

Engineering Weekly Report 12/31/2020 - 1/7/2021

Executive Council Notes

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Individual Activities

- Francois Cazenave
 - 902106 - Niobicon-Based AUV Docking Development
 - I have testing several sensor for the cable detection
 - I made modification to the design of the capture device and request a quote for machined parts
 - Out of Office
 - I have been working part time from home
- Mark Chaffey
- Danelle Cline
 - 901502 - Passive Acoustic Sensing
 - Project kick-off meeting
 - Decimated 512 kHz data from the 2020 experiment. This will fill in holes in the time series for October.
 - Setup replacement HTCondor VM that reached its end of life. The latest version of HTCondor is incompatible with older HTCondor versions in the pool so more work to be done to bring the compute pool back to life.
 - Reviewing COVID Marine Frontiers paper
 - 902005 - VARS Annotation Assistance
 - Installing GraphQL API to serve Visual Event Tracks and other machine learning data to the new CentOS7 VM deepsea-ai.shore.mbari.org. This has uncovered some unfortunate truths about the limitations of CentOS as a replacement OS for MBARI.
 - Overhead
 - Pulling together a project idea for the Cal Poly Deep Learning and Knowledge Graphs class
- Duane Edgington
 - 901603 - Video TAG: Visualizing Ocean Change
 - Returning to NeurIPS 2020 and AWS re:invent sessions that I missed
 - 901618 - Pelagic-Benthic Coupling
 - Returning to dive image prep and analysis
 - 902005 - VARS Annotation Assistance
 - Project status, kickoff meeting
 - Overhead
 - Group meeting
- Jon Erickson
- Kevin Gomes
 - 901009 - CANON
 - Continuing on work to migrate ODSS servers
 - Overhead
 - Cleaned up the weekly report and updated with all the proper projects for engineers so the weekly report is ready to go for 2021.
 - Created new report to organize individual reports by project (as well as by time)

- Final run of 2020 reports and cut over to new 2021 reporting.
 - Starting to organize for performance reviews
 - Working with Rich on transitioning planning
 - Group meeting
 - Beginning of year project planning and group budget reporting
- Out of Office
 - May 12-14: Vacation
 - June 21-25: Vacation
- Andy Hamilton
- Kent Headley
- Rich Henthorn
 - 800139 - EyeRIS
 - Moteino and platform.io
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - ROS research
 - 901618 - Pelagic-Benthic Coupling
 - Researching issue with ACM data logging
 - ACM driver needs to do quality control on received packets before processing
 - 2021 kickoff meeting
 - Overhead
 - Engineering Meeting
 - Review preparation
- Brett Hobson
- Scott Jensen
- Brent Jones
- Chad Keczy
- Brian Kieft
- Denis Klimov
- Eric Martin
 - 901101 - Seafloor Mapping
 - Met with Chad Keczy to discuss his efforts for 2021.
 - 901911 - ROVVR
 - Researching available network modules for PTH measurements and digital outputs for providing a sync pulse to our videos.
 - 902100 - Telepresence on MBARI Research Vessels
 - Scheduled kickoff meeting for next week.
 - Project management setup
 - Overhead
 - Wrapping up some end of year work on M3RS code w/ Lonny
- Thom Maughan
 - 901009 - CANON
 - We are shutting down our AWS instance for eDNA workflow development / working with external collaborators and interns. Collecting lessons learned and costs.
 - 901805 - Coastal Biogeochemical Sensing
 - Meeting with Yui and Joseph to discuss software task list, board support and priorities
 - Sorted out the problem with CCSv10 IDE workspace import bug with dependent libraries. Migrating codebase to CCS v10.
 - 901713 - Nearshore FOCE: setting up mpxox and conductivity sensor with cable borrowed from Crissy.
 - 902000 - Multi-Spectral StealthCam

- Unpacked the box and worked for a bit troubleshooting the jtag connection for flashing the bootloader.
- 902004 - Planktivore
 - Organing
 - Reviewed 2020 charges and found errors, working it.
- Overhead
 - DMO Support Ventana. The missing wago stack box was found on 5 Jan 2021 concluding a search that started Dec. 3.
- Mike McCann
- Rob McEwen
 - 708167 - WEC Dynamics and Control
 - Developed prototype code in Matab that detects wave crests from radar data using the Hough transform, an image processing technique.
 - Can now estimate wavelengths of approaching waves. But this process is noisy and needs further adjusting and filtering.
 - Testing this now on existing data. It looks promising.
 - Will now use this data to estimate wave arrival times.
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Updating Microchip compilers to resurrect Squirty pump controller
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Working on wireless data connection for Macro Cam
 - Overhead
 - Set up meeting with Univ of Manitoba researcher who wants advice on operating UAVs in polar regions. Bringing Ben Erwin into the discussion.
 - Worked with Jose to set up OrCAD CIS access from my laptop
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901803 - Carbon Wave Glider Development
 - Test assembly of CWG instrument
 - Overhead
 - Misc purchasing and follow up
- Doug Pargett
 - 901205 - ESP SURF Center
 - Meetings
 - Updating the solid models for the Bench G3 ESP (and subsequent 3d prints) to use the Alpha 2 cartridges coming from Function. Solidworks has some new bugs... likely due to still using the 2019 version.
 - Overhead
 - Meeting
 - Solidworks issues
 - Out of Office
 - A day of "vacation" on Monday.
- Ben Raanan
- Mike Risi
- Brent Roman
 - 708165 - NOAA-MERHAB
 - Added Coulomb counter to ESP2G "sleepy" firmware
 - Added modem power cycling schedule to "sleepy" firmware

- 901913 - Demonstrating high-speed communication with a submerged AUV
 - Working with Oceancomm to validate modem mechanical designs
- Carlos Rueda
- Karen Salamy
- Brian Schlining
 - 500055 - Video Annotation DM
 - Modifying [annosaurus](#) to allow for more generic annotation queries. This is to enable the microservice to be used as a back-end for web-based image and video query applications. The current desktop query app talks directly to the database.
 - To accommodate limited time on the project, Brian submitted a request to the video lab about 2021 task priorities.
 - 901221 - Midwater Time Series
 - Assisted the lab with building some database queries.
 - 902002 - Fathomnet Detect and Classify
 - To accommodate limited time on the project, Brian submitted a request to Kakani for 2021 task priorities.
 - 902005 - VARS Annotation Assistance
 - Requested a ML output data sample needed to build an app to display the ML-generated bounding boxes in [Cthulhu](#).
 - Overhead
 - Put together a 2021 work plan. Working on gannt chart to layout work for the year.
 - Responded to requests for information about MBARI's video annotation systems (M3, VARS):
 - Ross Griffin (Ocean Ecology Limited). Seeking to replace the UKs "Marine Recorder" system. Requested information about VARS as a possible replacement.
 - Claire Laguionie Marchais (NUI Galway). Her lab is using an older VARS system; request for resolution to an issue they are hitting.
 - Jonathan Howland (retired, working for Dana Yoerger at WHOI). Request for documentation for running M3 microservices
- Rich Schramm
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Set up the spare Raspberry Pi for our Coral camera systems with FaceTime help from Paul. Working on the best way to release the Sony camera from the computer's control (which won't allow remote shutter triggering). Set up a relay board to figure out which lines of the USB connection need to be severed. Good news is it looks like just two lines will be sufficient to release the camera.
 - Reviewing Paul's plans for using DeepSeaConnect
 - Overhead
 - Sending out allocations for EE's hours, will work on review materials next.
 - Out of Office
 - Vacation last week.