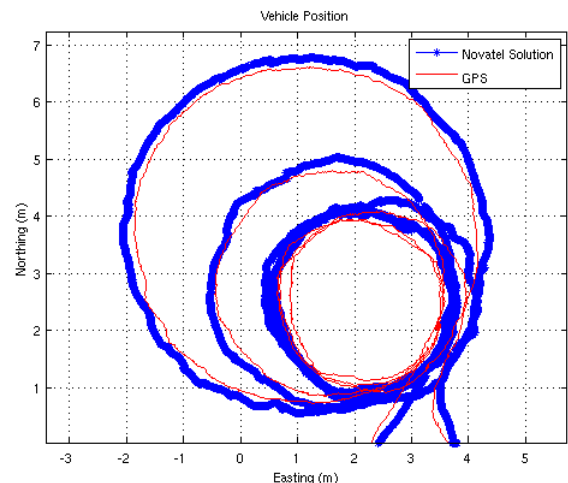


Test was conducted at robot city. The average temperature was 25°F and the ground was frozen.

1. Thru out the day there were no thermal issues and Scarab could move between its full range of pose's
2. Started planning wireless setup for demo, will continue tomorrow when all the hardware is at robotcity.
3. Scarab's wireless behaved reliably all day for testing
4. Placed monk (zoe build laptop) in Scarab using wired Ethernet.
 - a. Could not communicate due to IP issues ----- issue resolved
5. Debugged ZoeToScarab arc transform code.
 - a. Scarab needs to slow down when driving arcs
 - b. The appropriate speed for arcs needs to be determined; tests were done at 3cm/s with no problems.
6. Debugged new Maestro low level controller
7. Debugged the Navigator.
 - a. Navigator does not command point turns since Zoe was not capable of it.
8. Tested code chain from the navigator down to the amplifiers.
 - a. Driving a 2m radius circle twice produced ~7cm of error in wheel position (primarily due to skidding).
 - b. The 4m arc radius appears to



have only been 3m radius in the GPS logs??

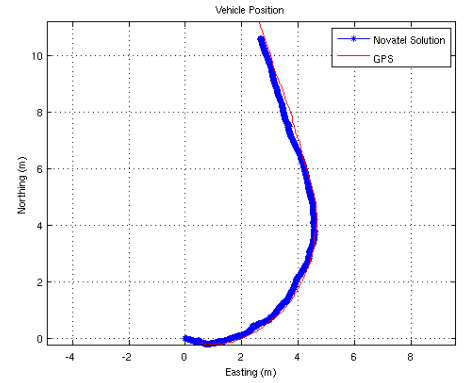
- c. By giving the navigator a goal Scarab was able to autonomously (with no obstacle avoidance) reach the goal.

9. Tested the velocity-cam at three poses.

- a. Tests were done for circles and straight lines.

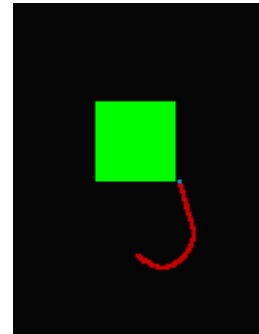
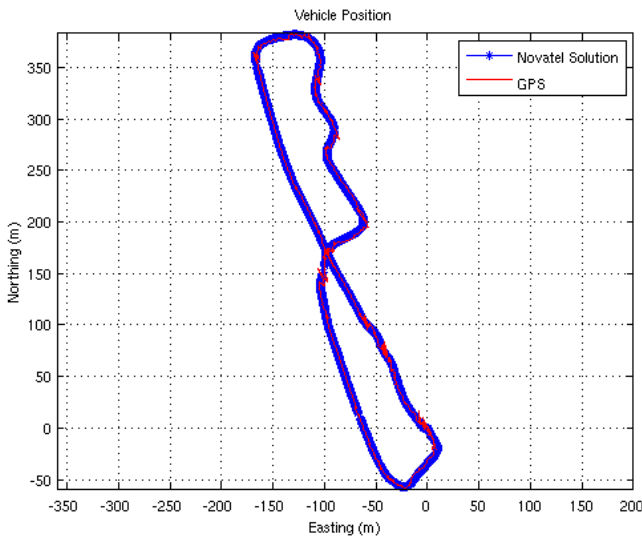
10. Logged GPS points for 1km traverse

- a. Placed scarab in a truck and drove around
- b. Saw 6-9 satellites from inside the box truck

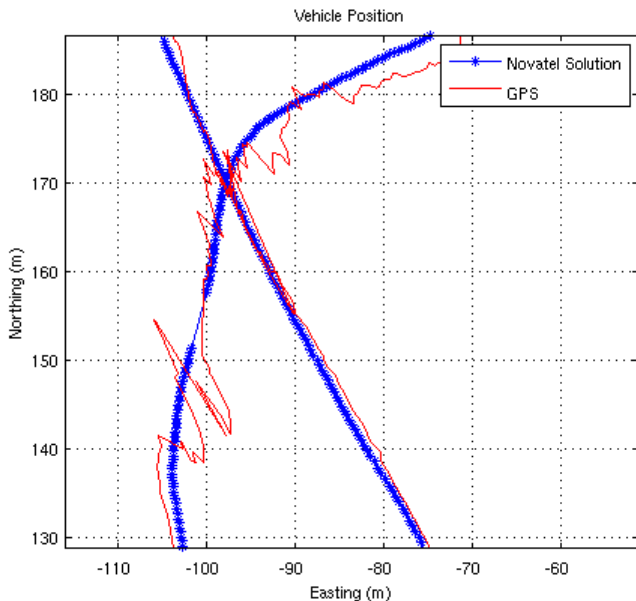


Path the navigator commands Scarab in order to reach its goal.
Above- GPS path
Below- Visual output from the navigator

1km traverse



Green=Goal
Red=Scarab Path



Zoomed in area of the road crossing near the center of the course