Final Year Project & Thesis Plan – Full Summary

Student Profile

- Name: [Not specified]
- Final Year BSc in CSE Student
- Laravel expert with 3+ years of real-world experience (e-commerce, admin panels, custom systems)
- Currently learning Vue.js (training phase)
- Some experience with Arduino and Proteus simulation
- Past Arduino project failure but motivated to overcome it
- Plans to pursue MSc in China (2025)
- Real-world problem-solving mindset and client-handling experience

Fears and Confidence

- Concerned about completing Arduino part of the project alone (no mentor, limited experience)
- Feels confident in solving real problems using Laravel and frontend skills
- Seeks unique, valuable project idea instead of repeating common projects
- Wants to create something publishable or impactful for MSc application

Why Not Common Projects?

- Student is aware that common projects like 'Smart Irrigation' are overdone
- Wants to avoid generic systems and focus on rare or semi-rare use cases
- Focused on building a real-world, impactful system with hardware-software integration

Idea Evaluation Table

Idea	Common?	Unique Hook
Smart Irrigation	Yes	Add AI prediction + offline GSM + water optimization
Smart Sprayer Robot	No	Robotic motion + control logic
Health Monitoring	Medium	Rare if with alert + remote area logic
Poultry Farm	Rare	Industrial + agri-combo
Smart Waste Bin	Medium	Urban planning + tech angle
Energy Tracker	Rare	Real-time + cost-saving system

Rare and Very Rare Project Ideas

1. Smart Cold Chain Monitoring System:
   - Tracks temperature/humidity in vaccine or food storage units.
   - Alerts via web/app/GSM if thresholds are crossed.
   - Expandable to AI prediction and maintenance planning.

2. AI-Assisted Poultry Farm Monitoring:
   - Measures gas levels, humidity, temperature.
   - AI logic recommends optimal light/feeding/airflow.
   - Useful for commercial farming automation and health tracking.

3. Energy Usage Tracker for Rural Homes:
   - Monitors appliance-level energy usage.
   - Sends SMS alerts when energy spikes.
   - Great for government, rural infrastructure.

4. Smart Desk for Hybrid Work:
   - Adjust height, light, fan based on schedule or person.
   - Tracks usage for office planning.

5. IoT Voting Box for Community Feedback:
   - Uses RFID or button press to record opinions.
   - Secure, real-time Laravel-based backend for results.

6. Smart Dustbin Network for Urban Collection:
   - Tracks garbage level and generates pickup schedule.
   - Optimizes municipality resources.

Final Selected Projects

The student chose two highly practical, impactful, and research-ready projects:
1. Smart Cold Chain Monitoring System
2. AI-Assisted Poultry Farm Monitoring System

Reasons:
- Real-world applicability
- Potential for publication
- Perfect mix of Laravel, Vue.js, Arduino
- Supports MSc admission with strong portfolio

Thesis vs Project Clarification

- You can apply to China with a strong final year project even without a published paper.
- However, publishing a mini thesis increases your credibility and scholarship chances.
- Your project can be expanded into a thesis by adding documentation, objectives, and experiments.

Next Steps

1. Prepare the abstract, objectives, and problem statement.
2. Design block diagram and system architecture.
3. Build backend using Laravel + real-time Vue.js frontend.
4. Simulate Arduino logic with Proteus and real sensors.
5. Collect data and add reporting, alerts, or ML.
6. Prepare documentation for project or thesis.
7. Submit to a local conference or publish in IJSER/IJERT.
8. Add the project to your portfolio for MSc SOP.