

Prototype

PROTOTYPE PHASE JUDGING RUBRIC

Category	Criteria	
Technical Implementation (45%)	Hardware Planning & Partial Integration	
Poor (0-3)	Average (4-6)	Great (7-10)
No clear schematic or block diagram; little to no firmware or program code; minimal technical effort shown.	Basic schematic or block diagram provided; some firmware/program code developed; partial functionality demonstrated but lacks completeness.	Clear and detailed schematic or block diagram showing overall system plan; significant progress in firmware and program code; partial modules tested and working even if full integration not yet achieved.

Category	Criteria	
System Design & Visualization (30%)	Conceptual Architecture, Data Flow & Dashboard/Visualization	
Poor (0-3)	Average (4-6)	Great (7-10)
No clear system overview; missing or unclear block/system diagrams; no explanation of how data flows through the system; no dashboard or visualization concept.	Basic system overview provided with some diagrams; partial explanation of data flow; dashboard or visualization concept shown but limited in clarity or usefulness.	Well-structured and detailed block/system diagram that clearly communicates overall architecture; logical data flow from sensors → processing → outputs explained; dashboard or visualization mock-up effectively demonstrates how users will interact with system data.

Category	Criteria
Impact & Effectiveness	Relevance to Identified Problem

(25%)		
Poor (0-3)	Average (4-6)	Great (7-10)
The problem addressed is vague or irrelevant to the campus context.	Addresses a relevant issue but lacks depth in impact.	Directly addresses a critical campus inefficiency with clear benefits.

Finals

FINAL PHASE JUDGING RUBRIC

Category	Criteria	
Technical Implementation (25%)	Design Complexity, System Integration & Functionality <ul style="list-style-type: none"> • Complexity - eg. choice of microcontroller or usage of prototyping board, use of AI, modern IoT topics, custom digital logic design, custom PCB, dashboard etc • System Integration - completeness of the system as a scalable and deployable product • Functionality - fulfils the intended purpose and performance of the system holistically. 	
Poor (0-5)	Average (6-10)	Great (11-15)
Simple or trivial design; modules poorly integrated; prototype frequently fails or has major functionality gaps.	Moderate design complexity; partial integration of hardware/software with some inconsistencies; prototype functions but has noticeable limitations.	High design complexity with well-thought-out architecture; complete hardware and software integration; prototype demonstrates reliable functionality and fulfills intended purpose.

Category	Criteria
Interaction & Visualization (20%)	Dashboard, Data Representation & User Interaction Flow <ul style="list-style-type: none"> • Data representation (graphs, live feed, or simple readouts) • Interaction flow planning (buttons, sensors, or how a student would use it eventually) <p>Note:</p> <ul style="list-style-type: none"> • Teams with dashboards get rewarded for clarity and usability. • Teams without dashboards but with clear sensor/button interaction planning can still score

	well.	
Poor (0-5)	Average (6-10)	Great (11-15)
No clear way for users to interact with or view system outputs; missing or confusing dashboard/data visualization; interaction flow not considered.	Basic dashboard or visualization mock-up provided; partial interaction flow (buttons, sensors, or simple data readouts) is present but lacks clarity or usability; limited demonstration of how end-users would engage with the system.	Clear and effective dashboard or visualization that makes system data understandable; smooth and logical interaction flow (sensors, inputs, controls) planned or demonstrated; shows strong potential for real campus users to easily engage with the system.

Category	Criteria	
Innovation & Creativity (15%)	Creative & Practical Implementation	
Poor (0-5)	Average (6-10)	Great (11-15)
Unoriginal solution; no practical enhancements.	Moderately creative solution with some practical merits.	Innovative and highly practical implementation, stands out from typical solutions.

Category	Criteria	
Impact & Effectiveness (20%)	Real-World Deployment Readiness	
Poor (0-5)	Average (6-10)	Great (11-15)
Solution is theoretical; impractical for real-world deployment.	Deployable with adjustments; partial readiness for real-world usage.	Deployment-ready with clear and significant impact.

Category	Criteria	
Presentation (20%)	Professional Delivery & Audience Engagement	
Poor (0-5)	Average (6-10)	Great (11-15)

Unstructured and uninspiring presentation; audience disconnect.	Structured presentation but lacks strong audience engagement.	Confident, clear, and engaging presentation that captivates the audience.
---	---	---