

Responses to Final Report Reviewers

We sincerely thank all professors for evaluating our final report and for identifying areas where the report could better clarify the scope of the implemented system and its possible extensions. In the revised report, we made targeted additions rather than major restructuring, so the report remains concise while directly addressing the requested points.

Response to Professor 1 Comments

Category	Reviewer Score
Introduction	4/5
Design	8/9
Cost and Schedule	2/2
Requirements and Verification	7/8
Conclusions	5/6

Comment 1: Minor deductions were given in the Introduction, Design, Requirements and Verification, and Conclusions sections.

Response 1: We revised the report to clarify the implemented physical scope of the project and added concise discussion of an important extension: gesture-controlled projector rotation. Specifically, we added a design subsection explaining what would be required to enable gesture-controlled rotation, a verification paragraph for that extension, and a future-work paragraph describing the enhancements it could provide.

Response to Professor 2 Comments

Category	Reviewer Score
Introduction	5/5
Design	4/9
Cost and Schedule	2/2
Requirements and Verification	6/8
Conclusions	4/6

Comment 1: Discuss what would be needed to modify the system to enable gesture-controlled projector rotation.

Response 1: We agree that this extension should be discussed more explicitly. In the revised Design section, we added a concise subsection titled “Gesture-Controlled Rotation Extension.” This subsection states that the final prototype uses phone-controlled pre-alignment and does not currently rotate the projector using gestures. It then explains the required additions: a gesture-to-yaw/pitch command layer, separation between interaction mode and platform-control mode, closed-loop motor feedback, rate limits, dead zones, safety interlocks, and homography update or re-calibration after platform motion.

Comment 2: Discuss the requirements for gesture-controlled projector rotation.

Response 2: We added a Requirements and Verification paragraph specifying the expected requirements for this future feature. The revised text discusses stable recognition of a dedicated rotation-control gesture, command latency below 200 ms, angular error within approximately 5 degrees, software and hardware safety limits, automatic stop behavior, and re-computation or update of the homography after projector motion. We also added a brief verification approach based on measuring gesture-driven yaw/pitch movements, unintended motion, and post-motion mapping alignment.

Comment 3: Discuss the enhancements that could be achieved by implementing gesture-controlled projector rotation.

Response 3: We revised the Future Work subsection in the Conclusions section to describe how gesture-controlled rotation would improve the system. The added discussion explains that this feature would allow users to steer the projection region without switching to the phone interface, support more flexible walk-up interaction, and improve the system's adaptability to larger workspaces and arbitrary surfaces. The revision also identifies the technical requirements needed to make this enhancement reliable and safe.