Week 4 Progress Documentation

PW26_MG_02

Building on the architectural foundation established in **Week 1**, the hybrid system design and feasibility exploration carried out in **Week 2**, and the interface-driven system visibility achieved in **Week 3**, **Week 4 focused on consolidating the project into a coherent and communicable system representation**. The intent of this phase was not to introduce new components, but to ensure that everything developed so far can be clearly reasoned about, explained, and defended as a unified whole. This step was essential in transforming individual design decisions into a system that reflects deliberate control and intellectual ownership.

Articulating Intent and Control

During this week, we clearly defined the **abstract and scope**, positioning the project as an effort to build a **trustworthy, adaptive, and explainable stock prediction platform**—one that values accountability, transparency, and restraint as much as raw performance. We explicitly documented **Phase-1 feedback** and our responses to it, including improved architectural clarity, stronger module separation, UML-based workflow representations, and frontend prototypes that demonstrate system feasibility and real-world alignment.

Our **literature survey** anchors the project in recent research on adaptive reinforcement learning, causal modeling, risk-aware portfolio management, and explainable financial AI. This grounding reinforces why an explainability-first direction is not merely a design preference, but a necessary response to the limitations of opaque, accuracy-driven financial systems operating under volatile market conditions.

An Inspiring View of the Proposed Methodology

At the heart of our system lies a simple but powerful belief: **a financial system should know when to act—and when not to**. Our proposed methodology embodies this through an **explainability-first controlled execution model**, where decisions are taken only when confidence thresholds and market regime stability are explicitly verified. Every execution is paired with a clear rationale, making system behavior auditable, interpretable, and trustworthy.

Equally important is our **abstention-first safeguard mode**. Instead of forcing predictions under uncertainty, the system chooses restraint, prioritizing capital protection and transparency over aggressive automation. By treating abstention as a deliberate, explainable decision rather than a failure, we design for responsibility, not just intelligence. Together, these modes reflect how we believe real financial systems should behave—**measured, self-aware, and accountable**.

Outcome

By the end of Week 4, we had not only documented our work, but **strengthened our conviction in it**. This clarity positions us to treat the **ISA-1 presentation in Week 5 as a checkpoint rather than a finish line**, where feedback and scrutiny will directly inform sharper design decisions, tighter assumptions, and deeper system refinement in the weeks ahead.