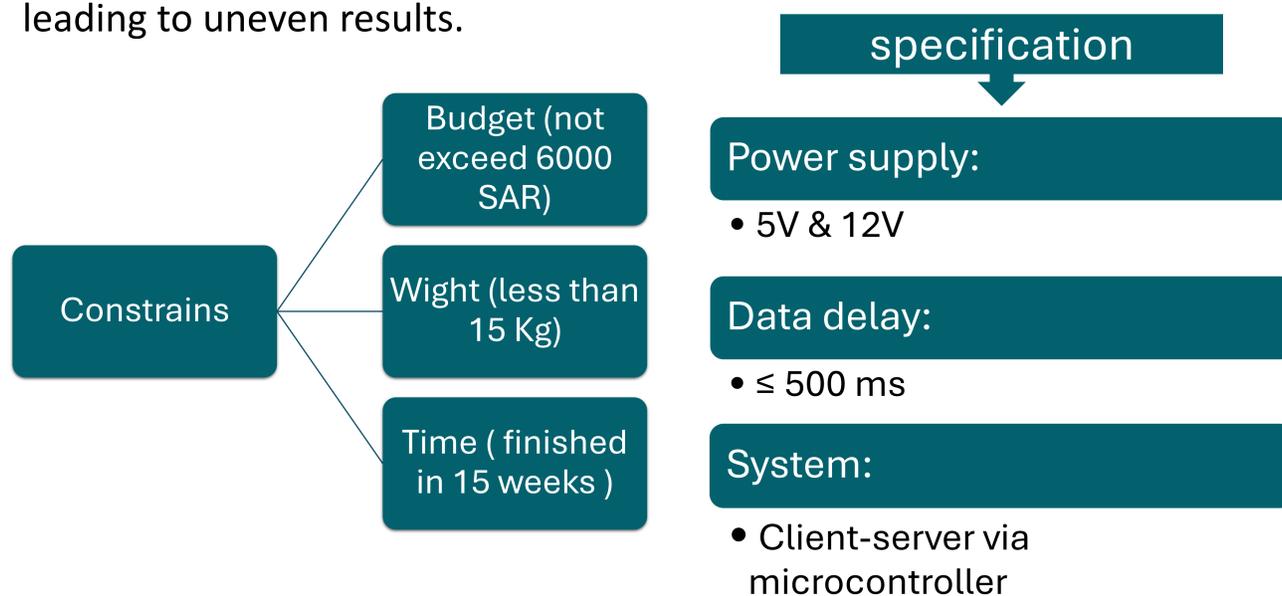




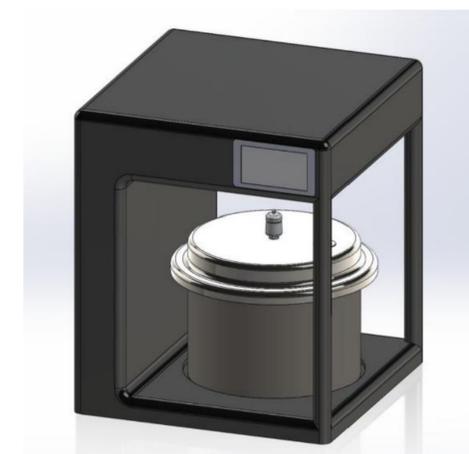
Background

- Problem Statement: Traditional cooking is inefficient and inconsistent, with challenges in controlling pressure, temperature, and timing, often leading to uneven results.

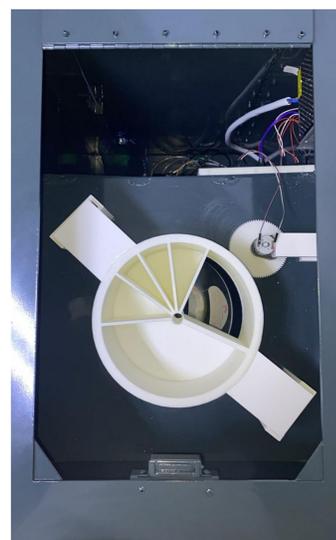


Conceptual Design

- Internal Search: The team brainstormed how to improve cooking methods and integrate them with technology, which led to automated stirring and distribution of food, as well as improving factors that affect cooking such as pressure and temperature
- External Search: The latest smart electric pots were reviewed and the technologies they use were identified. Modern robotic systems that perform cooking operations were seen.



Prototype Design



Testing

- We conducted several tests to evaluate system performance. We verified the accuracy of temperature and pressure sensors, tested motor control for consistent mixing, and measured data transmission delay, which remained under 4 ms. Multiple cooking trials were performed, confirming the system's ability to maintain stable cooking conditions and operate reliably.

Conclusions

- The automated cooking system has been successfully designed and implemented, integrating sensor-based monitoring, precision control, and automation technologies. The system employs temperature and pressure sensors, solenoid valves, and a PID control mechanism to maintain optimal cooking conditions.