

9 Proposed Test

The following tests have been deemed appropriate to gauge the project's progress and steer the team towards timely completion.

9.1 Mount Operation

Test the mount to ensure it is operational and can properly rotate to accommodate the needs of the ZED Stereo Camera and the corresponding algorithms.

9.2 Mount Strength and Endurance

Attach the ZED Stereo Camera to the mount and the mount to the Thumper. Have the Thumper navigate a safe environment and observe the stability of the mount. Take notes and make changes as required.

9.3 Safe Thumper Navigation

Fully assemble the system, and test the movements of the Thumper to ensure it can safely navigate through any environment without running into obstacles or rolling off a ledge. Localization and mapping is not required to pass this test.

9.4 SLAM by ZED

Test the mapping capabilities of the ZED Stereo Camera to ensure a desired result is achievable. Use of the Thumper is not required to pass this test.

9.5 SLAM in Different Environments

Test the entire system: Thumper, ZED Stereo Camera, and Jetson TX1. Have the system perform SLAM in various environments, both indoors and outdoors. Make observations and update the system as necessary. Repeat until the outcome is satisfactory and meets the project requirements. This is the final test and will determine the success of the project.