

Kevin Gomes Sorted By Project

200105 - Core Navigation - MDUC

- With Mike Risi, deployed the new navproc/logging software on the Carson to leverage the maintenance week for testing. (Week 2)
- Setting up all logger configs for Carson (Week 2)
- Close to having two separate simulators for the Carson (old and new navproc/logging) running onshore, all with VMs. (Week 2)
- Built more null modem cables and have all simulated signals running into Digit Terminal Server. (Week 3)
- Working with Peter on a VM that has the necessary network interface tweaks to allow for LCM traffic to operate properly. (Week 3)
- Got Carson simulator running on VM finished. Generating log files from simulated data and LCM bridge operating and flowing data into Redis, ZMQ Proxy. (Week 4)
- Working on local UDP proxy on navproc as transition period for API (Week 7)
- Added Nav4D service to push raw 4D Nav out of a serial port as requested by Ethan/DJ (Week 7)
- Added more data/features to simulator (Week 7)
- Edited all the config files for simulator and Carson to hopefully get as close to final as possible (Week 9)
- Writing example and documentation for API usage in different languages (Week 9)
 - (Week 9)
- More work to bring simulator as close to the current Carson as possible (Week 10)
- Working on possibly creating a new LCM bridge for TimescaleDB (Week 10)
- Adding more configuration to simulator to align with Carson to prep for Carson deployment (Week 11)
- Added an MQTT bridge to navproc API to serve as a conduit for data to go to TimescaleDB (Week 11)
- Expanded simulator to include more signals and have it replaying just a dive profile in loop so there is no 'shore' time in the simulation. (Week 12)
- Recompiled the CTDGUI with LabView for Windows 11 and tested against the simulator and seems to work fine except for Optode which is read over TCP/IP. Doug deployed on the boat and crew should be testing Wed 3/19 (Week 12)
- Fixed bug that wasn't showing disk usage on navproc in dataprobe (Week 12)
- Working on data transfer workflows to see if we can improve ingest into the EXPD (Week 12)
- Adding location to the ODSS back into the new navproc stack. (Week 12)
- We installed the upgraded Navproc and API system on the Carson and it ran well over the weekend. (Week 13)

- Setting up shore-based timescaleDB server to be the shore based copy of the ship data (Week 13)
- Working on syncing techniques to figure out how to best sync a subset of the data to shore when disconnected and then full resolution when connected. (Week 13)
- Expanding capabilities of navproc-api by adding NATS messaging which could serve to replace both MQTT and Redis if it proves robust (Week 15)
- Deployed navproc and API updates to Carson (Week 17)
- Merged develop branch into master branch. We are fully merged and on the master! (Week 17)
- Configuring the new navproc spare with Navproc 2.0 (Week 17)
- Starting build of navproc-dpkd-sim and coredata-dpkd-sim (Week 17)
- Tested navproc 2.0 spare, small issues fixed. (Week 17)
- Test with all vehicle systems on (Week 17)
- We are officially cutover to Navproc 2.0 on the Carson (Week 17)
- Starting work on ship portals to integrate multiple applications (Week 18)
- Starting work on downstream products from new navproc (portal, divelog, etc.) (Week 19)
- Installed navproc on Packard and have a couple of data streams flowing (raw data from signal distribution box right now) (Week 20)
- Documenting and configuring more loggers (Week 29)
- Validating 4DNav configuration (Week 29)
- Building up LCM bridge data flows (Week 29)
- Restarted navproc, logging and the API remotely over Starlink once the vessel was underway back from Newport (Week 31)
- Wrote scripts to keep simulator system disk space manageable (delete older data) (Week 34)
- Weekly meeting (Week 34)
- Working with GreenSea to make sure everything is still working after upgrade of OS and control software (Week 35)
- Provided code snippets for LARS and Seapath data collection for work on LARS for latest Packard cruise (Week 39)
- Fixed bug in DiveLog on Packard (Week 51)
- Worked with Risi to get wind data flowing and logging after crew fixed sensor wiring to signal distribution box (Week 51)

300057 - Mooring Maintenance

- Working through an issue where there were duplicate deployments of all the M1 instrumentation back in September. Large clean up needed. (Week 2)
- Met last week to discuss future proposals/plans (Week 7)
- Did the M1 mooring turn last week (Week 31)
- Fixed 225/50 m microcats which I had swapped (Week 32)
- Coredata went off in the weeds. A python process (rovctd plots I think) caused the sentinel one agent to lose it's mind and it ate up CPU and swap and took the server

offline essentially. With Peter and Karen's help, we got it cleaned up, rebooted with more RAM and back to processing mooring data. (Week 34)

300059 - DMO Support - RV David Packard

- More work on ArcMapNav (Week 3)
- Build of navproc-dpkd-sim (Week 17)
- Telepresence re-factor scoping meeting with Eric M (Week 17)
- Documented the data meeting a bit. (Week 17)
- Building configuration for navproc/logging/API to get ready for Packard return (Week 19)
- Finishing configuration of ODSS locations to TimeZero on bridge. (Week 33)
- Fixed bug in ODSS to TimeZero script on the packard and deployed to simulator and both ships (Week 34)

300062 - DMO Support - Doc Ricketts

- Working on setup of Dive Log application (Week 41)
- Data extraction and analysis for Ricketts dives (Week 50)

300070 - DMO Support - Ventana

- Ported CTD GUI to windows 11 (Week 13)
- Working on email fix for DiveLog since moving to new email system (Week 19)
- Working on new data portal/dive log (Week 20)
- Diving back into authentication (Week 20)
- Fixed bug in Pilots Dive Log that started with email migration. Deployed on Carson (Week 29)
- Wrote and installed a python script that replaces the old ActiveState perl script that was syncing changes to the CTDcoeff.ini file on the CTD GUI machine with a database on the ships. This breaks all dependency from ActiveState perl (at least on the ship side of things). (Week 35)
- Support for GreenSeas upgrade (lcm loggers, NAS, etc.) (Week 35)
- Debugging GSS time sync issue (Week 41)
- Fixed time sync issues that were introduced during the GSS upgrade. Need guidance from GSS for a long term fix. (Week 42)

300079 - DMO Support - RV Rachel Carson

- More ArcMapNav, tracking OK, working on waypoints (Week 4)
- Deployed new ArcMapNav Add in for ArcGIS Pro that was written from scratch since the SDKs were so different. (Week 7)
- Starting to work on ArcMapNav changes based on feedback from Eve L. (Week 9)
- Starting up work again on web portal with new infrastructure (Week 29)

701147 - MARS O&M IV

- Assisted with Grafana configuration (Week 47)

706008 - READI-Net

- Making changes to the web app to support new features implemented in the sampler controller. (Week 2)
- The issue of the wireless access point not appearing on reboot has resurfaced and is also repeating on multiple RockPis. Brent R has been awesome helping me try to resolve this issue, but likely we will need to use a hardwired ethernet connection work-around for the Australia deployment as time is too short. (Week 2)
- More updates to web app code (Week 4)
- Pushed web app changes to both production and dev cloud servers (Week 4)
- Still trying to debug why automated SD image build on AWS is failing (Week 4)
- Built another RockPi to have back for deployment (Week 7)
- Documenting changes made during Tasmania deployment (Week 9)
- Migrating Brent changes to the RockPi to the SD card image build to deploy on sampler (Week 39)
- Troubleshooting the MQTT cloud log gaps (Week 39)
- Troubleshooting the resource spikes during uplink drops (Week 39)
- Changing web application to allow for better filtering of logs for end users to make them more useful (Week 39)
- Debugged several issues with networking, threading, cloud, VPN, serial, etc. and feel like we are close to being ready for deployment. Delay due to shutdown, but in a good spot. (Week 41)
- Lots and lots of troubleshooting. Think I finally have the threading issues sorted between kernel threads, serial port reading loop, Python GIL and greenlets for MQTT synchronization with cloud EC2 server (Week 42)
- Started running FIDO over cell and discovered issue with IPv6 attempts from tailscale which gets rejected after so many tries (cell does not support IPv6). I disabled IPv6 on cell connection. (Week 42)
- Final push to fix bugs and features for end of program (Week 46)
- More features (Week 46)
- Deployed changes to cloud and new device SD cards for 'dock deployment' (Week 47)
- Prep for and participate in all day meetings with USGS for FIDO demonstration (Week 50)

901009 - CANON

- Helping with new platforms/layers for WHOI experiment (Week 19)
- Helping people get platform tracks and layers on the ODSS (Week 20)
- Built movie for Saildrone cruises for Francisco (Week 20)
- Working on 'data page' for ASTEP/NOWRDC (Week 39)
- Working on more updates for ASTEP web page with Melissa's help. (Week 42)

- Some ODSS support requests (Week 50)

901221 - Midwater Time Series

901805 - Coastal Biogeochemical Sensing Program

902403 - Expedition DB Modern

- Working on documenting current scripts, batch files and stored procedures to scope replacement (Week 7)
- Meeting (Week 9)
- Looking into time series database and workflow tools (Week 9)
- More documentation of current workflow (Week 9)
- Experimenting with TimescaleDB for long term combined storage of timeseries data (Week 11)
- Meeting about API progress and migration of loading (Week 19)
- Working on Dagster implementation of the CTD config file monitor to get some experience with Dagster and Prometheus (Week 39)
- Looking into Dagster/Prometheus as ways to introduce orchestration, monitoring and alerting into the EXPD data pipelines I am re-working. (Week 42)
- More plumbing for new Packard flows. (Week 46)
- Debugged some processing that has been broken since 2022!! (Week 51)
- Added packard to ship nav loads (Week 51)

Out of Office

- Dec 22 - Jan 2: Vacation
- Mar 24 - Vacation
- 4/28: Out of Office
- 5/1: Vacation
- 8/29: Out of the office
- 92-9/4: Working from home

Overhead

- Starting up the review process (Week 2)
- Getting new year kick off documents out to my group. (Week 2)
- Travis discussed security issues with the group (Week 2)
- Review preparations (Week 3)
- Attended two meetings on feedback best practices (Week 3)
- Did walkthrough of ship data architecture with small group of interested folks (Week 7)
- Tech brown bag about workflow tools (Week 7)
- Working with IS and AWS to reconfigure our AWS account to better manage institute wide usage (Week 9)

- Tech meeting for SE IE (Week 9)
- Working on getting ML coordination kickoff meeting scheduled (Week 10)
- Finalizing ML meeting email, close to starting to schedule (Week 12)
- Group tech meeting (Week 13)
- Seminar (Week 13)
- Promotion committee work (Week 17)
- Hosting visit from AWS this Thursday (Week 17)
- Wiped a bunch of old computers that have been lingering and returned to IS (Week 17)
- Group meeting to discuss MCP and if it's applicable to the POC for AWS GenAI (Week 19)
- Meeting with Antje (Week 19)
- Cal Poly Tour (Week 19)
- Some ESP support for McCloud deployment (Week 19)
- Abstracts and presentations (Week 20)
- Hosted AWS visit (Week 20)
- Coordinating work with NVIDIA (Week 20)
- Coordinating Qumulo demo for my team (Week 29)
- Planning ML workshop (Week 29)
- Starting to read proposals (Week 29)
- Planning ML Workshop (Week 31)
- Creating Authentication/Authorization NodeJS/Quasar/VueJS app to serve as template for all my upcoming application development (Week 31)
- With help from Antje, John Zicker, and Cindy, put on a machine learning workshop on 8/4. (Week 33)
- Proposal review (Week 33)
- Zoom call with AWS (Omar and Richard) to talk about cost optimization, ML workshop, etc (Week 34)
- Weekly meeting with Joe (Week 34)
- Participate in SE Embedded interview (Week 34)
- Proposals (Week 34)
- Attending Monterey Data Conference (Week 34)
- Omics PI interviews (Week 41)
- Working with IS on AI Usage Policy for MBARI (Week 41)
- Coordinating Monterey High School Tour in January (Week 46)
- Prepped and delivered Board talk last week (didn't put in report last week) (Week 46)
- End of year budget and organization (Week 50)

706008 - READI-Net

- Looks like Brent's patches worked with some startup issues that will need to be addressed, but the AP bug seems to be fixed. (Week 3)
- Working on web application changes to prep for Tasmania deployment (Week 3)