Capstone Notes

April 5, 2023

Status Update

What's been done since last week?

Nothing has been done. This is the first meeting of the new quarter.

What's the plan for next week?

Major design deliverables for the various engineers. PDS, mechanical, software (ROS), and the puzzle panel were all discussed. There was also discussion for future developments.

Project 1: Mechanical

By next week a model of the Stewart platform is needed, and selection of all components, with a clear plan for assembly done. Early discussion of computer models desirable.

Within 2 weeks a near-to-done draft of the disaster rover chassis is needed. Clear steps for assembly.

Project 2: PDS

We're going to have a PCB schematic of the PDS by next week ready for purchase. There will be two versions: one where the Arduino UNO controls the motors and one where the RBPi controls the motors; refer to the software with ROS project for more information.

Project 3: Puzzle Panels

We're going to complete all housings for the puzzle elements, then print out a few examples (enough to constitute a puzzle) by Monday's meeting. We're also going to perform the electrical tests to make sure the PDS works. We have to make sure all the software libraries are working so we can test puzzles. Create at least one puzzle and have it wired up to demonstrate function.

Project 4: Software with ROS

We decided to switch out the RBPi with an Arduino UNO (for motor control) to avoid development hell. At some future point we will have the RBPi control the motors, but not now. Refer back to electrical for related information.

Project 5: Computer Visions

A high level architecture finished by next week. Remind Pierre to talk to CS professors and students. Lots of research and reading into ROS computer vision.