

Engineering Weekly Report 4/2 - 4/8

Executive Council Notes

-

Individual Activities

- Francois Cazenave
 - Out of Office
 - Special leave
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - 901603 - Video TAG: Vis Ocean Chng
 - Participating in GTC conference on line March 24-April 10 (!). Live webcasts, pre recorded sessions and demos, poster sessions. I have posted links on Slack [machine-learning](#) channel.
 - NOAA Automated Image Analysis Strategic Initiative monthly telecon April 6. Continued work on VIAME by Kitware. Just releasing a web interface. Beginning to look like a solid capable tool.
 - 902005 - VARS Annotation Assistance
 - Continuing work with Danelle on taking video file, image, and annotation datasets that have been generated over the last few years and preparing them to register with M3.
 - Overhead
 - Group meeting on SLACK, Engineering Zoom weekly info meeting.
 - Out of Office
 - Yep. Sheltering in place. Last venture out of the house (except for quiet walks) March 27. Everyone is well.
 - Taking a 2 day vacation this week to rest, read, bake, garden... Tulips are blooming!
- Jon Erickson
 - Overhead
 - Reviewing Craig D. work on the Mars power can (design check, and FEA on the endcap)
 - I'm actually getting some work done on that pressure case design tutorial!
- Kevin Gomes
 - 300057 - Mooring Maint
 - Chased down some bad metadata for the 225m CTD and corrected. End products ([NetCDF](#)) now being created are correctly aligned with metadata.
 - 901009 - CANON
 - More work on WaveGlider data portal.
 - 901915 - Improving MBARI Data Impa
 - Working on mbari-data-model project to create model that can integrate metadata from other legacy data systems (SSDS, ODSS, BOG, EXPDB, SamplesDB, VARS, etc.) and combine with STOQS model and with external efforts like W3C PROV and CSW to support data catalog efforts that can track provenance as well as data set integration.
 - Overhead
 - Helping IS with troubleshooting NFS/Atlas issues that were affecting pismo greatly. Managing fallout from that from a data processing perspective (seemed to affect my home directory the most for some reason).

- Out of Office
 - May 6-7: Vacation
- Andy Hamilton
- Kent Headley
 - Out of Office
 - errands for at-risk family/neighbors
- Rich Henthorn
 - 600034 - Control Tech - Rock
 - More work cleaning libtrnav
 - Researching TRN test automation
 - Planning to remedy a trn-server issue
 - 901405 - PowerBuoy Development
 - General modifications for future comms
 - Overhead
 - Training
- Brett Hobson
- Scott Jensen
- Brent Jones
 - 901502 - Passive Acoustic Sensing
 - Still babysitting reprocessing of all hydrophone data for clicks. Had IS setup a gigantic VM. Installed the software and sicked it on the data. Seems to have memory issues a few times a day that requires restarting processing
 - Isolated a few sperm whale clicks from the data. Figuring out a way to mine the data for more so I can create a training set for a CNN
 - Overhead
 - Continued online learning for ML
- Chad Keczy
- Brian Kieft
 - 708158 - DHS Y6
 - Meetings to discuss next deployment
 - Review of data from last deployment
 - Working on data flow on whoi dash
 - Found bug in upward looking DVL code and made a fix
 - 901009 - CANON
 - Identified bug in Wetlabs sensor following Monique's analysis of backscatter data. Logged in JIRA but have not implemented a fix yet
 - 901513 - Targeted Sampling by AUVs
 - Minor clarification for Yanwu's paper
 - 901800 - LRAUV Payload & Support
 - Refactoring test architecture and attempting to add coverage and static analysis
 - Working on BSD architecture with the team
 - Overhead
 - Weekly meetings
- Denis Klimov
- Eric Martin
 - Out of Office
 - Due to childcare needs I'm half time until schools reopen. I tentatively plan on being online from 12:30-5
- Thom Maughan
 - 300083 - DMO Support - LRAUV

- Debug and setup of MFET board, made power consumption measurements.
 - Finished the design and layout.
 - Sent out for pcb quote
 - Parts BOM
 - Design Review slides
- 901009 - CANON
 - Working on BLAST for ARM
- 901805 - Coastal Biogeochemical Sensing
 - Scott and Jose are starting up on the npHOx design, gave comments
 - Sent the Irauv DAg board schematic since it had a number of npHOx features implemented
- 902004 - Planktivore
 - Researching LED lighting
 - Attended EyeRIS review
- Out of Office
 - In my off time, putting 3D printers to work printing face shields for first responders, working with folks from NPS and local high school robotics teams. Handed off samples of the various faceshields to a nurse from CHOMP for their ER meeting. Received 400 surgical masks from China - handing out to local stores, volunteers, family and friends.
 - Working at home and planning to drive to MBARI (no building access) to feed Rascal the cat twice a week.
- Mike McCann
 - 500055 - Video Annotation DM
 - Trying to fix vfcbydive for tibr 150
 - Overhead
 - Group & dept. meetings
- Rob McEwen
 - Out of Office
 - 27 Feb.
- Paul McGill
 - 901700 - 2017 Acoustical Ocean Eco
 - Still banging away on machine learning code. Can't get raw MXNet performance to match Mathematica performance even though the nets are identical. Will continue to beat my head against it.
- Ed Mellinger
- Tom O'Reilly
 - Out of Office
 - I've taken some vacation this week to participate in a volunteer emergency response group in San Jose. Our non-profit will deliver food supplies to home-bound seniors and other vulnerable people. I'm helping (remotely!) with planning and logistics, setting up web forms where recipients can request food, etc.
- Craig Okuda
- Doug Pargett
 - 901205 - ESP SURF Center
 - Getting part and mods ready to turn a bench G3 into a test rig for Function.
 - Parts are ordered, I will schedule w/ Norm and Greg for an onsite mod-day once they come in.
 - Testing some thermal simulations of the Function alpha cartridge model.
 - Modeling more of the printed housing for the Saildrone platform
 - Overhead
 - A bit of LinkedIn training while it was raining.
- Ben Raanan

- Mike Risi
 - 200105 - Core Nav - MDUC
 - Meeting with Rich S. to go over status, and next steps
 - 300080 - DMO Support-Mini ROV
 - Documenting ZMQ interface.
 - 600034 - Control Tech - Rock
 - Finished core of midwater tracking control system, starting to plumb in signals
 - Review of midwater tracking control system with Steve Rock
 - More work clean up LCM control framework
 - 901809 - Deep Sea Bioinspiration
 - More clean up of midwater tracking apps
 - Sent out stereo stitch concept to group for comment
 - Out of Office
 - February 19-22: Ocean Imaging Cruise
 - March 9-12: Vacation
 - September 18-29: Ocean Imaging Cruise
 - September 30 - October 2: Vacation
- Brent Roman
 - 901205 - ESP SURF Center
 - Finished with in-situ flash programming of cartridge elf microcontrollers via I2C bus
 - Separated firmware app into bootloader and “booted” flash partitions
 - Working on backporting driver for Huawei USB modems to support ESPs in Europe
 - Designing involatile key->value storage in EEprom or cartridge configuration data
 - DQ1865 - Bryde Whale
 - Still no contact with the mooring
 - Out of Office
 - 2nd week of April (college prospecting) (6th - 10th)
- Carlos Rueda
 - 901009 - CANON
 - MXM: A few [lib upgrades](#) to address vulnerabilities reported by github and snyk.
 - 901502 - Passive Acoustic Sensing
 - Advanced [cffi](#)-based [python wrapper](#) (with a [callback added to C code](#)) and with that, ran an [initial HMM training exercise with wandb](#) involving a metric (sum of log of probabilities).
 - Overhead
 - CentOS6 EOL: Advancing ‘okeanids’ ([notes](#)) and ‘tethysdash’ ([notes](#)) migrations. Thanks Pat, Joe, Adriana for your assistance. As part of this:
 - New TethysDash [docker image](#) released and being used on tethysdash2 (accessible via okeanids2, e.g., <https://okeanids2.mbari.org/dash3/>).
 - Now proxying tethyscode directly to expose LRAUV mission XML schemas: <http://okeanids2.mbari.org/tethys/XML/>
 - SE IE and Engineering meetings.
 - Looked into issue of a program on pismo under my account being unexpectedly killed, multiple times. (Turned out to be a more general Atlas connectivity issue.)
 - Out of Office
 - April 9: vacation
- Karen Salamy
 - Overhead
 - Spent time catching up on emails following vacation entire week before.

- Watched several pluralsight videos using various technologies to build real time data dashboards.
- Out of Office
 - March 30 - Apr 2: Vacation
- Brian Schlining
 - 902005 - VARS Annotation Assistance
 - [First release of Cthulhu](#), a new video player that supports drawing bounding box annotations directly on videos. Video of it in action at <https://youtu.be/FKGuG8-UYC0>
 - Completed integration of Cthulhu with vars-annotation. [Prepping new release of vars-annotation](#).
 - Overhead
 - Continue working with CSUMB capstone students on a dive/annotation/video/images data portal to quickly allow video lab staff to quickly view information about an ROV dive. They presented their work to the video lab on Wed.
 - Out of Office
 - Apr 3 - 13: Vacation
- Rich Schramm
 - 200105 - Core Nav - MDUC
 - Virtual meeting w/M.Risi re. Upgrade project tasks
 - 300058 - DMO Support-WF
 - Continue work on Dataprobe Port (Split between WF&RC)
 - 300070 - DMO Support- Ventana
 - Review documentation requested by GSS w/DJO
 - Out of Office
 - Jul 30 - 3-Aug Vacation
 - Aug-10 -21 Vacation
- Alana Sherman
 - 800139 - EyeRIS
 - Attended design review for strobe lights last week
 - 901809 - Deep Sea Bioinspiration
 - Continuing my work on the sony camera labview gui, this week I was able to get gain, shutter, and reading the exposure settings working. Next I have to integrate logging into the system and setting a specific focus position. Progress!
 - Overhead
 - Department and group zoom meetings