

Kevin Gomes Sorted By Project

200105 - Core Navigation Data - MDUC

- Kick off meeting to discuss planning, project management, and sprint definitions (Week 1)
- Reworked diagram and documentation on data pathways for planning for David Packard. Meeting tomorrow to discuss. (Week 2)
- Trying to procure some hardware to build a simulation environment. Turns out to be NOT cheap. (Week 2)
- Updated diagrams and created simplified diagram that Mike sent to the shipyard to make sure we capture physical wiring that is required during construction (Week 3)
- Had back-and-forth with serial splitter vendor and received price list and waiting to validate which serial splitters we are actually getting with the boat before purchasing (Week 3)
- Meeting to discuss end of sprint 1 and start of sprint 2 (Week 3)
- Doing archeological work to remember how navproc/logr works to prepare for next sprint (Week 3)
- Updated firmware on the Moxa NPort in my office to prep for both Ventana support and possibly use it for a simple simulator for Packard. (Week 4)
- Mid-sprint meeting to discuss status updates (Week 4)
- Digging through code to try to see downstream usage of 'status' items and how single LCM type impacts logging. (Week 5)
- More detailed docs to work on possible simulator build (Week 5)
- Purchased new, cheap rack for my office to expand current rack mounts to make room for more equipment. (Week 5)
- Since we lost power, I took the opportunity to move all the equipment from the old rack to the new and also installed the simulator NUC there too. All in one nice roll around unit now. (Week 5)
- Updating Mac dev environment to better support local dev of navproc/logging (Week 7)
- Review of Packard materials to date to start documenting a signal mapping that will be needed to capture all data streams (Week 7)
- Tracing downstream use of status items in navproc code. (Week 7)
- Build up of Ubuntu 22.04 NUC to see how CoreNav build goes ... looks like there is problem with dependencies for libbot2, might cause issues. (Week 7)
- Configured all existing NUCs and moved to new server rack so I have single KVM spot where I can work on different versions of the code in different versions of Ubuntu. (Week 8)
- Dev machines set up for Qt as well. (Week 8)
- Working through and documenting RC logging to get a handle on how the status items are used in logging and further downstream. (Week 8)
- More reverse archeological digging. (Week 9)
- Lot's more reverse archeology and documenting in detail here (Week 9)
- Looking into creating some simple command line simulators just to help with development (Week 10)
- Light prototyping for use of single LCM type. (Week 11)
- Learning CMake to see if that's the build environment I should be using for logr (and other) projects. (Week 12)
- Looking at converting the config of logr to JSON from the custom format it currently uses. (Week 12)
- Exploring Kafka as an option for high bandwidth data storage in parallel with traditional logging. (Week 12)
- Starting to create skeleton of simple LCM simulator (Week 12)
- Talked with Mike about more LCM details and the possibility of a web version of LCM spy (Week 12)
- Wrote a small Python app that listens for LCM messages, converts them to JSON and pushes over websockets to browsers. (Week 13)
- Met with Kevin B and Carlos to talk about LCM web viewer coordination. (Week 13)
- Working on coming up with full stack application architecture for data related apps (Week 13)

- Trying to get some traction back on this by restarting the LCM message bridging and logger transition to single LCM type (Week 15)
- Looking at extending Kevin B's work to bridge the gap between LCM and more than just WebSockets (Week 16)
- Continuing work on LCM bridge to other messaging systems to support API access as well as the possibility of a higher bandwidth data logging technology. (Week 17)
- Starting to dig into changes to logr for the new single LCM type. (Week 17)
- Working on logr code for new single LCM type (Week 18)
- More work on lcm-bridge code (Week 18)
- Refactoring logr to utilize new single LCM type. (Week 19)
- Looking over documents that I got access to in order to understand signal routing (Week 20)
- Working on LCM Bridge again (Week 21)
- Working on logr using new single LCM type (Week 21)
- More work on LCM Bridge application (Week 23)
- Traced all code for item status to see if we lose any information with single LCM type (Week 23)
- Finally got through the detailed deep dive on data pathways for status items and clarified their usage and necessity so we can decide how to implement same functionality in single LCM type (Week 24)
- Starting the refactor of the logr code based on single LCM type (Week 26)
- Moved to spdlog for logging on new logger (highly recommend) (Week 26)
- Proposals (Week 28)
- Restarting on this work as proposal review slows down (Week 30)
- Refactored to pull out JSON config from main (Week 30)
- Refactoring config code to use trigger set to channel level instead of item level (Week 30)
- Cranking away at logger for single LCM type (Week 31)
- Worked with IS to fix some networking issues with navproc simulation hardware (thanks Adriana!) (Week 33)
- Getting going on the logr utility again. (Week 33)
- More work on logr2 code (Week 34)
- Digging in to the new logr code and got it generating new log files that look just like the old based on the new processes Mike has for the single LCM type. (Week 38)
- Picking up the LCM bridge project to see if this could serve as an API that then could be leveraged by Dataprobe successor. (Week 38)
- Working on message bridging from navproc once log writing complete (Week 39)
- Investigating OpenRVDAS as possible consumer of lcm bridge (Week 39)
- Architecture discussion with Mike about how to best deal with logger monitoring and process management (Week 40)
- Stood up new David Packard simulator NUC with Python processes to simulate ship data streams (Week 43)
- Created new navproc installation on NUC for the new navproc, logr and new lcm-bridge processes that consume data from simulator, parse into LCM, log to logr files and forward as JSON to ZeroMQ. (Week 43)
- IS created VM for Ubuntu that will serve as simulator API for data packets on the science network on the Packard. (Week 43)
- Looking at Kafka/TimescaleDB combination as possible data store for high-frequency data from Packard and dashboard support using Grafana. (Week 43)
- Configured the VM created by IS to be a ZeroMQ proxy for the David Packard simulator. The simulator navproc is now forwarding messages outside of what would be the 'rov network' (in theory) to keep the 'other' data clients separate from the ROV network. (Week 45)
- Bi-weekly networking meeting for David Packard (Week 46)
- Experimenting with Kafka to see if it's suitable for LCM bridge route to long term, high message rate storage (Week 49)
- Looking at other message technologies as I have a huge concern about the things I'm reading about what it takes to maintain a Kafka instance. (Week 49)

300057 - Mooring Maintenance

- A small bit of maintenance on monitoring scripts (Week 3)
- New-ssds machine crashed late last week, but no cause found (Week 3)
- After linux patches applied, found lock file was preventing mooring downloads. Cleared lock file and data looking good again. (Week 7)
- Some troubleshooting of the inductive CTD string. (Week 13)
- Preparation underway for mooring turn coming up soon (Week 24)
- Starting SSDS configuration for M1 turn (Week 25)
- Met with Karen to get handoff of information related to download portion of mooring turn (Week 25)
- Performed M1 turn (Week 26)
- Some clean up from mooring turn (Week 26)
- Some attention needed over the weekend as the server elvis stopped responding which interrupted downloads (Week 33)
- Some support tasks while Karen is on jury duty. (Week 43)

300059 - DMO Divisional Support - David Packard

- Working on updates to plans for signal routing and data management (Week 1)
- Finalized diagram and I think it got sent off to the shipyard for cabling. (Week 4)
- Meetings to discuss networking, data flow and cyber security (Week 18)
- Reading through documentation related to cyber security (Week 19)
- Attended meeting with CyberSecurity contractor for the ship and things are much clearer now and many of the main concerns were clarified. (Week 20)
- Reviewing cybersecurity and network architecture changes (Week 24)
- Spent a large chunk of time going through signal maps from the shipyard and generating questions for them. (Week 26)
- Meeting to discuss latest documentation updates from the yard. (Week 26)
- Meetings for networking (Week 28)
- Weekly networking meeting (Week 30)
- Going to see if I can run down more information on MarineTraffic for API usage and a service that DMO can use. (Week 30)
- Working on Kafka as messaging middleware for DP data system (Week 48)

300062 - DMO Divisional Support - Doc Ricketts

- Meeting with SMD to discuss UDP/NMEA message structure for telemetry upgrade. (Week 4)
- Starting to work on clients for the new data system: Dataprobe, DiveLog, ArcMapNav (Week 45)

300070 - DMO Divisional Support - Ventana

- Some small support before the ship left for the yard (Week 2)
- Working on changes to custom logger to work better with GreenSea workspace replay (Week 10)
- Bringing systems back up on Carson (Week 10)
- Overhauled the build for the custom LCM logger and updated the code to try and match the file structure that the GSS playback was looking for. Deployed on bubinga and updated NAS firmware while I was at it. (Week 12)
- Monitored today's first dive back in the water (Week 13)
- Helping with some networking issues (Week 14)
- Researching 4D nav to figure out how we will plumb in tracking DB positions and if we can integrate ODSS/ERDDAP WMS maps (Week 18)
- Trying to get up to speed on 4D nav and learn how we can use WMS layers (possibly from ODSS) (Week 19)
- Helping out with figuring out how to register/view WMS layers on 4D Nav (Week 21)

- Working on GSS documentation for changes to UI (Week 28)
- Starting to think about DiveLog app upgrade (Week 30)
- Playing around with Qt/API to see if it might be a good replacement for Xojo thick client (Week 30)
- Helping debug some video card issues for the machine paduk (Week 34)

300079 - DMO Divisional Support - Rachel Carson

- Helping DJ with GSS setup in ROV pilot areas (cables, ubuntu issues) (Week 7)
- Debugged some issues with hardware on the machines in DJ's area. Looks like it was yet another bad/fried NVidia card. (Week 7)
- Starting to work on upgrading DiveLog app (Week 7)
- Carson due back Wednesday (currently scheduled) so will work on bringing systems back up after that. (Week 9)
- Troubleshooting an issue with the Leica GPS. It died before the shipyard and it's back up and running, but data feeds are not making it to navproc for some reason. (Week 10)
- Somehow the Leica GPS on the Carson is happy again (with respect to Navproc) and verified data streams we have to date with Dataprobe. (Week 11)
- Reviewing 4DNav to try to plan for ODSS integration (Week 24)
- Assisted with troubleshooting Dive number issue (and propagation through navproc M3RS) (Week 46)

706008 - READI-net

- Two-day workshop to kickoff project and gather requirements for sampler hardware and UI software. (Week 9)
- Follow up meetings to parse through user feedback for handoff to BBWS (Week 10)
- Zoom call with BBWS. (Week 12)
- Meeting with possible contractor for firmware system (Week 17)
- Looking over SDI-12 protocol to see if it's something we need to support (Week 19)
- Meeting with contractor (Week 20)
- Met to discuss possible replacement of the linux controller with COTS alternative (Week 22)
- Meeting (Week 24)
- Meeting to go over API with regards to web application (Week 30)
- Set up READINet controller RockPi to review code from contractor applications. (Week 43)
- Reviewing web application code (Week 45)

901009 - CANON

- Restarted services for AMQP consumption (Week 3)
- Troubleshooting missing map tiles from ESRI basemap and it appears they have deprecated the basemap and I need to update the web application to use new vector based map. (Week 3)
- Working on fixing the base layer on ODSS. ESRI deprecated the current layer and after the new year, tiles are coming up empty. They have a new layer, but it needs API key and such so it's taking a bit to get that implemented. Have it working on test and a new image built and pushed to DockerHub, need to find a good time to replace the image on production ODSS. (Week 4)
- Meeting (Week 9)
- Docker container fails after build with Dockerfile so I am thinking I will move the ODSS application itself to git checkout install directly to manage updates easier and to match boat installations. (Week 9)
- Looks like Carson will be returning Wednesday so I might work on upgrading the ODSS out there starting later this week. (Week 9)
- Looking at upgrading ODSS on zuma on Carson. (Week 10)
- More overhaul of the docker compose used in ODSS so I can align all four ODSS deployments and standardize on Ubuntu and Docker. (Week 11)
- Build overhaul continues (Week 12)
- Planning meeting for May deployment (Week 13)

- Fixed bug with ESRI layer and deployed to production (Week 13)
- Planning meeting (Week 15)
- Added new layers to the ODSS for circles centered over MARS node with N,S,E,W stations labels (Week 19)
- Helping University of Hawaii troubleshoot their SSDS installation. Their server died and they moved the disk to a new machine, but SIAM not sending messages through to SSDS now. (Week 19)
- The UofH server had crashed back in March and they moved the disk to a new machine, but during the crash, something must have gotten messed up in the database transactions and all the incoming JMS messages were being queued, but not written to the database. I ended up stopping the server, blowing away the cache directory where the message queues and database transactions were and then restarted the server. All is back and happy again (despite the gap in data through April). (Week 19)
- Working on application to host the MARS echosounder data for the upcoming experiment. Chad setup images posting to ProjectLibrary so I can work on the application (Week 19)
- CANON readiness meeting (Week 20)
- More work on Echosounder web application for viewing products. (Week 20)
- Supporting experiment (Week 21)
- Some clean up and restarting post server patching (Week 26)
- Trying to expand the data extraction for the WaveGlider to other reports, but the API from Liquid does not return any data from the reports we care about. Have a ticket into Liquid support. (Week 32)
- Some small ODSS support (Week 38)
- Looking at turning on TimeZero file creation on the shore server so shore-based TimeZero servers can be tested (Week 45)
- Per request from DMO, renamed some WaveGlider CCUs and migrated some data to make sure they aligned with named vehicles. (Week 48)
- Some adjustments and data moving around for Crissy with respect to a SPOT drifter (Week 48)

901221 - Midwater Time Series

901915 - Improving MBARI Data Impact

- Discussion with Monique about possibly using LRAUV and Dorado as test case for larger combined data set to test different storage mechanisms (Week 3)
- Reviewed notes to reset goals for project and will meet with Mike to start thinking about next steps. (Week 7)
- AWS is offering to talk about helping with this effort, should talk to Monique and John to see if they are interested (Week 7)
- Starting research on large scale data storage (Week 30)
- Working on demo/prototype of NodeJS application that can serve GraphQL and REST APIs that can be protected by OAuth/OpenIDC security that can plug into our Azure AD system. (Week 32)
- Looking into SuperToken for an open source authentication/authorization framework ... promising. (Week 33)
- More investigation of the SuperToken framework (Week 34)
- Digging more into TimescaleDB (Week 48)

DQ2210 - READI-net

- Meeting with contractor to discuss new UI prototypes and hardware (Week 4)

Out of Office

- Working from home due to positive COVID but should be back in the office Thursday.
- Feb 1-3: Vacation
- Review finalization
- Mar 30, 31: Vacation
- Aug 28-Sep 12: Vacation

- Jun 9,12: Vacation
- July 5-7: Vacation
- Aug 22-24: Monterey Data Conference, Monterey, CA
- Nov 20-22: Vacation
- Out sick: 11/9-11/15

Overhead

- Starting on performance review activities (Week 1)
- Group overhead with meetings and yearly planning (Week 1)
- Performance reviews (Week 2)
- Cleaning out some old stuff to plan for 2023 projects. (Week 2)
- Performance review preparation (Week 3)
- Some cleanup and restructuring of Weekly Reports as the year kicks off. (Week 3)
- Performance reviews preparation (Week 4)
- Strategic roadmap review and gave input on implementation part. (Week 4)
- Strategic roadmap committee meeting (Week 4)
- Group meeting (Week 4)
- MiniROV/EE Hiring committee (Week 4)
- Performance reviews (Week 5)
- MiniROV Hiring Committee (Week 5)
- Meeting with robotics research engineering candidate (Week 7)
- Wrap up of performance reviews (Week 7)
- Met with AWS to discuss SageMaker/EFS issue and submitted a help ticket. (Week 7)
- Met with AWS Global Impact Computing folks to see if there is work we can do together. More work needs to be done with group and maybe Monique and John to scope some ideas. (Week 7)
- Dealing with fall out of Linux patching. (Week 7)
- Scheduled almost all quarterly meetings (Week 7)
- Talking to Paul R about options to host a web application that is being served from DeepRip as it will need to be externally available for a report. (Week 7)
- Group meeting where we talked through Docker issues that cropped up with the last round of patches. I also talked about the AWS meeting which we will need to reschedule. (Week 7)
- RE candidate seminar and dinner (Week 8)
- SRSC meeting (Week 8)
- Moving offices Friday (2/24) (Week 9)
- Attended Steve's Memorial (Week 9)
- Helping import external LRAUV related Slack channels into our workspace. (Week 9)
- Met with Henry, Fred and Mike about ODSS use for Syncro project (Week 11)
- Attended Zoom meeting with Cyber Security contractor. Much more work to come on this. (Week 12)
- Group Meeting (Week 12)
- Weekly IS meeting (Week 13)
- Met with IP lawyers to discuss licensing and data sharing. More work is coming on this. (Week 13)
- Quarterly check in meetings with my group (Week 13)
- Documentation for Telepresence and bring up of services that had stopped when we switched over to the spare rcnavproc1 machine on the Carson. (Week 13)
- Meetings related to filling in for Andy (Week 14)
- Catching up from couple days vacation (Week 14)
- Cybersecurity meetings with vendor (Week 14)
- Management overhead (quite a bit) (Week 14)
- NSF Seminar (Week 14)
- Met with IP related group (Week 15)

- Working on Python script to inventory code repositories and identify licenses and copyrights on CVS, subversion, GitHub and BitBucket repositories. (Week 15)
- Presentation preparation for ODSS overview for Synchro meeting on Tuesday (4/11) (Week 15)
- Presented and participated in the Synchro meeting on Tuesday (Week 15)
- Working with Neil on scoping the addition of object storage to Titan (Week 15)
- Talking with AWS (and Heidi) about presenting at event (Week 15)
- Coordinating with AWS for Heidi to speak at a conference (Week 16)
- Working on Strategic Roadmap (Implementation plan) (Week 16)
- Non-project meetings (Week 16)
- Hiring committee stuff (Week 17)
- Met with Matt/Andrew to discuss proposal work to update EXPDB (Week 17)
- Check in meeting with AWS (Week 18)
- Group meeting to talk about proposals (EXPD) (Week 18)
- Edited engineering drawing pages to add new person (Week 18)
- Interview candidate for embedded engineer (Week 19)
- ARG! All database XOJO apps that use ODBC/TDS stopped working under OS X Ventana and trying to troubleshoot. (Week 19)
- Working on Slack business plan proposals (Week 19)
- Working on Atlassian plans. (Week 19)
- Fixed bug in Telepresence app that was causing the join to the zoom meetings to fail (Week 20)
- I was notified that the MINIROV DiveLog app would not run after machine was upgraded from Monterey to Ventura. I'm able to replicate the failure, but it's deep in the ODBC driver somewhere and having a difficult time diagnosing the problem. (Week 20)
- Still thrashing on MSSQL connection for dive log and contemplating moving to a web app entirely, but having issues connecting from my laptop via NodeJS too ... WTH??? (Week 20)
- Abstract submissions (Week 20)
- Interviewing candidates for SE Embedded (Week 21)
- Interview process (Week 22)
- Took part in a cybersecurity incident response tabletop exercise with IS group and cybersecurity contractor. (Week 22)
- Interview for OVAI PM (Week 24)
- Interview for EE/MiniROV (Week 24)
- Reviewing cybersecurity documents for internal MBARI policy development (Week 24)
- Interviews for MiniROV/Engineer position (Week 25)
- Interviews for OVAI Program Manager (Week 25)
- Attended DEI Seminar by Lori Mackenzie (Week 25)
- Working on Cybersecurity Policy documents (Week 25)
- Having quarterly check in meetings with my group (7) (Week 26)
- Group budget work (Week 26)
- Proposal preparation (Week 26)
- Accepted invite to Monterey Data Conference to give invited intro talk. (Week 26)
- Proposals (Week 28)
- Budgets (Week 28)
- Interviews for OVAI PM and MiniROV/EE (Week 28)
- Met with CyberSecurity consultant to walk through changes/suggestions (Week 28)
- Reviewing proposals. SE-IE is very oversubscribed so there is lots of work to do. (Week 29)
- More screenings and interviews for MiniROV/EE candidate (Week 29)
- Proposal review (Week 30)
- Reporting working for proposal review (Week 30)
- Met with CEO Search committee (Week 30)
- MiniROV/EE interview (Week 30)

- Looking at MiniROV dive log replacement application (Broke on clients who upgraded to Mac OS X Ventura, something to do with ODBC). (Week 31)
- Working with IS to get a prototype of Duo SSO (linked with Azure AD) and will attempt to use it on the Qt and web versions of the MiniROV divelog apps. (Week 31)
- Proposal review meetings (Week 31)
- Proposal review (Week 32)
- MiniROV/EE hiring activity (Week 32)
- MiniROV DiveLog API/Application working with IS to prototype Duo/OAuth (Week 33)
- MiniROV/EE Hiring activity (Week 33)
- Working with Joe on an issue where ActiveState is trying to up our annual subscription by 10x in cost. (Week 33)
- Working on my presentation for the Monterey Data Conference next week. (Week 33)
- Preparing invited talk for Monterey Data Conference (Week 34)
- Delivered talk at Monterey Data Conference and attended other days (Week 34)
- Proposal related meetings (Week 34)
- Group meeting (Week 34)
- Running down costs for Slack plan upgrade (Week 34)
- Preparing and executing Director's Discretionary request for ActiveState license for EXPD (Week 34)
- Some time digging out from being on vacation (Week 38)
- Working on 2024 project summaries for my team for next week's quarterly check ins. (Week 38)
- Quarter 4 group check ins (Week 39)
- Met with cyber security contractor (Week 39)
- Wrapping up quarterly check ins (Week 40)
- Wrapping up 2024 labor reports for engineers (Week 40)
- Finally made a decision on the paid Slack plan that MBARI will be moving to. We are going to be moving to the Enterprise Grid program which will give us more flexibility and capability. (Week 45)
- Met with John Zicker and Dona Crawford (Board Members) to talk about ML efforts and DOE compute capabilities. More follow on to come. (Week 45)
- Setting up a time to talk to folks at Argonne National Labs about possible use of their compute facilities for our GPU processing needs. (Week 45)
- Troubleshooting issues with images on our external website (Week 49)
- Finished 2024 summary reports for all members of the group (Week 49)