

Engineering Weekly Report 3/26 - 4/1

Executive Council Notes

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Individual Activities

- Francois Cazenave
 - Out of Office
 - Special leave
- Mark Chaffey
- Danelle Cline
 - 901915 - Improving MBARI Data Impa
 - Meeting
 - 902005 - VARS Annotation Assistance
 - Finishing up ML tracker code and continuing work on VARS data loaders. Hoping to finish this up by next week
 - Working on high-level system requirements doc
 - Overhead
 - Engineering meeting
- 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. So far the sessions I have attended are very interesting, useful, and well done. Slides and recorded sessions are available within a few days after the session. I have posted links on Slack [machine-learning](#) channel.
 - Looking forward to reviewing recent work and academic activity on unsupervised learning, recurrent feedback, uncertainty quantification, and adaptation which we will need for video processing in the future.
 - 901915 - Improving MBARI Data Impa
 - Team meeting
 - 902005 - VARS Annotation Assistance
 - Returning to Sprint 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 over Slack.
 - Engineering meeting. Thanks for making Zoom recording available.
 - Upgraded home workstation environment to enable better ergonomics and productivity.
 - Out of Office
 - Yep. Sheltering in place. Last venture out of the house (except for quiet walks) March 27. Everyone is well.
 - [Nightly Met Opera Streams](#) free series of encore *Live in HD* presentations streamed on the Metropolitan Opera of New York website and apps (ROKU etc) during the coronavirus closure
 - This week wraps up the series. Ends Sunday.
 - [National Theatre Live](#) is planning similar weekly free broadcasts starting this Thursday.

- James Corden in “*One Man, Two Guvnors*” (modern adaptation of “*A servant of two Masters*”) Tony Award-winning performance starts Thursday 2 April from 7pm UK time, for the much-loved National Theatre Live production, free to stream on YouTube for seven days.
- Jon Erickson
 - 800139 - EyeRIS
 - Strobe Concept review tomorrow.
 - 901217 - Chemical Sensor Program
 - Spending an inordinate amount of time on the Equitech Probe changes Remote Desktop works, but is painfully slow.
 - 901800 - LRAUV Payload & Support
 - Working with Brett to get an altimeter into the nose of LRAUV that both works and fits. Latest candidate is Airmar. I'm detailing brackets so we can go to sea and play test.
 - 902010 - Mesopelagic LRAUV
 - Need to start on “Functional Requirements”
 - Overhead
 - I'm only getting in about six hours a day. Can't seem to do more than that. So all the balance goes to this.
- Kevin Gomes
 - 901009 - CANON
 - Data catalog work, mostly focused on elasticsearch piece
 - Wave glider data extraction/portal
 - 901915 - Improving MBARI Data Impa
 - Working on architecture for integration layer
 - API design for integration to FAIR services
 - Built prototype of connections between TimescaleDB and ERDDAP, Grafana, Tableau, etc.
 - Group meeting to talk about architecture and design ideas
 - Overhead
 - Design discussions with group
 - Started Udacity course on AI/ML for managers
 - 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
 - Merging G2 of TRN with libtrnav
 - Listing updates to G2 since before libtrnav branched-off
 - Meeting with team to identify issues and milestones going forward
 - Pushing changes back to libtrnav
 - Identifying candidate tools and build systems for libtrnav going forward
 - 800139 - EyeRIS
 - Team meeting concerning strobe concept review
 - 901405 - PowerBuoy Development
 - Minor updates to Main Buoy Controller software
- Brett Hobson
- Scott Jensen
- Brent Jones
 - 901502 - Passive Acoustic Sensing

- Discovered current hydrophoneclick detector pre-filters out Sperm whale clicks (I think, still need to verify). Now having fun reprocessing a metric \$\$\$load of hydrophone data.
 - Overhead
 - Taking online classes on machine learning
- Chad Keczy
- Brian Kieft
 - Out of Office
 - Mar 2 - 10, Vacation, GMT -7
 - July 18-31 Arctic, ADT
- Denis Klimov
 - 800139 - EyeRIS
 - Helping Paul Roberts preparing materials for strobe concept review
 - Overhead
 - Reviewing Gerber Files for BEDS Bridge Board (with Jose Rosal) so the board could be ordered once it is clear the shipment could be received.
- Eric Martin
 - 901101 - Ocean Imaging
 - Looking at getting cables for Axial cruises in the fall, so far all the vendors are still open and running.
 - 901206 - Coastal Profiling Float
 - Shoreside server effort continues
 - 901911 - ROVVR
 - Group meeting with UCSC crew, they have some enthusiastic students that want to chip in.
 - Dassault Foundation proposal.
 - Trying to interface mesobot data to students for a dataset until we have a full dataset from Ricketts.
 - Overhead
 - Attending select lectures at GTC. Attended a day long class in C/C++ accelerated computing with CUDA. Surprisingly I learned a great deal!
 - Out of Office
 - Due to childcare needs I'm half time until schools reopen. I tentatively plan on being online from 12:30-5:30.
 - Needed a full special leave day today (Wednesday)
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Prepared pcb fab package for 'DAG', the data aggregator, and during that process found a problem with the hibernate circuitry. Have now addressed that issue and am working on updated layout and fab package.
 - 901009 - CANON
 - Little progress on BLAST recompile for ARM.
 - 901805 - Coastal Biogeochemical Sensing
 - Email conversation with Yui about combining in some of the nanoFET features into DAG and doing a cost share. He is supporting that. Implemented isolated serial for the 8 channels and have the 24bit ADC along with some storage options (on board NAND and FRAM).
 - 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.
 - 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
 - Fixed a vfcbydive problem reported by Lonny: elapsed millis image file names not captured
- 901009 - CANON
 - Met with capstone students on Zoom to clarify [some requests I made](#) on their pull request
- 901111 - AUV Infrastructure Supprt
 - Started [auv-python repo in BitBucket](#) and started an Issue to discuss my proposal
- Overhead
 - Wrote a test framework for Jenny's MB-Mapping Django project
- Rob McEwen
 - Out of Office
 - 27 Feb.
- Paul McGill
 - 901700 - 2017 Acoustical Ocean Eco
 - Finally got MXNet code running on Deepdark for machine learning, which gives me a x200,000 speedup. Having network problems which keep dropping my connection to Jupyter notebook server on Deepdark; I am troubleshooting.
 - Overhead
 - Engineering Zoom meeting.
- Ed Mellinger
- Tom O'Reilly
 - 901101 - Ocean Imaging
 - Refining MB-System bathymetry viewer prototype, this new version based on C++ and Qt/QML toolkit, which is a more modern and maintainable platform than X11/Motif which nearing end-of-life
 - 901800 - LRAUV Payload & Support
 - Refining LCM Slate Writer design to minimize LRAUV CPU load in response to team comments.
 - 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
 - 300057 - Mooring Maint
 - M1 download system monitoring
 - 901007 - Benthic Biology & Ecology
 - BRS chamber flush valve desing
 - Overhead
 - Orcad 17.4 upgrade installation
 - Solidworks 2020 SP1 upgrade
- Doug Pargett
- Ben Raanan
 - 901800 - LRAUV Payload & Support
 - Working on back seat component and LRAUV-LCM architecture
- Mike Risi
 - 600034 - Control Tech - Rock
 - Continuing clean up of LCM framework
 - Working on UI commands for midwater tracking control system
 - 901809 - Deep Sea Bioinspiration
 - Cleaning up mwt-apps repo (AKA mesobot-tracking)
 - Created repo for shared LCM types and associated classes

- Implemented stitched stereo message to deal with stereo sync issues
- 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
 - Supporting Chris Preston in her efforts to get GLERL's ESP's up and running again
 - Working with DTU Denmark to find a new cell modem for their ESP.
 - 3G service appears is apparently being sunsetted in Denmark!
 - Debugging in-situ reprogramming of ESP3G cartridge elves.
 - DQ1865 - Bryde Whale
 - Still no response from mooring :-)
 - DQ1904 - NOPP Saildrone
 - Working with their software lead to arrange access our Github repo so they can simulate an ESP
 - Out of Office
 - 2nd week of April (college prospecting) (6th - 10th)
- Carlos Rueda
 - 901101 - Ocean Imaging
 - Looking into resuming work on dockerizing MB-System.
 - 901502 - Passive Acoustic Sensing
 - Ran HMM training/evaluation sessions with several [parameter variations](#).
 - Similarly as with a set of whale song unit files and labelling of a few months ago, I also ran a [clustering-based classification](#) on the more recent 4.5 recording and John's labelling.
 - Exploring possible tools/services to facilitate model tuning, including [wandb](#) (thanks Danelle for the references), [comet.ml](#) / [mlflow](#), [dvc](#) (this one promising but not yet as useful after some investigation, including an actual exercise and putting together a [repo](#) at dagshub.com).
Moving forward, writing a [python wrapper](#) for the software to facilitate use of those various tools.
 - Overhead
 - As planned, [migration of the MMI ORR](#) to a different machine is progressing today April 1st in coordination with the TAMUCC IT team and Stanford.
 - Also, a separate [urgent task](#) arose to update the docker yum repository pointer (as well as docker itself) on the xdomes machine. [I have taken care of this already](#), reviewed OK by the TAMUCC IT team.
- Karen Salamy
 - Out of Office
 - March 30 - Apr 2: Vacation
- Brian Schlining
 - 500055 - Video Annotation DM
 - Packaged the applications listed below for Windows. They can be downloaded from <http://m3.shore.mbari.org/apps/>
 - vars-annotation
 - vars-query
 - jsharktopoda
 - 902002 - Fathomnet Detect and Classify
 - Worked on drafts of UI design for a FathomNet web interface.
 - 902005 - VARS Annotation Assistance

- Completed evaluation of the [cthulhu](#), a video player that supports annotation localization. Signed off as completed with external contractor.
 - Working on [integration of chullhu with vars-annotation](#).
- Overhead
 - Wrote a bit of Python to read Dorado AUV log files. See [readauvlog.py](#)
 - Continue meeting with CSUMB students who are making good progress on a dive overview web site.
 - Met w/ CenCOOS to discuss serving VARS annotations into OBIS
 - Meetings. OMG so many meetings.
- Out of Office
 - Apr 3 - 13: Vacation
- Rich Schramm
 - Out of Office
 - Mar 20: Vacation CANCELLED
 - Mar 23 - 27: XOJO Developers Conference CANCELLED
 - Jul 30 - 3-Aug Vacation
 - Aug-10 -21 Vacation
- Alana Sherman
 - 800139 - EyeRIS
 - Reviewed Paul's slides for upcoming concept design review
 - 901809 - Deep Sea Bioinspiration
 - Continuing working on my labview gui to interface with the Sony camera for DPIV 3 and 4. In the past week I have manual focus and iris control working and began working on querying the camera for zoom/focus position information.
 - 901904.99 - Coral Camera System
 - Put together a document to start formulating the requirements for the macro coral camera
 - Overhead
 - Engineering meeting and group lead meeting