5 May, 2014

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**Progress Report – 1 Apr 2014 – 30 Apr 2014**

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. **SAROPS Systems Component Services Tasks**
   1. **Devised a (very simple) strategy for multiple search objects; simply pFail(all) = Product of PFail(each) for a fixed number of objects and put a probability distribution on the number of objects. Not very satisfactory, but it’s a starting solution. Jack had asked me about this.**
   2. **Worked on a Columbia River case, to keep “Rivers” from getting too dusty. Identified problems with sticky/slippery and, in general, how Rivers’ xmls should be composed to take advantage of Rivers’ currents data. Also, checked my code for LKPs that are mostly land. Someone suggested that polygons are the appropriate starting areas for Rivers cases and I agree. The same problem occurs in reverse drifts (smells as if someone is looking at MH370 here), and the sticky/slippery is now being set correctly.**
   3. **I believe there is a bug in POS reports that will show up if there are multiple scenarios and multiple object types with different probabilities for the object types in the different scenarios. I fixed that but am awaiting confirmation that this has been done incorrectly before.**
   4. **Had some trouble building installers. Moved to 2.0.0.0 and changed the bundled JVM. Took some time to get this straightened out. Still messed up the naming of the jarFile and the version name. Got that correct in the next installer.**
   5. **Made some tweaks in the installer to aggressively give back memory. John Squires says that this isn’t happening, but I haven’t seen a case where this is a problem so I cannot look into this “memory bloat” issue.**
   6. **IPR: developed some gui code to illustrate the problems involved with overlap computation and the POS function. This gui seemed to convey the message at the IPR. In addition, I wrote quite a few slides, attended 2 TWGs that were primarily IPR-related, and 3 other conf calls that were exclusively for the IPR. 8 hour at the IPR and 8 more on travel.**
   7. **Worked out details of how SRUs are ordered when placing them. Unfortunately, the first one has SRUs being randomly ordered. Will probably want to change this. First suggestion was to do it by time-of-arrival, but that won’t improve the POS value. More discussions on this will result in tweaks to the initial placement (eg, use a single grid instead of adjusting the grid for SRUs that have been placed already).**
   8. **Identified a problem with splitting SRUs. Interesting note is that the problem was noticed after 34 planner runs, and the “smoking gun” was found by comparing the 28th and 29th planner xml files in EngineFiles.**
   9. **Although there is an error in the xml when splitting occurs, I should be able to handle the problematic xml files, but was not. I am now.**
   10. **On a related problem, there was a small bug noticed by me that is triggered by SRUs that have such a short track length that only one search leg is generated. I fixed that. This is related because the troublesome planner xml was such a case.**
   11. **Checked on whether or not fast/comp produced different answers; it did not for the case in question.**

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| **Name** | **Activity Worked** | **Hours Worked** | **Hourly Cost** | **Total Cost** |
| Kratzke (New Contract) | Coding/Doc/Travel | 96 | 261.27 | 25082 |
| Stone | Doc | 0 | 223 | 0 |
| L White (Tech Writer) |  | 0 |  | 0 |
|  |  |  |  |  |
| **Totals** |  | 68 |  | 25082 |
|  |  |  |  |  |