# CMSI 4071 Project Status Sheet
**Fall 2025**

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**Project**: Finance Buddy                    **Period Covered**: Oct 26 – Nov 8

## Accomplishments since last report:

➢ Chose and finalized a Hugging Face model for financial advice and personalization.

➢ Continued updates to the UI/UX design to improve consistency and user experience.

➢ Implemented vectorization successfully within the RAG (Retrieval-Augmented Generation) pipeline, enabling more accurate and efficient retrieval of financial data.

➢ Created detailed UML design diagrams (use case, sequence, package, class, and state diagrams) to guide the coding phase and improve overall system clarity.

➢ Set up the structured prompt templates and metadata fields required for accurate financial insights and AI-driven recommendations.

## Scheduled tasks to be done by next report:

➢ Finish integrating the full RAG pipeline, including connecting the embedding store, retrieval logic, and response generation into the chatbot flow.

➢ Implement the first phase of the gamification system, adding lesson progress tracking, badge unlocking logic, or challenge triggers.

➢ Complete Firebase read/write operations for core data (expenses, goals, and user profiles) to support live updates and persistence.

➢ Continue refining the UI, focusing on the chatbot screen, dashboard improvements, and overall consistency with the Canva design.

## Noteworthy risks, concerns, or problems:

➢ Risk 1: RAG pipeline may not return consistently accurate or personalized advice once integrated into the app. Mitigation Plan: Perform iterative testing with diverse financial queries, refine the prompt templates, and adjust retrieval settings (e.g., top-k values) until output quality stabilizes. If accuracy remains low, fine-tune embeddings or expand the vector dataset. *(Target: November 15)*

➢ Risk 2: The expanding Firestore schema and subcollections may introduce data inconsistencies or synchronization issues across UI components. Mitigation Plan: Implement standardized data models, validate all Firestore read/write operations, and add testing routines to ensure data integrity before integrating more UI screens. *(Target: November 15)*

➢ Risk 3: Gamification features (badges, lessons, progress tracking) may take longer than expected due to interdependencies with user data, notifications, and UI. Mitigation Plan: Break the gamification system into smaller milestones (badge logic, lesson retrieval, progress tracking) and start with the simplest measurable components to ensure forward progress. *(Target: November 15)*