06 Jan, 2015

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**Progress Report – 1 Dec 2014 – 30 Dec 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. **IPR. Started to make a presentation for that, but in light of the short duration of the IPR, it will wait until we have a longer one.**
   2. **Worked on radar. Found a bug when I compute a sweep width. I thought it might cause the program to hang, but it doesn’t, and the inaccuracies from this bug are minor. Still, I fixed it, but did not submit because of the IPR.**
   3. **Worked on reading DNC. Low-level effort. The problems are to identify the correct polygons to read (done, but the use of them is not as straightforward as with GSHHS) and dealing with scale. The scale problem is being addressed as part of a cleanup of my geometry routines. “IsItIn” is an algorithm that is simple in nature, but complicated when there are millions of edges and thousands of particles. I have a way of doing this (e.g., find the first crossing of a land border for a moving particle), and it goes fast enough so that nobody has ever noticed it. But it could go faster with simpler code and I’m pushing forward on that cleanup. The trick is to break up every polygon into its “longitudinal strips.” These are (e.g.) 1/100th of a degree wide. Basically, this makes it so that algorithms can be based on polygon segments within longitudinal strips rather than polygons. 1/100th of a degree sounds tiny, but edges and particle movements are actually substantially smaller than that. One effect of this is that the “sausage maker” now runs in 12 hours instead of 36. I wrote about this last month, and made a great deal of progress (Note; I changed 1/240 to 1/100 for ease-of-debugging reasons)**
   4. **There is an installer issue that is not biting us now, but could when there are spaces in the name (e.g., Program Files) of the directory. I ran that down and fixed it.**
   5. **Off from 1/10 to 1/18 2015**

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| --- | --- | --- | --- | --- |
| **Name** | **Activity Worked** | **Hours Worked** | **Hourly Cost** | **Total Cost** |
| Kratzke (New Contract) | Coding/Doc/Travel | 72 | 261.27 | 18811 |
| Stone | Doc | 0 | 223 | 0 |
| L White (Tech Writer) |  | 0 |  | 0 |
|  |  |  |  |  |
| **Totals** |  | 88 |  | 18811 |
|  |  |  |  |  |