Sprint 1 Review Document

Course: CSCE 3444 - Software Engineering
Sprint Period: January 26 - February 8, 2026
Team: S1-T4

Summary of Accomplishments

During Sprint 1, our team focused on foundational planning and research activities necessary to establish a solid technical foundation for our stock market paper trading and analysis application. Although we did not write production code during this sprint due to awaiting final project approval from Professor Doran, we made significant progress in defining our technical architecture, selecting appropriate datasets, and establishing our development approach.

Challenges and Roadblocks

Waiting for Project Approval: Our primary challenge during Sprint 1 was waiting for final project approval from Professor Doran before beginning implementation. This delayed our ability to start writing code and setting up the development environment. We addressed this by focusing our efforts on thorough planning, research, and architecture decisions so we can hit the ground running once approved.

AI Usage Concerns: We initially over-proposed the use of AI in our project design. Through feedback from Professor Doran, we realized we need to carefully limit AI to optional natural language summarization
only. All analytical logic, trade evaluation, and strategy implementation must be written by our team. This presents a challenge in meeting the 8,000+ combined lines of code requirement (approximately 2,000 lines per team member), but we are confident that implementing the research, evaluation, and simulation features without AI assistance will more than meet this threshold.

Dataset Size Uncertainty: We are uncertain about the final size of our dataset and how it will impact application performance. We don't yet know exactly how much historical data will be needed to support comprehensive research and evaluation features. We plan to start with our testing dataset and incrementally scale up to measure performance implications. Research UI Complexity Building an effective user interface for the research side of our application will be challenging. We need to display complex financial metrics, evaluation criteria, and research tools in a way that is intuitive and educational. This is a significant UI/UX challenge that will require careful design and iteration.

Client/Stakeholder Feedback

On Project Viability: Professor Doran confirmed that our paper market project is viable and sufficient in scope when combined with research and evaluation features. He expressed initial skepticism but sees enough work to keep everyone busy, though more implementation details will need to be provided as we progress.

On AI Usage: He emphasized that AI is over-proposed in projects these days. He agrees that natural language portions are best handled by AI, but analysis must be our responsibility. We need to implement all analytical logic, trade evaluation, and metrics calculation ourselves without relying on AI tools.

On Research and Evaluation Features: Professor Doran stressed the importance of building research capabilities into our solution. The application should help determine whether a student "did their homework or just guessed" when making trades. We need to think carefully about evaluation metrics and implement features that encourage thoughtful research before trading decisions.

On Data Requirements: He confirmed that there is no need to use live data for teaching purposes. Historical data is perfectly acceptable, and synthetic data can be used if needed. This validates our approach of using historical datasets from Kaggle and Stooq.

On Dataset and Trading View: He suggested the specific Kaggle dataset we had already identified: "Price Volume Data for All US Stocks & ETFs." He also recommended researching TradingView, noting that they publish their charting libraries on GitHub with sample implementations.

Impact on Future Sprints

Eliminate AI from Analytical Features: We will remove any plans to use AI for trade execution, strategy evaluation, or analytical calculations. AI will only be used for optional natural language summarization of results.

Prioritize Research and Evaluation Features: We will dedicate significant effort to building robust research tools that help users understand "good trades" versus "bad trades." This includes implementing comprehensive metrics, educational resources, and evaluation criteria.

Develop Evaluation Metrics: We will design and implement a system to evaluate whether users are making informed decisions based on research or simply guessing. This could include tracking research activities, requiring justification for trades, and scoring decision quality.

Implement TradingView Integration: We will explore TradingView's open-source charting libraries on GitHub and integrate them for professional-quality financial visualizations.

Create Detailed Implementation Plans: We will provide Professor Doran with more specific technical implementation details and options for features as we begin development.

Focus on UI/UX for Research Tools: We will invest time in designing intuitive interfaces for the research side of the application, recognizing this as a major component of the workload.

Include Trading Education: We will research actual trading practices and incorporate educational content about how to evaluate stocks and make informed trading decisions.

Ensure Proper Documentation and Deliverables: We will carefully review assignment instructions to ensure all required deliverables (including presentation slides when required) are submitted properly.