



Team: Emulation of Aerospace Actuation Systems

Date: 4/7/2022

Attendance:

☒ Whole Team Present

☐ Members Missing

Meeting:

☒ Pre E-Days

EiR Mentor: Matt Heath

EiR Signature: *Matt Heath*

EiR mentor's recommendation for future steps:

- The team has stayed on schedule throughout the year and have completed all of the project objectives. They are currently working on an additional objective (Stretch goal).
- Tasks for E-Days
 - o Develop 3-D print chassis (Revision 2 will have minor adjustments; will be the final design)
 - o Stretch Goal
 - PI (Proportional/Integration) Loop is being implemented in code
 - Test next week
- Display at E-Days
 - o Interface (HMI) to show interface between OPAL and microcontroller
 - Developed GUI Interface
 - o QR Code for access to documentation
 - o Physical enclosure for microcontroller
 - o MBSE (Cameo model) for the HIL system.
- Project Lessons Learned
 - o Good mix for experiences
 - Hardware development
 - Software development
 - Soldering process
 - o The team had great working relationship; with good team dynamics they were able to accomplish the work efficiently.
 - Important understanding as project relationships can dictate how work is accomplished.

Tell us what you think about the meeting:

- The team has successfully accomplished the goals set forth and established by Dr. Cale throughout the fall semester. Even though the scope of the project changed based on extenuating circumstances, the team was able to adapt to this changing scope and accomplish the stated goals without extraneous drama or confusion.
- Team learned how to code in C, how to program and control a HIL system, how to work with a real time processor, how to manage a budget and efficiently recover from loss of parts, how to create a GUI in LabVIEW, how to create detailed documentation packages, how to read spec/data sheets to understand interfaces and pinouts, how to understand and regulate voltage relationships, how to model systems using MBSE practices, and 3D printing best practices.

- Matt was an excellent EiR who was always available to support the team, but as the team was constantly communicating through Trello, text message, weekly meetings with Dr. Cale, and weekly tagups at the Powerhouse lab, the team was able to navigate through most issues with ease.
- The schedule was followed as expected with minor changes depending on scope changes on the project.
- All senior design deliverables were completed several days in advance to give the team ample time to review and to give the faculty advisor/EiR time to review and approve.
- Overall this was a great senior design experience where team members were given more than enough work to do and gained individual skills that helped progress each member to a point where they felt confident in interviews and were enabled to accomplish individual goals.