

Status Letter

Week 3 - 2/8/15

LFEV

Team Milestones:

VSCADA:

We plan to complete the user manual and finish individual research topics. Start the purchase of the hardware.

DYNO:

We plan to prepare AEC 401 for the Dyno use, Completed the motor controller research, and begin the draft for the user manual.

TSV:

We plan to complete the users manual, correct many of the outstanding errors from the previous year's design, and create a usable BoM to plan purchases.

GLV:

We plan to complete the users manual, correct many of the outstanding errors from the previous year's design, and create a usable BoM to plan purchases.

Ongoing Tasks:

Teams will update the acceptance test plan, maintenance plan, Interface control document, calibration and accuracy document, and conduct Individual research.

Outstanding Action items:

Final a website that meets the long term website requirement. - Sam and Steve Mazich

Budget:

John will meet with teams and discuss the results of the PDR budget.
No purchases have been made yet.

Tasks due within the last 8 days

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Adam Cornwell

- ~~Adam Cornwell: System State Analysis Proposal~~ due Feb 4

Alex Hytha

- ~~Alex Hytha: Develop preliminary test plan~~ due Feb 4
See deliverable D004 for requirements.
- ~~Identify system objectives~~
- ~~Stephen Mazich: Write sensors test plan~~ due Feb 2
- ~~John Bloore: Write test stand test plan~~ due Feb 2
- ~~Brendan Malone: Write interface test plan~~ due Feb 2
- ~~Nate Hand: Write power supply test plan~~ due Feb 2
- ~~Alex Hytha: Write safety test plan~~ due Feb 2
- ~~Alex Hytha: Documentation for full test plan~~ due Feb 3
- ~~Alex Hytha: Documentation for full test plan~~ < Develop preliminary test plan due Feb 3
- ~~Alex Hytha: Write safety test plan~~ < Develop preliminary test plan due Feb 2

Aloysius Posillico

- ~~Aloysius Posillico: GLV TSI PDR~~ due Feb 7
Cost Analysis, Risk Assessment, Requirements Checklist, Preliminary Test Plan.

Ben

- ~~Ben: Examine prototype for rule compliance~~ due Feb 8
- ~~Ben: Decide side vs rear/mix battery placement.~~ due Feb 8

Bikram Shrestha

- ~~Bikram Shrestha: Subsystem Hierarchical Breakdown~~ due Feb 5
 - ~~Develop a high-level system level design~~ due Feb 3
 - ~~Develop a "straw man" pre-preliminary design based on the design outlines and test plan that includes rough specifications of major subsystems.~~ due Feb 4
 - ~~Using simulation, analyses, and empirical evidence, predict the performance of the straw man design and thereby validate the subsystem specifications and design correctness.~~ due Feb 4
 - ~~establish a detailed system level design, including system level architecture, interface descriptions, subsystem specifications~~ due Feb 5

Brendan Malone

- Brendan Malone: Requirement Analysis** due Feb 4
 A requirements analysis (traceability matrix) showing that the design addresses all requirements and constraints. The traceability matrix shall allocate every top level requirement to a functional requirement or interface in at least one subsystem, and every subsystem shall have each of its functions and interfaces related to at least one top level requirement.
- Brendan Malone: Write interface test plan** < Develop preliminary test plan due Feb 2

Chris Melgar

- Chris Melgar: ME Safety Plan** due Feb 8

Daniel Zakzewski

- Daniel Zakzewski: GLV portion Calibration Accuracy Doc** due Feb 7
- Daniel Zakzewski: PDR Report** due Feb 7
 Compilation and formatting
- Daniel Zakzewski: GLV Portion Interface Document** due Feb 7
- Daniel Zakzewski: PDR Powerpoint** due Feb 7
 Make some slides on your assigned part and add it to the drive. Take a look at last years and 2013s PDR presentation.
 - Nick DiNino: GLV Power**
 - Jordan Frank: Safety**
 - Aloysius Posillico: FSI**
 - Zach Helwig: VCI (Vehicle Computer Interface)**
- Daniel Zakzewski: Understand the safety loop designed in 2013** due Feb 7
- Daniel Zakzewski: Complete hierarchical subsystem breakdown** due Feb 7
- Daniel Zakzewski: Work Break down Structure (WBS)** due Feb 7
 - Nick DiNino: GLV Power**
 - Jordan Frank: Safety**
 - Aloysius Posillico: FSI**
 - Zach Helwig: VCI (Vehicle Computer Interface)**
 - Daniel Zakzewski: Formatting into a Gantt Chart**
 - Daniel Zakzewski: Management Schedule**
- Daniel Zakzewski: Requirements analysis (traceability matrix)** due Feb 7
 - Nick DiNino: GLV Power**
 - Jordan Frank: Safety**
 - Aloysius Posillico: FSI**
 - Zach Helwig: VCI (Vehicle Computer Interface)**
 - Daniel Zakzewski: Final Layout**
 - Daniel Zakzewski: Preliminary Layout**

- ✓ ~~Daniel Zakzewski: Acceptance test strategy~~ due Feb 7
- ✓ ~~Nick DiNino: GLV Power~~
- ✓ ~~Jordan Frank: Safety~~
- ✓ ~~Aloysius Posillico: FSI~~
- ✓ ~~Zach Helwig: VCI (Vehicle-Computer Interface)~~
- ✓ ~~Daniel Zakzewski: Summary and Formatting~~
- ✓ ~~Daniel Zakzewski: Set Up All Document Templates~~ due Feb 7
- ✓ ~~Daniel Zakzewski: Separate GLV into Subsystems~~ due Feb 7

Hansen Liang

- ✓ ~~Hansen Liang: A preliminary system acceptance test strategy applicable to this phase. This should be a high level plan of how the team will prove that the final fabricated system meets all requirements.~~ due Feb 8

Jaejoon Yang

- ✓ ~~Jaejoon Yang: A cost analysis and detailed program budget that demonstrates compliance with financial constraints.~~ due Feb 8
- ✓ ~~Jaejoon Yang: A risk assessment identifying critical areas of risk and strategies for managing or ameliorating potential adverse consequences of that risk.~~ due Feb 8

John Bloore

- ✓ ~~John Bloore: Risk Assessment Document~~ due Feb 4
A risk assessment identifying critical areas of risk and strategies for managing or ameliorating potential adverse consequences of that risk.
- ✓ ~~John Bloore: Cost Analysis~~ due Feb 4
A cost analysis and detailed program budget that demonstrates compliance with financial constraints.
- ✓ ~~John Bloore: Write test stand test plan~~ < Develop preliminary test plan due Feb 2

John Gehrig

- ✓ ~~John Gehrig: IGD outline~~ due Feb 9
- ✓ ~~John Gehrig: Computer/Dashboard Hardware Selection~~ due Feb 9
- ✓ ~~John Gehrig: Write PDR template~~ due Feb 6
- ✓ ~~John Gehrig: Research Embedded Computer~~ due Feb 4
- ✓ ~~John Gehrig: Set up group repository hosting~~ due Feb 6
- ✓ ~~John Gehrig: Cost Analysis~~ due Feb 5

Jordan Blake

- ✓ ~~Jordan Blake: A system state analysis that enumerates the system states and the events that cause transitions between states. This analysis must describe exactly where system state information is maintained in hardware and/or software, what the state information consists of, and how the information~~ due Feb 8

~~required for state transitions is communicated among different locations.~~

Jordan Frank

- Jordan Frank: GLV Safety Loop PDR** due Feb 7
Cost Analysis, Risk Assessment, Requirements Checklist, Preliminary Test Plan.

Kai Ottaway

- Kai Ottaway: Examine FSAE Electric rules for battery design** due Feb 6

Katie Nellis

- Katie Nellis: A system design baseline, including detailed and complete hierarchical subsystem breakdown. This breakdown shall be reflected in all other documentation consistently. Traceability matrices, risk assessments, schedules, etc... shall all be consistent with this breakdown.** due Feb 8

Nate Hand

- Nate Hand: System State Analysis** due Feb 4
A system state analysis that enumerates the system states and the events that cause transitions between states. This analysis must describe exactly where system state information is maintained in hardware and/or software, what the state information consists of, and how the information required for state transitions is communicated among different locations.
- Nate Hand: Write power supply test plan** < Develop preliminary test plan due Feb 2

Nick DiNino

- Nick DiNino: GLV Power PDR** due Feb 7
Cost Analysis, Risk Assessment, Requirements Checklist, Preliminary Test Plan.
- Nick DiNino: System State Analysis** due Feb 7
 - Nick DiNino: GLV Power**
 - Jordan Frank: Safety**
 - Aloysius Posillico: FSI**
 - Zach Helwig: VCI (Vehicle Computer Interface)**
 - Daniel Zakzewski: Final Layout**
- Nick DiNino: Remove Loop Controller from mount** due Feb 7
- Nick DiNino: Find experimental value for Amperage through AIR** due Feb 7

Rameel Sethi

- Rameel Sethi: Acceptance Test Plan Outline** due Feb 5
 - Develop a baseline test plan that establishes how each addressed requirement will be verified.** due Feb 4

Sam

- Sam : Safety/Risk Assessment** due Feb 5

- ~~Develop a Prelim Safety Plan waiting for approval~~
- ~~Finalize Safety Assessment for PDR~~
- Sam : Requirements Analysis** due Feb 5
- ~~Summarizing analysis done in week one, indicating what requirements will be addressed, presenting to group~~ due Feb 3
- ~~Wrote a draft of Requirements Analysis to the standards in SOW~~ due Feb 4
- ~~Present the draft to the group~~ due Feb 5
- ~~Finalize Requirements analysis~~ due Feb 5
- Sam : Proposal to Submit weekly status letter** due Feb 2
- ~~Need to figure out how to record Tasks, i.e. global schedule~~
- ~~Copy in Requirements List with responses matching the person~~

Stephen Mazich

- Stephen Mazich: Create PDR presentation** due Feb 6
See deliverable D000 for requirements.
- ~~Alex Hytha: Test Plan Slides~~
- ~~Stephen Mazich: Subsystem Slides~~
- ~~Brendan Malone: Requirement Analysis Slides~~
- ~~Nate Hand: System State Slides~~
- ~~John Bloore: Risk Assessment Slides~~
- ~~John Bloore: Cost Analysis Slides~~
- ~~Stephen Mazich: Task Breakdown Slides~~
- Stephen Mazich: Task Breakdown** due Feb 5
- Stephen Mazich: Develop Complete Hierarchical Subsystem Breakdown** due Feb 4
A system-design baseline, including detailed and complete hierarchical subsystem breakdown. This breakdown shall be reflected in all other documentation consistently. Traceability matrices, risk assessments, schedules, etc... shall all be consistent with this breakdown.
- Stephen Mazich: Write sensors test plan** due Feb 2 ◀ Develop preliminary test plan

William Stathis

- William Stathis : A requirements analysis (traceability matrix) showing that the design addresses all requirements and constraints. The traceability matrix shall allocate every top level requirement to a functional requirement or interface in at least one subsystem, and every subsystem shall have each of its functions and interfaces related to at least one top level requirement.** due Feb 8
- William Stathis : A task breakdown (Work Breakdown Structure, or WBS) and detailed programschedule focusing on the tasks that must be accomplished to complete the overall project. The schedule should identify specific, measurable tasks that each team member will accomplish individually, and specific, measurable milestones the team will accomplish together. There must be at least one overall team milestone and at least one individual task scheduled for every team member and due for completion each and every week of the project, including spring break week.** due Feb 8

Yiming Chen

- Yiming Chen: Status letter** due Feb 7
 Monitoring the group on completing tasks

Zach Helwig

- Zach Helwig: GLV-VGI-PDR** due Feb 7
 Cost Analysis, Risk Assessment, Requirements Checklist, Preliminary Test Plan.

Unassigned

- ~~Using simulation, analyses, and empirical evidence, predict the performance of the straw man design and thereby validate the subsystem specifications and design correctness.~~ due Feb 4
 ~~< Subsystem Hierarchical Breakdown~~
- ~~Develop a baseline test plan that establishes how each addressed requirement will be verified.~~ due Feb 4
 ~~< Acceptance Test Plan Outline~~
- ~~Develop a high-level system level design~~ due Feb 3
 ~~< Subsystem Hierarchical Breakdown~~
- ~~Develop a "straw man" pre-preliminary design based on the design outlines and test plan that includes rough specifications of major subsystems.~~ due Feb 4
 ~~< Subsystem Hierarchical Breakdown~~
- ~~establish a detailed system level design, including system level architecture, interface descriptions, subsystem specifications~~ due Feb 5
 ~~< Subsystem Hierarchical Breakdown~~
- ~~Prepare for PDR meeting~~ due Feb 4
- ~~Present the draft to the group~~ due Feb 5
 ~~< Requirements Analysis~~
- ~~Finalize Requirements analysis~~ due Feb 5
 ~~< Requirements Analysis~~
- ~~System State Analysis Feedback/Changes~~ due Feb 5
- ~~Wrote a draft of Requirements Analysis to the standards in SOW~~ due Feb 4
 ~~< Requirements Analysis~~
- ~~Straw Man Meeting~~ due Feb 3
- ~~Summarizing analysis done in week one, indicating what requirements will be addressed, presenting to group~~ due Feb 3
 ~~< Requirements Analysis~~
- ~~Req/work breakdown meeting~~ due Feb 2

Incomplete Tasks due within the next 7 days

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Adam Cornwell

- Adam Cornwell:** Getting Started < Operation Procedures due Feb 11
- Adam Cornwell:** Write/Revise the user manual due Feb 13
- Adam Cornwell:** Research languages/IDEs to use due Feb 11

Alex Hytha

- Alex Hytha:** Calibration and Accuracy Draft due Feb 14
Work on converting the Calibration and Accuracy outline in the Calibration and Accuracy draft by adding more detail. This includes use case calculations and arguments for sufficiently accurate.
- Alex Hytha:** Acceptance Test Plan Draft due Feb 14
Work on converting the ATP outline into the ATP draft by added more detail to the document.

Aloysius Posillico

- Aloysius Posillico:** GLV TSI User Manual due Feb 12

Ben

- Ben:** Design battery cell restraint due Feb 12

Bikram Shrestha

- Bikram Shrestha:** Control Panels Drawings (small) due Feb 10
- Bikram Shrestha:** Research Database systems due Feb 11
- Bikram Shrestha:** maintenance plan Elaboration < Operation Procedures due Feb 13

Brendan Malone

- Brendan Malone:** Power Supply Research due Feb 14
Learn everything there is to know about the power supply. Work with John in setting up AEC 401 in terms of limitations and safety concerns of the power supply. Create a document that the group can use as a "cheat sheet". List important spec and safety concerns as well as anything else that could be useful at a glance.
- Brendan Malone:** Connector Research due Feb 14
Learn how the power supply connects to the motor controller. Find a connector that is compliant with the motor controller and with TSV/TSI. Create a document outlining your findings. Make an argument for your decision of connector type.

Daniel Zakzewski

- Daniel Zakzewski:** Compile User Manual due Feb 12

Hansen Liang

- Hansen Liang:** Design retaining mechanism for pack due Feb 15

- Hansen Liang:** Acceptance test plan draft due Feb 15

Jaejoon Yang

- Jaejoon Yang:** Create BoM for needed materials due Feb 15
- Jaejoon Yang:** Contact Formula competition about window in pack due Feb 15

John Bloore

- John Bloore:** Prepare AEC 401 due Feb 14
Prepare the room for testing by rearranging and removing unnecessary components. Ask yourself, "Is the room ready for testing?" Document your progress. A visual representation of the room would do nicely.
- John Bloore:** MSC Development due Feb 14
Propose a plan for housing, connecting, and testing the motor control system. This should including where every component goes, where the wires run, etc. Be sure to document your decisions such that anyone would be able to set up the room.

John Gehrig

- John Gehrig:** User Troubleshooting < Operation Procedures due Feb 12
- John Gehrig:** Hardware Interface control spec due Feb 13

Jordan Blake

- Jordan Blake:** Redesign charging structure due Feb 15
- Jordan Blake:** Calibration and Accuracy report draft due Feb 15

Jordan Frank

- Jordan Frank:** GLV Safety Loop User Manual due Feb 12

Kai Ottaway

- Kai Ottaway:** Design BMS Restraints due Feb 12

Katie Nellis

- Katie Nellis:** Correct BoB board errata due Feb 15
- Katie Nellis:** User's manual due Feb 15

Nate Hand

- Nate Hand:** Motor Controller Research due Feb 14
Learn and document everything you can about the motor. Begin building a document that outlines how to basic operations with the controller in a simple to follow manor. This will get added to the user manual soon.

Nick DiNino

- Nick DiNino:** GLV Power User Manual due Feb 12

Rameel Sethi

- Rameel Sethi:** Research wireless communication systems due Feb 10
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- Rameel Sethi:** Calibration < Operation Procedures due Feb 13
- Rameel Sethi:** Software Interface Screenshot due Feb 12
- Rameel Sethi:** expand ATP from outline due Feb 12

Sam

- Sam :** Research sensors/protocols already on the system and possible additions due Feb 11
Work with other team, and focus on protocols
- check if there is overlap with PDR due Feb 10
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- Sam :** FAQ < Operation Procedures due Feb 12
- Sam :** Block Diagram due Feb 10

Stephen Mazich

- Stephen Mazich:** ICD Draft due Feb 14
Begin a more detailed version of the Interface control document. Add as much detail as possible. Work together with the other groups to add as much as possible.
- Stephen Mazich:** Safety Plan Draft due Feb 14
Draft the Safety Plan required to begin testing the Dynamometer and associated systems in AEC 401

William Stathis

- William Stathis :** Correct AMS board errata and bugs due Feb 15
- William Stathis :** Hash out communication interface with SCADA due Feb 15

Yiming Chen

- Yiming Chen:** Unit Testing Research/Good Coding Practices due Feb 10
- Submit a documentation upon this research
- Yiming Chen:** Operation Procedures due Feb 12
- Sam :** FAQ due Feb 12
- Adam Cornwell:** Getting Started due Feb 11
- Yiming Chen:** Functions and Controls due Feb 12
- John Gehrig:** User Troubleshooting due Feb 12
- Rameel Sethi:** Calibration due Feb 13
- Bikram Shrestha:** maintenance plan Elaboration due Feb 13
- Yiming Chen:** Functions and Controls < Operation Procedures due Feb 12

Zach Helwig

- Zach Helwig: GLV VCI User Manual due Feb 12

Unassigned

- Cost: welding battery case due Feb 12
Is welding a feasible option for the battery case cost and strength wise?
- check if there is overlap with PDR < Research sensors/protocols already on the system and possible additions due Feb 10
- D002 - Users Manual due Feb 16
A users manual, per GPR001, shall be provided. This should be a high level document that contains an annotated drawing of the physical system, annotated screen shots of all user interface screens, annotated drawings of any physical control panels, indicator buttons, power switches, and other controls. The users manual must include a simplified block diagram, explains all operational procedures and techniques needed to operate the system in a safe and effective manner, including "getting started", "FAQ", detailed explanations of all functions and controls, and user level troubleshooting, calibration and maintenance.
- D015 Draft - Project Interface Control Document due Feb 13
A project-level Interface Control Document (ICD) is required. This document shall be produced by the collaborative effort of all the design teams, but a specific individual or task-team shall be entirely responsible for the accuracy of the ICD. This document shall accurately and completely define all (electrical, mechanical, and semantic) aspects of top-level interfaces, including cables and connectors, functional states and processes, wireless interfaces, communications protocols, software APIs, mechanical mounting interfaces, limits, keep-outs, boundaries, and any other relevant fact about the system that needs to be coordinated between different designers.
- D011 Draft - Calibration and Accuracy due Feb 13
Any data acquisition system design or test plan must be accompanied by a Calibration and Error Analysis document that estimates the uncertainties associated with all system measurands. This document must include both analytical estimates of measurement uncertainty, as well as a justified design of acceptance tests to determine the uncertainty achieved in practice. The testing design from this document shall be incorporated into the system ATP.
- D004 Draft - Acceptance Test Plan due Feb 13
The Acceptance Test Plan (ATP) is a document that describes how the system as a whole will be tested and demonstrated so as to prove compliance with all requirements and specifications. The ATP should include forms that can be filled out by testers during execution. These filled out forms will be used to create the ATR.
 - GLV
 - TSV
 - SCADA
 - DYNO