EE/CprE/SE 491 WEEKLY REPORT 2

Start Date – End Date: ***02/06/2024 - 02/13/2024***

Group number: ***9***

Project title: ***Multicore Operational Analysis Tooling***

Client &/Advisor: ***Steve Vanderleest/Joe Zambreno***

Team Members/Role: ***Alexander Bashara – Embedded Engineer, Joseph Dicklin – Hardware Design Engineer, Hankel Haldin – OS/Tooling Engineer, Anthony Manschula – Project Coordinator/Engineer***

Weekly Summary:

The team participated in our weekly Boeing advisor meeting, which provided us with more insight into hardware and software platforms for our project. The team has decided on a pair of SBCs to use for this project, which are the Raspberry Pi 4B and HiKey 960. We have also taken care of some administrative-related tasks during this period.

Past week accomplishments:

In the past reporting period, the team met with our Boeing advisors, and continued research on our hardware and software platforms. With their guidance, we narrowed our hardware choice to two single-board computers: Raspberry Pi 4B and HiKey 960, as they have well-documented support from contributors to the Xen project and are readily available for the team to obtain. We continued research into open-source system stress tools in the interest of being proactive, so that we can get started right away when we have our hardware in front of us. Furthermore, we have also verified that Boeing can access our GitLab repository, so that they can monitor changes and provide support if necessary. We have also selected GitLab Issues as our workload management platform, although this may change as more tasks accumulate.

Pending issues:

- (Boeing) Confirm if ISU team can record weekly meetings
- Investigate alternative hardware platforms in addition to the Raspberry Pi 4
- Provide Boeing with a complete 2 semester project timeline
- Ask faculty advisors about available project funding
- Gather hardware documentation for Raspberry Pi 4
- Build an image for the Raspberry Pi 4

Individual contributions:

NAME	Individual Contributions	Hours this week	HOURS cumulative
Alexander Bashara	Hardware research, tooling research	6	9
Joseph Dicklin	Hardware research, tooling research	6	9
Hankel Haldin	Hardware research, tooling research	6	9
Anthony Manschula	Hardware research, tooling research	6	9

Plans for the upcoming week:

- Build an image for the Raspberry Pi 4 Xen environment
  - Load on Hank's RPI4
- Collect documentation on the Raspberry Pi architecture
  - Reference Manuals
  - Datasheets and Design Documents
- Prepare a complete 2 semester project schedule / outline of deliverables for senior design (i.e., reports, presentations)
  - Deadlines for hardware selection, receiving board, etc.
  - Plans for improvement / expansion in the second semester (Fall 2024)
- Hank: Prepare a set of slides for this week's meeting.
  - Research existing open-source tooling (after choosing hardware)
  - Cache coloring, cache thrashers, etc.

Summary of weekly advisor meeting: During this report period, we did not meet with our advisor. Last week when we brought up the idea of meeting to discuss progress/next steps, we were directed to meet with our client and get a game plan in action before perusing more in-depth advisor-team discussions. We may meet with our advisor to discuss funding from the school, as Boeing has identified that providing funding would be and difficult and lengthy process.