

Engineering Weekly Report 5/14/2020 - 5/21/2020

Executive Council Notes

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Individual Activities

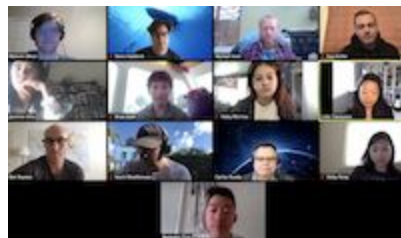
- Francois Cazenave
 - Out of Office
 - Special leave
- Mark Chaffey
- Danelle Cline
 - 901502 - Passive Acoustic Sensing
 - Centos8 upgrade
 - Finished decimating 5-year time-series and now investigating some 10-minute gaps in decimation likely due to time drift.
 - 902005 - VARS Annotation Assistance
 - Meeting with UCSC Creative coding lab; this group is interested in helping with human-machine learning visualization aspects of the project.
 - Meeting with summer intern, Peyton Lee, Univ Washington student, to discuss intern project.
 - Overhead
 - Vue/Prisma bootcamp. About 80% complete with this online training class.
- Duane Edgington
 - 901603 - Video TAG: Vis Ocean Chng
 - Continuing One-shot learning exploration. Worked through Siamese Networks implementation and Matching networks implementation.
 - GTC Tech Conference returned with Tuesday-Thursday webinars on new NVIDIA products -- embedded edge products, datacenter hardware and software, new frameworks and tools.
 - 902004 - Planktivore
 - Abstract preparation meeting planned.
 - 902005 - VARS Annotation Assistance
 - Work continues on registering video files into M3. Needed to update the filenames to match creation_timestamp metadata
 - Weekly team meeting via teleconference. VideoLab presentations to UCSC folks.
 - Teleconference with 2020 intern Peyton Lee.
 - Overhead
 - Engineering, group, teleconferences.
 - Out of Office
 - Vacation Friday.
 - June 14-19. CVPR. Virtual registration at nominal charge for IEEE Life Members.
 - Working through AWS Security training course.
- Jon Erickson
 - 800139 - EyeRIS
 - Parts and Drafting, & more Drafting.
- Kevin Gomes
 - 901009 - CANON

- For data catalog, looking at image tags to support data management of UAV data
- 901205 - ESP SURF Center
 - Moving ESP code to containers to support CI/CD
 - Porting ESP portal to the esp-portal.mbari.org machine with new container structure
- 901915 - Improving MBARI Data Impa
 - Working on structure data catalog work into containers more amenable to CI/CD
- Overhead
 - Overhauling the weekly report generation scripts to fix bugs and structure so it's easier to make individual and group reports (coming soon)
 - Spending time cleaning up our AWS account (EC2, S3, IAM, CloudFormation). Will work on Security Groups and IAM roles next.
 - Digging into ECS which is AWS's container service
- Out of Office
 - May 28: Leave
- Andy Hamilton
- Kent Headley
- Rich Henthorn
 - 600034 - Control Tech - Rock
 - Discussing repo concerns
 - 901405 - PowerBuoy Development
 - Minor workspace reorg
 - 901618 - Pelagic-Benthic Coupling
 - Camera controller project
 - SES acoustic comms
 - Proposal abstract
 - 901800 - LRAUV Payload & Support
 - Data structure discussions
 - Overhead
 - Visited MBARI for hardware
 - Training
- Brett Hobson
- Scott Jensen
- Brent Jones
 - 901112 - Change in MB & CA Current
 - Lab meetings have commenced
 - 901502 - Passive Acoustic Sensing
 - Tuning Sperm click detector
 - Working on a preliminary python processing pipeline for daily sperm click analysis
 - Prepping for intern
 - 901805 - Coastal Biogeochemical Sensing
 - Working on figures for paper
 - Overhead
 - Meetings
 - Continuing ed
 - abstracts
- Chad Keczy
- Brian Kieft
 - 708158 - DHS Y6
 - Analyzing issues from last deployment and debugging whisker box problems.
 - Met to discuss deployment plans

- 901800 - LRAUV Payload & Support
 - Further work on SLCD for LCM architecture
 - Cleaned out some bugs in JIRA
 - Testing some feature branches on makai/brizo
 - Assessing issues with Benthos modem and DAT data transfer
- 902009 - AUV UI
 - Met with the team to go over progress to date. They've done a great job thus far. Will be separating out state/situational awareness from mission planning. Will plan to pull the trigger on the UI design company once simulation analysis is done.
- Denis Klimov
 - 118000 - Safety Office - LSO activity
 - Editing sections connection for revised DeepPIV handbook use on ships
 - 901800 - LRAUV Payload & Support
 - Gathering parts to test Teensy board software on Windows 10 machine
 - 901809 - Deep Sea Bioinspiration
 - Brainstorming on right-angle laser housing disassembly limiter
- Eric Martin
 - 901101 - Ocean Imaging
 - Internship check in call.
 - Falkor time has been scheduled, Dave has reached out and we're compiling integration information for the ROV team there.
 - 901206 - Coastal Profiling Float
 - Reviewed lab plan
 - Went to MBARI last week to get hardware to test new code against here in the garage.
 - 901405 - PowerBuoy Development
 - Supporting the radar work, we've got some traction with our collaborator and I'm making sure he's got what he needs.
 - Wrote a nifty snippet for parsing LCM traffic from pcap files collected via wireshark.
 - 901911 - ROVVR
 - Ben got data stuck on the ship to UCSC collaborators, update meeting on their progress today.
 - Overhead
 - Finished telepresence scoping effort, which ended with high likeliness that we can make this happen pretty quickly. Initial feedback is positive. We've decided to take advantage of the initial effort and writing to field a new project proposal for 2021 to continue and support the effort. The window is closing for any further tests before shipyard, and we may need a solution for August as soon as the boat returns. To this end we're requesting for a test next week if we can be allowed to be on the boat.
 - Out of Office
 - 1 appointment yesterday afternoon.
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Sent out DAg design review slides to get feedback, updating to address feedback
 - 901009 - CANON
 - Changed from BLAST to MiniMap2 for local alignment. MiniMap2 has a much faster search algorithm, has better open source support / update, source tree has ARM v8 build target.
 - 901805 - Coastal Biogeochemical Sensing
 - DAg design review slides.
 - Working on board bringup. Slow going due to small things like connector availability for serial and jtag.
 - 902004 - Planktivore

- Meetings, working on abstract and presentation.
 - Phone call with Larry Bird to get status on Fluum and to request help getting quote for 3D printing remaining parts.
- Overhead
 - Abstracts
 - Planktivore project
 - Underwater Solar Harvesting Battery
 - Disruptive tech idea
- Out of Office
 - Tentative week to ten days road trip plan is second week in June after school gets out, abstract presentation from the road possibly. Depending on pandemic rules.
- Mike McCann
 - 901111 - AUV Infrastructure Supprt
 - Exploring why [MBTS](#) missions after Jan 2018 don't have Sipper samples
 - 901221 - Midwater Time Series
 - Continuing work on auv-python – trying to use xarray for all netCDF operations
 - Overhead
 - Examined issue of Expd's nav-data.asp query not returning all records
- Rob McEwen
 - 600034 - Control Tech - Rock
 - Simulating Trn estimates with various combinations of attitude and location biases. The objective is to determine the best parameter set and filter order for estimating yaw bias on the LR vehicle. Questions under consideration are: use 4 or 6 states; how many particles; initial guess and process noise variances; and others.
- Paul McGill
- Ed Mellinger
- Tom O'Reilly
 - 901101 - Ocean Imaging
 - Refining MB grid viewer prototypes, planning software design review
 - 901800 - LRAUV Payload & Support
 - Working with team to refine middleware for “back seat driver” applications
- Craig Okuda
 - 901220 - Midwater Ecology
 - Small volume dsampler
 - 901803 - Carbon Wave Glider Development
 - Redesign intake and SV1 payload packaging
 - Out of Office
 - Special leave
 - Vacation
- Doug Pargett
- Ben Raanan
- Mike Risi
 - 200105 - Core Nav - MDUC
 - Project meeting with Rich S.
 - Working on LCM based control source for pan and tilt port
 - 300080 - DMO Support-Mini ROV
 - Finished basic input sources to rov-control
 - Working LCM position source that uses DVL and compass
 - 600034 - Control Tech - Rock
 - Finished all standard input publisher and subscriber classes

- Working control loop implementation
- Out of Office
 - February 19-22: Ocean Imaging Cruise
 - March 9-12: Vacation
 - May 26-29: Vacation
 - June 29 - July 1: Vacation
 - September 18-29: Ocean Imaging Cruise
 - September 30 - October 2: Vacation
- Brent Roman
 - 901205 - ESP SURF Center
 - ESP 2G successfully deployed by DTU Denmark
 - (running lots of PCRs looking for fish pathogens)
 - Took a deep dive into debugging the vi-clone texteditor included in busybox
 - Lots of bug fixes, added features like window resizing via serial link, etc.
 - DQ1904 - NOPP Saildrone
 - Sent detailed instructions on how they can bring up an ESP simulator on their Linux dev boxes
- Carlos Rueda
 - 901101 - Ocean Imaging
 - Dave's starting to do some tests related with the dockerized MB-System.
 - 901502 - Passive Acoustic Sensing
 - With John, performing labelling analysis based on HMM classification results.
 - ECOZ2 executable binaries for Linux and MacOS now automatically [built and released](#) on Github. (See overhead item).
 - 902009 - AUV UI



- Team meeting.
- Overhead
 - Some more input to the [server inventory document](#).
 - AWS discussion; IE meeting; Eng meeting.
 - More Rust learning while enhancing implementation of machine learning techniques applied to whale song units. Also the executable binaries for Linux and MacOS are now built and released using [Github Actions](#) (here is the release workflow file for [Rust](#), and for [C](#)).
- Out of Office
 - A few hours spent on kids school related activities.
 - May 29: vacation
- Karen Salamy
 - Overhead
 - Spent time this week working on a nav-data web display issue. Large nav-data record sets (>40,000/dive) seem to hit a limit in SQL server data sharing limitations. I am working with Rich and Mike to try and pin-point the cause. This issue tends to only affect long dive deployments (wfly multi-week expeditions, etc.,) where the vehicle is in the water for extended periods of time.
 - Ran into a docker “new-install” issue with some of my builds. Looking into it.
 - Have to take my daughter to the doctor Wed (today) and tomorrow following an accident earlier last week.
 - Out of Office

- Will tentatively need to continue working from home through the first month or so back to work depending on when after school resumes or if we are able to get daily child care/teacher.....
- Brian Schlining
 - 500055 - Video Annotation DM
 - [Deleted "test" dive annotations from M3/VARS](#)
 - Added a [`seek to` keyboard shortcut](#) to vars-annotation
 - [Starting work on ingesting videos](#) from Iron mountain as part of migrating all tapes to video formats.
 - 902002 - Fathomnet Detect and Classify
 - [Added ingest of CSV files to fathomnet](#)
 - We have a requirement to track changes/change history of images and bounding boxes, so I'm working through that in the database design. <https://bitbucket.org/mbari/fathomnet>
 - Verified DeepPIV videos, 2015 videos are now integrated with M3
 - [Converted user stories to JIRA issues to allow progress tracking.](#)
 - 902005 - VARS Annotation Assistance
 - Participated in demos for UCSC of our video annotation ecosystem
 - [Worked on verification of localized videos](#) that will be integrated into M3.
 - [Verified loaders of Pascal VOC localizations into M3/VARS](#)
- Rich Schramm
 - Out of Office
 - Jul 30 - 3-Aug Vacation
 - Aug-10 -21 Vacation
- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling
 - Internal draft proposal review
 - Weekly meeting
 - 901809 - Deep Sea Bioinspiration
 - Weekly meeting
 - GUI work: cleaned up some of the reading of camera data, trying to track down new bug I created. Finally got it all loaded on bit bucket. Adding ability to control elmo motor controller.
 - 901904.99 - Coral Camera System
 - Started looking into what cameras are out there that might work for the macro and are smaller than what we have.