Northwestern University

Internship Project Plan

Student Name: Julia Odden
Academic Level: Junior
Academic Major: Computer Science
Academic Institution: Northwestern University

Mentor Name: Jill Giles
Mentor Job Title: Computer Engineer, AST
Org Code/Branch: NE-XS
Division: Exploration Systems and Operations
Directorate: Engineering

1.0 Introduction

The Engineering Directorate is currently creating a new command and control system that will be used for the troubleshooting and launch of future spacecraft. This project has been under development for several years and should be operational within the next year. My role will be to develop code for one branch of this extremely involved project, likely for self-checking and testing purposes. I will be working closely with a group of software engineers familiar with the project to develop code that integrates smoothly with the system and supports its capabilities.

2.0 Objectives

I do not currently know the specifics of the project to which I have been assigned, but over the course of my ten weeks, I intend to complete the onboarding process as effectively as possible, familiarize myself with the current state of the overarching project and the specific requirements of my task, develop an initial draft of code, and cycle between iteration and review until I and my team leaders are satisfied with the finished product. At or near the conclusion of this process, I will summarize my work in an abstract. This process specifically involves the following:

a) Completion of the architecture overview training

b) Completion of source control and work tracking tool training

c) Acquisition of all necessary development accounts and access for code development

d) Set up my NASA laptop with the necessary development environment

e) Begin developing code

f) Iteratively fix defects and perform code reviews

g) Once step f) no longer yields changes, review software with the Team Technical Lead

h) Write, edit, and submit project abstract

3.0 Technical Approach

In order to complete the tasks outlined in section 2.0, I will need a NASA-approved computer with a text editor for development, software for source control and tracking my progress, and a place to test my code. In more specific verbiage:

a) A Linux computer for development

b) A Linux-compatible text editor, such as Sublime Text Editor or VIM

c) Shell scripting for configuration

d) Source control and work tracking software

e) Automated testing framework

4.0 Schedule

Task	Start Date	End Date
Acquire Development Accounts	6/23/2020	6/30/2020

Architecture Overview/Training	6/24/2020	6/30/2020
Source Control/Work Tracking Tools Training	6/30/2020	7/4/2020
Development Environment Setup	6/30/2020	7/6/2020
Develop Code & Fix Bugs/Defects	7/7/2020	8/27/2020
Perform Code Reviews	7/22/2020	8/28/2020
Final Abstract	8/12/2020	8/15/2020
Final Presentation	8/19/2020	8/27/2020