

Engineering Weekly Report 3/10/2022 - 3/17/2022

Executive Council Notes

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Individual Activities

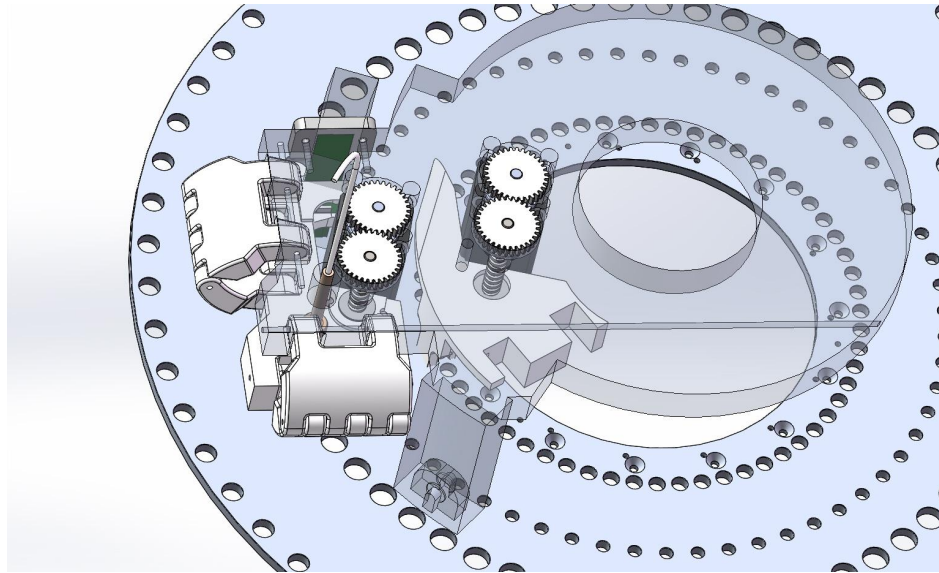
- Kevin Barnard
 - 200103 - Core CTD Data - MDUC
 - Caught up on ROV CTD QC flags through Doc Ricketts 1424
 - 500055 - VARS, M3/RS, DSG
 - Implemented draggable association buttons in VARS annotation UI; PR submitted
 - 902002 - FathomNet
 - Preparing FathomNet project update & workshop materials
 - Finished writing the plumbing for the FathomNet Twitter bot
 - 902005 - VARS Annotation Assistance
 - Ran several trial detection+tracking jobs on AWS SageMaker to tease out any differences in output between deepsort-yolov5 codebase versions
 - Out of Office
 - 3/18/2022, taking care of father post-op
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Preparing deployment: EM tether, buoy, anti biofouling, IFCB,
 - 902106 - Niobicon-Based AUV Docking Development
 - Preparing mooring for deployment.
 - Out of Office
 - One day off to take care of sick child
- Danelle Cline
- Duane Edgington
 - 902004 - Planktivore
 - Team meeting March 14. Eric Orenstein has RIMS image database system and RIMS viewer (web front end front) installed and up and running on DeepRip.
 - 902005 - VARS Annotation Assistance
 - Worked on refinement of processing job script for early production use, and build of deepsort-yolov5-tracker docker image for debugging. Both were released to the team after testing.
 - Overhead
 - Paper review for Frontiers in Marine Science. Docker training work.
- Jon Erickson
- Ben Erwin
 - Out of Office
 - Vacation 2/12-2/20
- Kevin Gomes
 - 300070 - DMO Support - Ventana
 - Some support tasks for the Carson/Ventana as they prepare to re-integrate the vehicle and new winch.

- 901009 - CANON
 - Was contacted by Sencha who makes the ExtJS framework that is used in the ODSS saying we were using their commercial version. Working on sorting this out so that we are sure to be using their open source version.
- 902012 - Telepresence on MBARI Research Vessels
 - More development on the web application
 - Refactoring into ES6 modules and code clean up as things were starting to get messy
- Overhead
 - Met with Carmel High CTE about scheduling a talk
 - Another Information Architecture review for website refresh
 - Group meeting and introduction to Giancarlo
 - Will be meeting with Kiel Edson from the Aquarium
 - Helping where I can with AWS and VAA
- Out of Office
 - Mar 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Working with Rob on design and implementation of Dorado code for integrating MB-System real-time pre-processing (mbtrnpp) into the Dorado simulation loop
 - 901101 - Seafloor Mapping
 - Working with Mike Risi on TRN integration with ROV platforms
 - 901112 - Changes in MB and CA current (HIPPEDNA)
 - Met with Nate Truelove, who provided a great tutoring on DNA and sequencing technology to provide context for software work.
 - Overhead
 - SRSC meeting
 - Carbon Waveglider transfer
 - Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise
- Rich Henthorn
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Implementing a shore-to-buoy comms watchdog
 - Controller will open doors if comms is lost for more than 30 minutes
 - Prototype test has been running well for about a week
 - Working on version 2 that will be more flexible and run as a service
 - DQ2032 - DOE Wave-Energy Control
 - Setting up local watchdog timer on RPi controller
 - Out of Office
 - March 14 - 25 (this week), vacation & WFH, email & phone OK, MDT timezone
 - July 4 - 18, vacation & WFH, email & phone OK
 - Sep 21 - 30, Sta.M Cruise
- Brett Hobson
- Scott Jensen
 - 901205 - SURF Center
 - Beginning to finalize first prototype for fabrication
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Received new motor encoder and built adapter
 - Continued assembly of Spare PCBs
 - Helped develop some of the code for the Battery Management System

- Brent Jones
 - 901112 - The Monterey Bay Time Series
 - Deployed CPF with dual sediment traps. Emergency recovered a few hours later. Float lost its bottom cap somehow (deployment?) and would not sink
 - Flying Daphne in support of monthly MBTS run
 - 901805 - Coastal Biogeochemical Sensing Program
 - Completed rebuild and operational check out of Spray34. Deployed and am flying her
 - 902004 - Planktivore
 - Met with Larry and reviewed first article housing
 - Overhead
 - Met with Okuda and learned how to deal with MBARI FCC licensing
 - Out of Office
 - Last week sick leave
- Chad Keczy
- Brian Kieft
 - 300083 - DMO Support - LRAUV
 - Supporting MBTS mission for Daphne
 - 706007 - USGS Great Lakes Prey Fish Assessment
 - Reviewing requested course and logistics for deployment
 - 708168 - DHS/LRAUV Under-Ice
 - Troubleshooting various issues involving the Stella vehicle bringup
 - Supporting upcoming Polaris deployment this week to run a simulated oil spill in Buzzard's bay. First is a lab test.
 - Met to discuss new components for mapping LRAUV
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Working with Yanwu on oil spill breadth mission
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Supported docking deployments that ended last week and recovered dock last Friday. Very successful experiment. The real dock will be deployed asap.
 - Out of Office
 - 3/10 (kids passports/half day)
 - 3/14-17 (AZ - MST)
 - 05/15 - 06/04 (EcoHAB PDT)
 - 07/02 - 07/09 (HST - vacation)
 - 07/13 - 07/22 (AKDT)
 - 08/01 - 09/03 (EDT)
 - 09/13 - 09/30 (GMT+2 - vacation)
- Denis Klimov
 - 902004 - Planktivore
 - The hardware for mounting strobe boards is ordered, this week we are attempting to assemble the board stack and do the test fit on the frame assembly
 - Overhead
 - For Power Buoy - IFCB integration, looking into mobile setup for IFCB testing in building D, due to space constraints around Power Buoy location
- Diana LaScala-Gruenewald
- Eric Martin
 - 901101 - Seafloor Mapping
 - Expedition planning meeting tuesday
 - 901206 - Coastal Profiling Float Transition to Science Applications
 - Addressing bugs from the last deployment

- 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Drawing update for controller box
 - Ordered parts for final installation
 - Radar software first revision released last week, Rob McEwen is working on data plotting.
- 901911 - ROVVR
 - Camera was damaged last week, we will have to replace domes and recalibrate prior to next deployment for Haddock Expedition
- 902012 - Telepresence on MBARI Research Vessels
 - Updates on PCs caused a soft brick that forced a BIOS rollback.
 - Meeting last thursday.
 - Testing a new feature for users that informs them of current ROV position and geographically nearby annotations: <http://telemaster-u.shore.mbari.org:8000>
- Overhead
 - Arctic Expedition meeting
- Out of Office
 - Vacation Feb 21-25
 - STCW training April 11-15
- Thom Maughan
 - 901805 - Coastal Biogeochemical Sensing Program
 - Parts purchased for MCAP / MpHOx, qty=30. Sourced most of the ICs on Aliexpress, hoping the Shenzhen shutdown does not affect delivery.
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 - Out of Office
 - Mar 21 to Mar 30 Driving to Montana, flying back. (Dates might change)
 - May 27 - 31 Camping
 - Jul 6 - 13 Camping
- Mike McCann
 - 901101 - Seafloor Mapping
 - Reloaded database in order to capture recent Octopus Garden Missions
 - 901602 - Data TAG
 - Confirmed that logs from emdb are making it to syslog-server
 - Overhead
 - Initial deployment of <https://emdb.shore.mbari.org> to help with ROV nav editing QC
 - Out of Office
 - 15 March: Vacation
 - 28 March - 1 April: Vacation
- Rob McEwen
 - Out of Office
 - 10 March Thursday
 - 18 March Friday
- Paul McGill
- Tom O'Reilly
- Craig Okuda
- Doug Pargett
 - 901007 - Benthic Biology & Ecology
 - Meeting to discuss knowledge transfer
 - 901205 - SURF Center
 - Redesigning actuators (for Function cartridges) to have greater throw and fit inside the limited space. Using shorter X208 stepper motors and Sarrus linear motion linkages. Currently iterating

the linkage geometry for full range of motion but also to not interfere with other parts. About 60% design stage.



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- Organizing and ordering parts for 2022 build of ESP instruments and equipment.
- Out of Office
 - Working from home for a while longer.
- Ben Raanan
 - 708168 - DHS/LRAUV Under-Ice
 - Recovered Tethys after docking sea-trials with the mock-dock. Ironed out some issues — docking success rate with the DAT is ~70%
 - 902102 - Multi-LRAUV Simulation Environment
 - Working on acceptance testing for the Q4
 - Test will include 2 vehicles
 - Vehicle 1 will simulate Chl patch tracking
 - Vehicle 2 will simulate acoustic tracking (track vehicle 1)
 - Out of Office
 - 02/23-24
 - 04/4-7
 - 04/13-23
- Mike Risi
- Paul Roberts
- Brent Roman
- Carlos Rueda
 - 901502 - Soundscape Research and Education
 - Some notebook revisions
 - 902005 - VARS Annotation Assistance
 - Now looking into Cthulhu issues.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Several TethysL items, including LRAUV PR reviewed and merged (thanks Mike and Ben); adjustments toward using .tl as file extension; productive meeting with Mike G. (he seems to be able to spend ~2-3hr/month from now on); more adjustments in TetysDash system to support TethysL. Now, supporting insertion of XML scripts in TethysL scripts to further facilitate overall integration (still being worked out).
 - Overhead
 - IE meeting
 - Out of Office

- May 16-18: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Mooring operation and maintenance checks.
 - 901101 - Seafloor Mapping
 - This week I have put in a lot of time on the SMDB Dash UI updates. I looked over various uses of the Vue/Quasar apps similar to Carlos' Dash UI. Mike and I discussed shifting but, based on time, decided to continue with the Bootstrap with leaflet path that we initially started with. I hope to create an SMDB test dash using Vue and Quasar in my non-project time instead.
 - Overhead
 - Began designing a test SMDB Dash using Vue and Quasar. I am also starting to look into React.js as that may be something I will need to be familiar with for other various projects.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Discussions with Todd Walsh about encoding HDR2020 4k video
 - Installed and tested [libbmagic](#) on the Western Flyer for VARS to use for framecapture. The video lab will be using this on the upcoming midwater lab's cruise.
 - Reviewed M3/VARS system architecture for Megan
 - 901221 - Midwater Time Series
 - Generated O2 profiles for all midwater transect dives
 - 902002 - FathomNet
 - Working with the team to prep for the upcoming FathomNet workshop. Working on presentations too.
 - Working on presentation for Monday's project update
 - [Investigating loading WoRMS](#) into a VARS KB server.
 - [Fix to prevent very large searches](#) that can cause a service to fail.
 - Did some testing with capturing metrics using [gtag](#)
 - 902005 - VARS Annotation Assistance
 - [Ported Danelle's event tracks DB schema from Postgresql to SQL Server](#)
 - Putting together a system diagram.
 - [Investigating issues with visualization of ML output](#) in [Cthulhu](#). Carlos will be picking that up.
 - Overhead
 - Investigating issue with [DARC's script that merges CTD/NAV](#) with video annotations
- Alana Sherman