**Spring Validation Demo Test Plan**

| **Test Title** | **4.8 Spring Validation Demo** | |
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| **Objective** | To demonstrate the capability of localizing and estimating depth through perceptual degradation | |
| **Elements** | System | |
| **Location** | Fire Academy or NREC | |
| **Equipment** | Phoenix Pro, Lidar, Smoke bombs or fog machine, Smoke masks, Eye protection gear, Laptop with Smores software stack, heaters, power supply, test-setup items | |
| **Personnel** | [Aayush Fadia](mailto:afadia@andrew.cmu.edu)[Abhishek Iyer](mailto:abhishekiyer@cmu.edu)[Amy Jiang](mailto:amyjiang@andrew.cmu.edu)[Ranai Srivastav](mailto:ranais@andrew.cmu.edu)[Swastik Mahapatra](mailto:swastikm@andrew.cmu.edu) | |
| **Procedure** | | |
| * Setup the test environment including power supply, smoke machine, drone platform, and audience visualization aids.   + The test environment will be enclosed and smoke will be released until the desired environment is reached.   + The test environment will have heaters and other objects placed throughout the testing area * The drone will proceed moving through the environment while mapping the environment and reporting dense depth * The drone will circle back to where it started from | | |
| **Verification Criteria** | | **Requirements Satisfied** |
| * The audience can see live (latency < 200ms)of the sensor feeds through appropriate visualizations * Endpoint error < 5m * Dense depth reconstruction is visually similar to true environment | | * PR.M.1 * PR.M.2 * PR.M.3 * FR.D.2 * FR.M.1 * FR.M.2 * NR.M.2 |