SE 491 – sdmay20-06
ENGINE DATA ANALYTICS TOOL
Week 11/8/19 Report

10/27/19 – 11/8/19
Client: Collins Aerospace
Faculty Advisor: Lofti, Ben-Othmane

Team Members:

Zak Frisvold - Team Leader
Thomas Haddy - UI/UX Engineer
Ryan Radomski - QA Tester
Will Sartin - Meeting Runner
John Powen - Scrum Master

Weekly Summary

We met with Collins this week and talked about our analysis of the data. The Data Parser is very well realized, though the running time is too high.

Past Week Accomplishments

- Everyone turned in their NDA, SAR, and IP Forms.
- Decision on gui in this application.

Pending Issues

- Need to get a better understanding of what the Data field section represents in the Data Cycles of the ARINC 429 standard data format means.
- Data Parser needs to be refactored, the current running time for one file takes way too long at an average of 12.34 seconds per file (given 100 files).
- Will need a concrete definition of the interfaces so that frontend work is not impeding by a changing backend.
- Connection of the GUI to the C/C++ Data Parser. CAPL vs. DLL.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Zak FrisVold	Refactored data Parser to standard.Working with the team implementing and	6-8	58

	troubleshooting the Visual Studio IDE.		
Thomas Haddy	After talking with the team, we found that Qt had LGPL license which was not ideal. Instead, I'm researching about WPF, or Windows Presentation Foundation.	6-8	59
Ryan Radomski	Researched data modeling practices with Data Access Objects design patterns. Refactored data parser to run on different machines, and added definitions for machines.	6-8	60
Will Sartin	Crafted data structured for the ARINC and parsing the file using streams. Analyzing different running times with different data structures and algorithms to get a more efficient algorithm	10-11	62
John Powen	Reviewed gitlab repo work. Checked our ARINC 429 standard, as well practiced C++ skills.	7	57

Upcoming Plans for next Week

- Inquire about how Collins implemented the representation of a specific data field in the ARINC-429 data.
- Get a more efficient running time for the Data Parser.

- Create Tests for the Data Parser, to prove correctness and ease the labor of refactoring.
    - Research Testing suites for C/C++

Summary of Weekly Meeting with Sponsor

Working on data model to ensure that it is robust enough for the frontend and the backend. Asked a lot of questions about values in the data model.