2 Nov, 2018

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**Progress Report – 1 Oct 2018 – 31 Oct 2018**

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. **Lots of Sprints and Points meetings.**
2. **IPR. Tried not to talk much, but there was a big discussion on some of my topics.**
3. **The main topic of interest to me at the IPR was the VS optimization as opposed to LP and SS. SS is being deferred right now. I pursued and eventually succeeded in obtaining, a specification of the VS problem; every PatternVariable is classified beforehand as a VS, LP, or SS, and this is communicated at the same level as the PatternVariable’s search-speed, its id and name and, in the absence of PvSequences, its CST and search duration. An initial configuration can be supplied for an LP. For a VS, Jack wants it always to be supplied and thereafter, I just twist and shift it. Remember, we are not doing PvSequences right now so shortening or lengthening the duration is not an option. Hence, there are no additional parameters other that centerPoint and direction of first leg. The duration specifies the size of the VS.**
4. **Finished writing the additions to the Sim report for Sailboat and writeOcTables.**
5. **Worked a lot on Sailboat. Basically, it works right now; no unexpected behavior. Added tacking parameters. There is still at least one executive decision that I made that is now under review.**
6. **Was off a couple of days visiting grandchildren.**
7. **Worked a lot on VS. In addition to getting the specs for the current problem, I did much work expanding the basic “pot of values” necessary to specify a pattern, when the waypoints are not given. I used to store just centerLat, centerLng, orntn, along, and sgndAcross, to specify a box for a ladder pattern search. Now the same “pot of values” has patternKind, values for a LP, vsOrSsFirstTurnRight, and ssTs. (Note; the “pot of values” is called a “MyStyle” because “TheirStyle” refers to the way others specify a box, with the length, width, etc. nomenclature). “patternKind” is an enum that determines what kind of pattern this is, and the last 2 are new and used only if the pattern is a VS or an SS. This fits with the routine “perturbMyStyle,” which is at the heart of the minor move part of the code. Hence, I continue to pass a MyStylel to the perturbMyStyle routine. For VS, only the shifts of the centerLat and centerLng, and the twists of the orntn are relevant. This is still a work in progress, but after a few false starts, the fundamentals seem to be in place. I still must write the code to generate a path for a VS, but that should be easy. There are a few other tasks such as filtering the types of perturbation types for a VS (there are 22 perturbation types, and only 6 apply to a VS) and not allowing a major move for a VS PatternVariable, but I’m optimistic that I can get those done soon.**

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| **Name** | **Activity Worked** | **Hours Worked** | **Hourly Cost** | **Total Cost** |
| Kratzke | Coding/Doc/Travel | 174.91 | -- | -- |
|  |  |  |  |  |
| **Totals** |  | 174.91 |  |  |
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