Development
 - Worked on proposal
 - Overhead
 - Helped with proposals
- Danelle Cline
 - Out of Office
 - Marine Imaging workshop 3 - 7 Oct 2022 CEST Brest, France (GMT+2)
 - Vacation July 7-28th, back in August. 1st.
- Duane Edgington
 - 901502 - Soundscape Research and Education
 - Continued reading and training on Alexa Skill

- 901603 - Video TAG
 - Proposal work
- 902004 - Planktivore
 - Proposal work
- 902005 - VARS Annotation Assistance
 - Proposal work
 - Continued good progress by intern Manuel Gozzi. He is working in AWS SageMaker Studio with yolov5 and wandb
 - Test runs of batch pipeline code planned for next week.
- Overhead
 - Proposal work
- Out of Office
 - CVPR June 19 - June 24 2022 (virtual) CDT (GMT-5)
 - Registered for Monterey Data Conference, Aug 29 - Sep 1 2022
 - Vacation (international) Sept 12 - Oct 1 2022
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation (international) Oct 9 - 19 2022
 - Vacation October 21-23 2022 (Southern California)
- Jon Erickson
 - 701145 - Penguin Hotspots
 - We've received all the shroud parts for the REMUS. Will start assembly tomorrow.
 - 902010 - Mesopelagic LRAUV
 - Working on the necessary new fabricated parts.
- Kevin Gomes
 - 300057 - Mooring Maintenance
 - Last minute checks before M1 turn
 - GPS data is flowing so things are looking solid
 - 901915 - Improving the Impact of MBARI's Data
 - More documentation for data templates for Visceral for new website
 - Looking at data modeling tools to capture models of systems I am documenting for Visceral since I am digging in.
 - 902012 - Telepresence on MBARI Research Vessels
 - Some debugging of problem with Slack logins for multi-channel guests
 - Double checking everything before Flyer departs
 - 902202 - MBARI Cloud Integration Exploration
 - Working on VPC configuration for AD-SSO integration
 - Sync meeting with Emmett to discuss AWS site visit and started planning
 - Overhead
 - Proposals
 - Out of Office
 - 8/1-8/5: Vacation
 - 10/3-10/6: Vacation
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - Working with Jared to troubleshoot OASIS GPS
 - The metsys has apparently been updated and the new model isn't compatible with the O3 driver. Will look at drivers and work w/ DMO on next steps
 - Overhead
 - Mostly proposals this week

- Misc admin
 - DEI, SRSC committee meetings
 - LRAUV Sim telecon
- Out of Office
 - July 14-29 (vacation)
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Proposal work
 - LRAUV sim with Rock
 - Refining CoNav - renaming member functions and variables
 - 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Proposal work
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Met with Ben Raanan a couple times regarding the LRAUV Ignition simulation
 - Out of Office
 - July 4 - 18, WFH and vacation, email/phone/zoom, mostly available so contact encouraged
 - Aug 30 - Sep 16, vacation in Germany, email only
 - Sep 22 - 29, Sta.M Cruise (final scheduled cruise of the Western Flyer)
- Brett Hobson
- Scott Jensen
 - Out of Office
 - June 9-10 for UofW/APL visit
 - June 20-22 Ohio recovery
 - June 27-July 8 vacation
- Brent Jones
 - 901009 - CANON
 - Recovered Wire Walker and processed data
 - 901805 - Coastal Biogeochemical Sensing Program
 - Recovered Spray 34 and processed data. Flying Spray 29
 - 902101 - LRAUV Technology Development and Fleet Operations
 - 2x deployment, flying, troubleshooting, and recovery of LRAUV Triton
 - Processing AOS data from Triton
 - Learning backseat computer in anticipation of B Raanan leaving
 - Overhead
 - Taking current measurements over time for prototype M1 cell telemetry package
 - Proposals
- Chad Keczy
- Brian Kieft
 - 706007 - USGS Great Lakes Prey Fish Assessment
 - Working on logistics/planning
 - 708168 - DHS/LRAUV Under-Ice
 - Leaving Friday for Barrow
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Met for proposal discussions
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Launched Brizo/Tethys for testing Tim's hotbunking missions.
 - Launched Triton for bioacoustics testing.
 - 902102 - Multi-LRAUV Simulation Environment
 - Team meeting yesterday for Q3/Q4 transition planning
 - Overhead

- Proposals
 - Out of Office
 - 07/15 - 07/21 (AKDT) WHOI
 - 07/31 - 08/11 (EDT) USGS
 - 08/28 - 08/31 (EDT) USGS
 - 09/12 - 09/28 (GMT+2 - vacation)
- Denis Klimov
- Diana LaScala-Gruenewald
- Eric Martin
 - Out of Office
 - July 1-31
- Thom Maughan
 - Out of Office
 - Vacation 6/23 -,6/28. Colorado
 - Was Jul 6 - 19, Now Jul 8, 11. Additional 2 weeks vacation deferred until after phase 1. Camping, Bear Lake Monster Swim
- Mike McCann
 - Out of Office
 - 27 June - 18 July: Vacation
 - 19-22 July: ESIP Summer Meeting, Pittsburg, PA
 - 25-29 July: Vacation
- Rob McEwen
- Paul McGill
 - Out of Office
 - On vacation until Mon, July 18. I have jury duty that week and may not be at MBARI.
- Tom O'Reilly
- Doug Pargett
 - 901205 - SURF Center
 - Starting assembly of G3 sub-assemblies.
 - Ordering housing caps
 - Getting some parts reworked.
 - Out of Office
 - Finished out vacation week
- Ben Raanan
- 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
- Paul Roberts
- Brent Roman
 - 706005 - eDNA Grass Carp Sandusky
 - Supported deployment of ESPgordon and ESPwaldo at Snake River
 - 708179 - Saildrone AK
 - Discovered that IP packet MTU must be reduced to from 1420 to 1376 bytes
 - Why suddenly now?

- 901205 - SURF Center
 - Supported Nadia in her ongoing struggle to make cartridge heating sufficiently uniform
- 901913 - WetWiFi
 - Wrote and submitted proposal
- Out of Office
 - July 21 through roughly August 21
- Carlos Rueda
 - 901101 - Seafloor Mapping
 - Getting a loaner with a more recent Windows version to continue trying to run GUI programs in the dockerized MBsystem.
 - 902009 - AUV User Experience Design
 - More TethysDash API additions and other adjustments (access to chart data in JSON format; POST method for reprocessing data/plots). Various exchanges with Jeff J. (Sumo Creations).
 - Overhead
 - Proposal discussions.
 - DEI AC meeting; IE meeting.
 - Out of Office
 - July 5–8: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - This is the week (hopefully). This Friday is the M1-Mooring Turn for 2022.
 - Had begun to look into OA2 data filters prior to emails but this may have been addressed first by Joe Gomez. I plan to chat with Joe before continuing on this issue.
 - 901101 - Seafloor Mapping
 - This week I had to chase down why the ESRI Vector Map Layers are not displaying on the SMDB. Selenium tests indicate that it is related to an esri-leaflet-vector code update. The issue is listed here: <https://github.com/Esri/esri-leaflet-vector/issues/134>
 - To allow the map to be viewed by users until a fix can be applied by the code engineer(s), I have reverted from Vector Layers to older, deprecated BaseMapLayers.
 - I have a request out to Mike M. (currently on vacation) to perform a merge when possible or allow me to merge code while he is away.
 - 902009 - AUV UI
 - Will review code assignments.
 - Out of Office
 - Vacation: August 4-5; family visiting from out of town.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Adding API docs to [Raziel](#) using [Tapir](#) to see if Tapir is suitable for general production use in MBARI microservices. Tracking this [here](#).
 - 902005 - VARS Annotation Assistance
 - [Merged ML generated localizations](#) from a staging database into VARS.
 - Overhead
 - Proposals
 - Out of Office
 - Jul 5-8 Vacation
 - Jul 25-28 Vacation
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - I updated the procedure documentation for the Macro system and packed supplies for Flyer cruise, which was canceled. Hopefully the Macro camera will be recovered soon.

- 902208 - MiniROV Operations
 - Wrote Phase 1 proposal for the MiniROV Support project.
 - Making spare cables for arctic trip
 - Updating schematics
- Overhead
 - Reviewed proposal for Sinker and several others
 - Strategic roadmap committee meeting and work on outline
 - Reviewing EE position applicants
- Out of Office
 - Vacation week of July 4