1 May, 2013

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**Progress Report – 1 Apr 2013 – 30 Apr 2013**

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. **Activities completed:**
      1. **Started to get going on “Tom’s Sandbox.” If we get a license for me to use, this will probably be OBE since I’d prefer moving in trial jar files and other parts of the code on my own machine; it’s much faster. Could not log in under the user names that I’d logged into 203 with.**
      2. **Polished quite a bit of the work with Judy for the intermediate results display. Put gain in, as well as the number of jumps since the last improvement. Also put in quite a bit of “auto-quit” logic, but then set the defaults for these parameters for quitting in Sim.properties, to very high. Now if Judy wants to tell planner to quit when there has been no improvement for 5 jumps, she can specify that. She can also continue to specify that planner quit after a certain time.  
         To do all of this, I revisited the way that I was iterating and simplified that loop. Now it iterates (in a separate thread) for 2 seconds, and checks for either of the above 2 conditions. If either one of them is saying “time to quit,” the iteration is aborted and we enter phase 2 (cleaning up, rounding, etc.) of the planner.**
      3. **Ran into a nasty “kind of infinite loop” in one case. The improvements were so slight as to be inconsequential, but they were improvements nonetheless and so no “jumps” were being made. Now when it is time to check for jumping or not, we check for an increase of 0.00025 of the old POS. If that hasn’t been obtained since the last “improve, clear ovl” cycle, we make the jump. Something similar could be done for planner in general, especially since the mechanism in 1.a.ii has been set up. Right now, there are 2 ways to abort planner; time and insignificant jumps.  
         A 3rd way is now available but untested. Planner keeps a timeline of pos and look up the pos of 30 seconds ago and compares it to the current pos. If that hadn’t improved by at least 1%, Planner quits. This would requires 2 parameters; the “time to look back” and the “required improvement.” They could be overridden as before. They are currently set to 30 seconds and 1 (so this criteria never kicks in). A final way of aborting planner could be for the user to send a flag in with the GetStatus request.**
      4. **Wrote up the “expected results” in a qualitative way for non-regression testing for simulator. Isn’t complete since I have no case right now for LKP + DR. This is one of the “dusty cases” that I’m trying to make sure that keeps working even though they’re used very rarely. I am now testing hazards and voyages with areas. For example, Rob gave me a hazards case. In my gui, I can turn on just 250 particles and look at only the distress particles. It’s clear that the correct number of (distress since that’s all I look at) particles are popping up as the voyage goes through the hazard.**
      5. **As mentioned in the previous report, I put in code that handles “empty environmental files.” I’d crashed before. This was from a case that Rob gave me at the beginning of the month, I chased down why the crash, and changed the code to log an error and exit. I hope that that error message (in Sim.err.txt) will be handled smoothly.**
      6. **Two bugs had crept in involving parameter conversion when reporting. Judy pointed those out to me and I fixed them.**
      7. **Refined the SimLib01 library for Jim, but have no feedback on that. I think it works but I’ve only tested it using my own C++ ConsoleApp. I also wanted to put the version string into SimLib01 and did that but had some trouble with the JNI on that seemingly trivial task.**
      8. **Worked on the task of trying to always use high resolution land, or at least increase when I do. This is interesting because high resolution is no problem at all *except* in the areas of the refined land (e.g. Great Lakes). So I identified a bottleneck and worked around it. It’s still slower in these regions, but not nearly as bad as it was. Hence, I’ve increased the number of cases where I use high resolution by changing the highest resolution’s maximum AOI radius from 240 to 600.**
      9. **Rob found a bug in a planner case in 1.4. Reproduced it. Noticed that, because so much cleanup took place for 1.5, that this is not a problem in 1.5. Hope that gives me a hint for chasing down the problem in 1.4 if we decide to do that.**
   2. **Travel completed:**
      1. **None; attended TWG’s and a morning-long webex IPR.**
   3. **Upcoming activities scheduled:**
      1. **Revisit the generation of refined land files.**
      2. **Finish the “verbose” Sim (as opposed to planner) output files.**
      3. **Rob found a bug in planner-1.4. Must either fix that or combine 1.5 (where the bug does not exist) with 1.4.**
   4. **Travel planned:**
      1. **None**
   5. **Concerns or recommendations:**
      1. **.**

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| --- | --- | --- | --- | --- |
| **Name** | **Activity Worked** | **Hours Worked** | **Hourly Cost** | **Total Cost** |
| Kratzke (New Contract) | Coding/Doc/Travel | 71 | 255.16 | 18116 |
| Stone | Doc | 0 | 223 | 0 |
| L White (Tech Writer) |  | 0 |  | 0 |
|  |  |  |  |  |
| **Totals** |  | 71 |  | 18116 |
|  |  |  |  |  |