1 Sep, 2017

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**Progress Report – 1 Aug 2017 – 31 Aug 2017**

Contract Number: HSHQDC-06-D-00022

Contract Number 7500097279

Order Number: HSCG23-07-J-TED150

Task Order – Performance Work Statement (PWS) 1.12

Attachments: (1) SAROPS subcontractor financial reports.

1. **Jira meetings, e.g. Sprint Planning, Sprint retrospective, etc. Lots of meetings.**
2. **IPR on the 2nd. Prepared for and gave a talk on what is hard about transit optimization.**
3. **Finished Sprint 4 work:**
   1. **Ellipse Error Fixed**
   2. **Corner Points in SimLib was not being used. When it got turned on, it turned out that I was filling an output with the wrong array. I fixed that.**
   3. **Am reporting Optimization Score now.**
   4. **I did not get as far on 360 as I wanted to, and wanted to make sure the other fixes were in, so I did not merge my 360 work in with the other work.**
4. **Got my 2.1 uninstalled on my laptop! Now I can install 2.1 on my laptop.**
5. **Got 2.2 installed on the virtual machine that Rob installed for me.**
6. **Worked enough on transits to write 360. Then, while working on 360, I figured out a new issue, called 417. 417 is still infrastructure in nature. The optimization problem has a new constraint; “do not overuse the time allocated to a sortie.” Prior to writing 417, I had introduced this constraint and written (but not debugged) code to evaluate this constraint. Note that these evaluations are how I handle all constraints; I don’t find sets of patterns that satisfy the constraints, but rather evaluate each constraint function at the set of patterns, and make adjustments to the set of patterns that improve the violations. So rolling this new type of constraint into this paradigm is critical, and part of this is evaluating these new constraint functions. Part of 417 is this.**
7. **On 31 Aug, I discussed this with the team, and, with an xml file in front of me and sharing my screen, I discussed what 417 would do. Surprisingly, that discussion actually changed the structure of the xml. Accordingly, I updated 346 with this example and some notes from the meeting. But Jim noticed that 346 was about the execution of the passing of the xml, and so he wrote a new one, 426, that is for developing the xml spec. My comment and example on 346 is a good starting point for 426. I’m pretty sure I can write the code for 346, and then, after translating to English, we’ll have 426 done.**
8. **Discussed rhumb line vs great circle issues with Jack. Since my boxes and patterns have always adhered as closely as possible to the identity ts\*tl = len\*wid (valid only in 2 dimensions), and I use a local projection to effect the 2-d nature of the problem, and this projection is always very close to great circle, and the aviators’ nav computers use great circle calculations (as I understand this), I will stand pat with my code for the time being.**

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| **Name** | **Activity Worked** | **Hours Worked** | **Hourly Cost** | **Total Cost** |
| Kratzke | Coding/Doc/Travel | 196.31 | -- | -- |
|  |  |  |  |  |
| **Totals** |  | 196.31 |  |  |
|  |  |  |  |  |