3 Oct, 2016

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**Progress Report – 1 Sep 2016 – Sep 30 2016**

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.

Note: notes on month were inadvertently left on Metron machine that I no longer have access to, so this report will be less detailed than normal.

1. **Fixed bug in overlap calculation.**
2. **Attended and participated in CGTRK.**
3. **Worked on the rounding glitch that I mentioned last month. It seems to work pretty well most of the time, and I have a GUI that demonstrates the 3 steps. The “clear overlap” part, when two boxes are barely overlapping, usually clears it by simply moving one or both the expected short distance to clear it. Worth demo-ing at IPR.**
4. **Major effort was to speed up large geometry calculations. There are the following basic operations:**
   1. **For large collection of edges, find the intersections (used in “Sausage maker” to merge data sets and clean up input data)**
   2. **For a point and a large collection of edges, find the first edge one runs into when going north (used in “Sausage maker” and also when determining if a point is wet or dry).**
   3. **For a point and a large collection of edges, find the closest edge (used when adjusting for a substitute path; I must find the closest edges to the endpoints of the ‘detour.’)**
   4. **For 2 large collections of edges, find the crossings (used in Sausage maker and replacing a section with another (detour)).**

**I’m finishing the revision now and will use it to incorporate the changes that Robert asked for. It was harder than I thought and I kept thinking of better ways of doing it; the current way involves less code, less complicated code, less memory, and should run much faster. This was the bulk of my effort. These routines are used within SAROPS as well, primarily in overlap calculations, but also in both completed searches and planner.**

1. **Worked with Judy on reporting Overlap. There is now OvlV and Ovl; I’m reporting both for each Sru. I hope to convince people that I should be reporting Ovl for each *pair* of Srus and not for each Sru.**

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| **Name** | **Activity Worked** | **Hours Worked** | **Hourly Cost** | **Total Cost** |
| Kratzke | Coding/Doc/Travel | 220 | 282 | 62040 |
| Vergamini | Coding/Doc/Travel | 2 | 282 | 564 |
| Stone | Doc | 0 | 223 | 0 |
| L White (Tech Writer) |  | 0 |  | 0 |
|  |  |  |  |  |
| **Totals** |  | 220 |  | 62604 |
|  |  |  |  |  |