Conor Beers

Rough Terrain Robot

Work Breakdown Structure

1. Must comply to all SAC Rules
   1. There will be boulders ranging from 1” to 2” in height. arranged on a 4’ by 8’ piece of plywood. The boulders will be made from different levels of plywood.
   2. The start line will be 4’ long at the beginning of the challenge and the finish line will be 4’ long at the end of the challenge.
   3. The Boulder Field will be arranged in a similar fashion to a peg board where boulders will be assembled in a unique fashion by the judges the day of the competition.
   4. The walls of the Boulder Field will be 1’ high.
   5. There will be no black guiding line on the Boulder Field.
   6. If the team’s robot is about to flip, or they feel they need to intervene in any way they have two options (See Scoring for details):
      1. Skip the challenge, moving the robot to the end of the Boulder Field.
      2. Restart at the beginning of the Boulder Field.
2. Choose robot chassis—4 wheel
3. Understand raspberry pi microprocessor
4. Link microprocessor to robot car
5. Get robot to move on flat surface
6. Build first half of boulder course
   1. Test robot on first half of boulder course
   2. Make adjustments
7. Build second half of boulder course
   1. Test robot on full boulder course
   2. Make adjustments
8. Finalize
9. Close Out
   1. Documentation
   2. User guide

Milestones

* Assemble robot—intelligence, power, sensors, motor drivers
* Local navigation—how to climb boulder
* Global navigation—how to navigate the course
* System integration, navigation debugging
* Robot completes course correctly and reliably