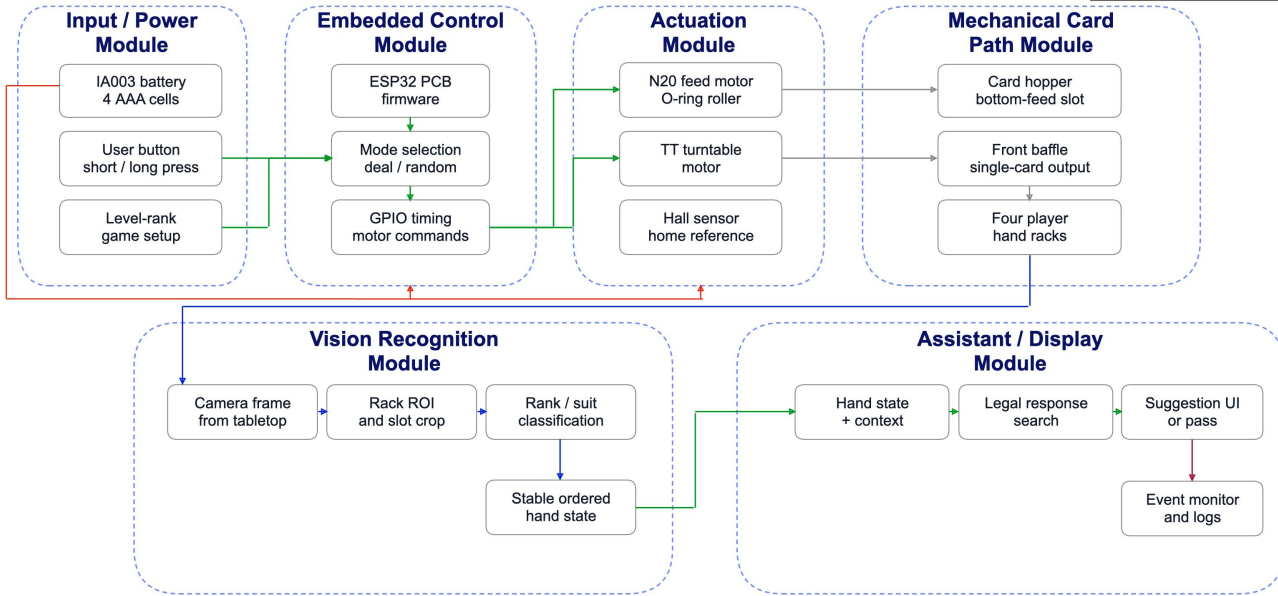
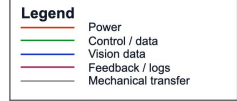


# Responses to Reviewers

Response to Timothy Lee Comments	
<b>1. Summary</b>	
<p>We sincerely thank Timothy Lee for reviewing the final report draft. The comments identify three explicit requested changes: adding a block diagram, adding a work schedule, and adding uncertainties and future work. These changes are addressed below.</p>	
2. Questions for General Evaluation	Reviewer's Evaluation
Introduction	2/5
Design	9/9
Cost and Schedule	1/2
Requirements and Verifications	8/8
Conclusions	3/6
Total Score	23/30
<b>3. Point-by-point response to Comments and Suggestions</b>	
<p><b>Comments 1:</b> Introduction (2/5). Missing block diagram.</p>	
<p><b>Response 1:</b> We agree. Figure 1 is the system block diagram, and it has been remade as a clearer subsystem-level block diagram with larger labels, module boundaries, and an enlarged connection legend. The revised diagram shows the user input/power, embedded control, actuation, mechanical card path, vision recognition, and assistant/display modules. This same revised Figure 1 also addresses Lin Yu's request to increase the block-diagram font size.</p>	

## Cyber Guandan Tabletop Assistant System Block Diagram



Revised Figure 1. System block diagram with larger labels, module boundaries, and color-coded connections.

**Comments 2:** Cost and Schedule (1/2). Missing work schedule.

**Response 2:** We agree. The following work schedule has been added to address the missing schedule request.

Period	Main Focus	Deliverable or Decision
Mar. 2-Mar. 15	Project definition and mechanical layout comparison	Selected a four-player Guandan tabletop assistant and the rotating-body dealer concept.
Mar. 16-Mar. 31	Embedded platform and system architecture	Selected the ESP32-based integrated PCB, two DC motors, one button, and Hall-sensor homing.
Apr. 1-Apr. 14	Scope refinement and camera experiments	Moved recognition emphasis from moving-card transfer to the more stable hand-rack camera view.
Apr. 15-Apr. 30	Staged hardware bring-up	Verified GPIO, serial commands, individual motor jogging, and Hall homing before full dealing trials.
May 1-May 10	Mechanical tuning and firmware integration	Tuned the reverse-then-forward feed sequence and completed normal/pseudo-random dealing logic.
May 11-May 15	Software verification and report integration	Tested hand-rack recognition, rule recommendations, and UI highlighting.

May 16-May 27	Rebuttal and final revision	Remade diagrams, added schedule information, expanded requirements discussion, and strengthened limitations/future work.
<p><b>Comments 3:</b> Conclusions (3/6). Missing uncertainties and future work.</p>		
<p><b>Response 3:</b> We agree. The conclusion has been expanded with both remaining uncertainties and future-work items. The future-work items also reflect the final presentation slide.</p> <p>[Remaining uncertainties: long-term wear of the O-ring roller, behavior with older or bent cards, recognition accuracy under a wider range of lighting conditions and occlusion cases, and the effect of user handling during repeated full-game sessions.</p> <p>Future work:  Mechanical: stronger enclosure, guarded roller/gears, and a more durable feed path.  Power: rechargeable supply and better battery monitoring.  Vision: automatic calibration, a larger recognition dataset, and better robustness to lighting and occlusion.  Game assistance: optional opponent-history tracking for stronger strategy support.]</p>		

## Response to Lin Yu Comments

### 1. Summary

We sincerely thank Lin Yu for reviewing the final report draft. In this response, we address the actionable requested changes that can be clearly mapped to the submitted report: improving the readability of the system block diagram, improving the readability of the design-section recognition/recommendation flow diagram, and adding discussion of requirements for a user-friendly motion-capable robotic assistant.

### 2. Questions for General Evaluation

### Reviewer's Evaluation

Introduction

4/5

Design

6/9

Cost and Schedule

2/2

Requirements and Verification

6/8

Conclusions

5/6

Total Score

26/30

### 3. Point-by-point response to Comments and Suggestions

**Comments 1:** Introduction (4/5). Figure 1 totally is not visible due to super small fonts in the block diagram. Increase the font.

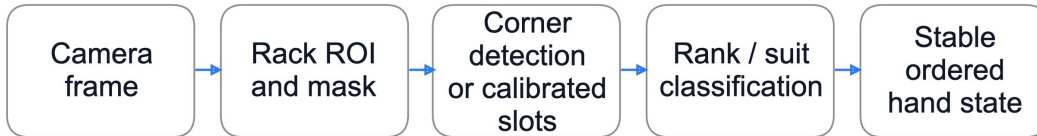
**Response 1:** We agree. Figure 1 was the system block diagram, and the revised Figure 1 shown above in the response to Timothy Lee Comment 1 uses larger labels, clearer module boundaries, and an enlarged connection legend.

**Comments 2:** Design (6/9). Figure 2 totally is not visible due to super small fonts in the block diagram. Increase the font.

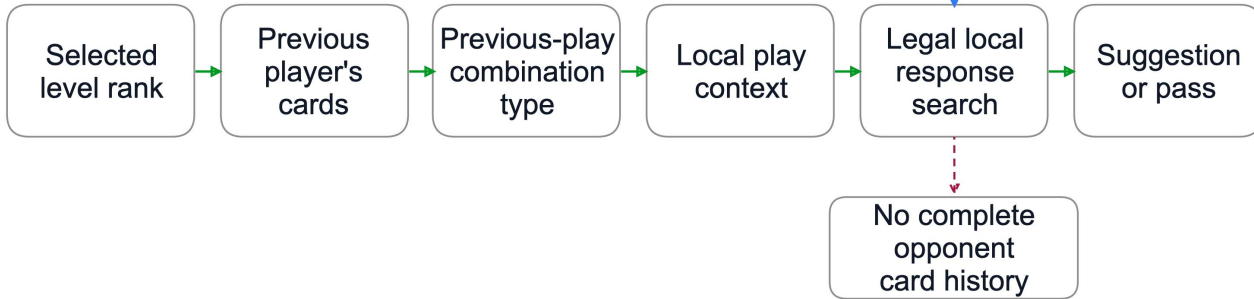
**Response 2:** We agree that the design-section block/flow diagram needed larger labels. We identified the detailed recognition and local recommendation flow as the design block diagram with very small text, and remade it in an editable PPT format with larger labels and clearer spacing. The revised diagram is included below.

## Detailed Recognition and Local Recommendation Flow

### Vision recognition



### Play context



*Revised design flow diagram. Detailed recognition and local recommendation flow remade with larger labels.*

**Comments 3:** Requirements and Verification (6/8). Request: Discuss the requirements for a user-friendly motion-capable robotic assistant.

**Response 3:** We agree. The rebuttal adds the following requirement discussion for a user-friendly motion-capable robotic assistant.

Requirement Area	Added Discussion
Simple operation	A player should be able to start normal or pseudo-random dealing without using a computer terminal; the final system uses a short button press for normal dealing and a long press for pseudo-random dealing.
Predictable motion	The rotating dealer should return to a known direction and avoid accumulated indexing drift; the Hall sensor and fixed magnet provide a repeatable home reference.
Physical safety	Users should not touch moving rollers, gears, or the rotating upper structure during operation; future versions should add guards around pinch points.

Readable assistance	The assistant should show recognized cards and suggested responses in a way that can be quickly understood during a game.
Practical setup tolerance	The final recognition setup assumes visible card corners, stable indoor lighting, and no severe card occlusion.