Progress of the project:

The progress of our project as of November 4, 2025 are:

1.Finished in creating the Pseudocode.

2.In progress on creating the Flowchart.

3.Adding citations to our introduction.

Contribution of members:	
JOEL ALMIROL	In progress on doing the flowchart.
JEFF CACAS	finished on creating the code for the project.
CLIFFORD DOPLAYNA	finished on creating the flowchart Adding citations in the introduction
PAULA ESGUERRA	Doing revisions for and fixing mistakes in flowchart and Pseudocode.

1.Pseudocode:

Digital Asset Management - FUNCTION Digital_Asset_Manager_Main()

```
// 1. START & SECURITY
START: Initialize_System()
CALL Handle_Secure_Authentication()

// 2. MAIN DECISION LOOP (Dashboard)
DECLARE isSessionActive = TRUE
WHILE isSessionActive IS TRUE DO

    // DISPLAY Dashboard Overview (Assets, Budgets, Reports)
    CALL Display_Main_Dashboard()

    // GET User Action Choice
    INPUT userAction

    SWITCH userAction
      CASE "Create/Manage Assets":
        CALL Process_Asset_Creation_Or_Update()
      CASE "Track Lent Funds":
        CALL Process_Loan_Logging_And_Monitoring()
      CASE "View Reports":
        CALL Process_Report_Generation_And_Display()
      CASE "Settings":
        CALL Process_System_Settings()
      CASE "Logout":
        isSessionActive = FALSE // Exit the main loop
      DEFAULT:
        DISPLAY "Invalid selection. Please try again."
    END SWITCH

    // [Decision: Continue or Logout?]
    // If the action taken (e.g., saving an asset) completes, loop back to the Dashboard.
    IF userAction IS NOT "Logout" THEN
        CONTINUE_LOOP // Loop back to the WHILE condition
    END IF

END WHILE

// 3. SECURE LOGOUT
CALL Handle_Secure_Logout()
END PROGRAM

END FUNCTION
```
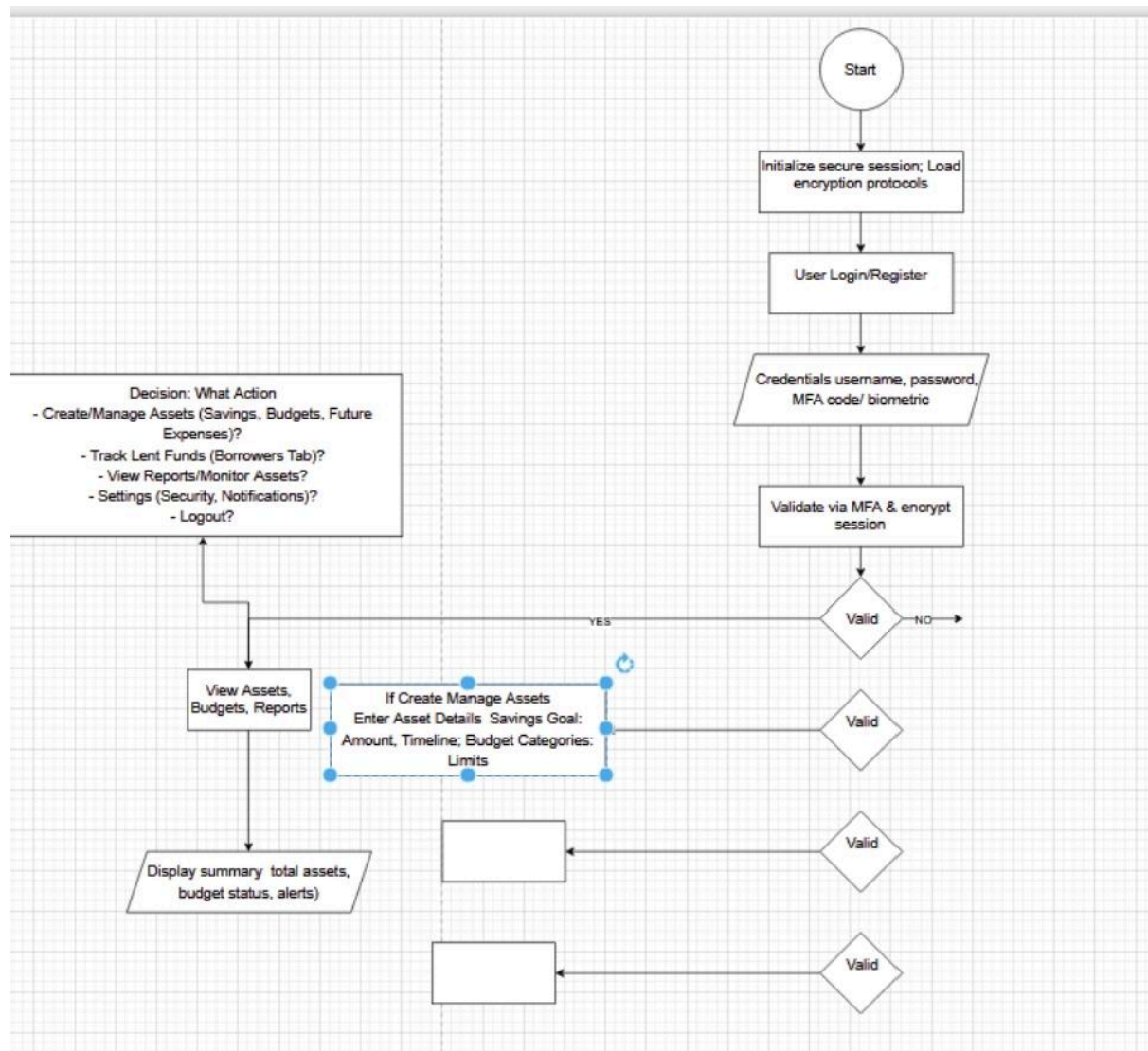
2.Flowchart:
Still in progress.

Start

Initialize secure session; Load encryption protocols

User Login/Register

Credentials username, password, MFA code/ biometric

Validate via MFA & encrypt session

Valid — YES / NO

Decision: What Action
- Create/Manage Assets (Savings, Budgets, Future Expenses)?
- Track Lent Funds (Borrowers Tab)?
- View Reports/Monitor Assets?
- Settings (Security, Notifications)?
- Logout?

View Assets, Budgets, Reports

If Create Manage Assets Enter Asset Details Savings Goal: Amount, Timeline; Budget Categories: Limits

Valid

Valid

Display summary total assets, budget status, alerts)

Valid

Introduction:

Introduction

Digital currency offers a path toward a more efficient and secure financial system. Adopting it can address key limitations of using paper money, such as the risk of theft or loss, as well as the inconvenience of carrying large amounts of cash (ClearlyPayments, 2024; PayComplete, 2023). The formation of digital money institutions, which is also often called digital currencies, virtual money and cryptocurrencies, is a new evolving trend impacting the payment and monetary-system transformation (Adrian & Mancini-Griffoli, 2021; Investopedia, 2024). In this context, digital money is viewed "as a combination of two elements: an asset and an exchange mechanism which allows payment and settlement through the use of distributed-ledger technology" (Larin & Akimov, 2020, as cited in Li, 2024). By leveraging the best features of existing platforms, a new application can create a seamless and secure experience that encourages widespread adoption. To effectively protect against the inherent risks of digital currencies, such as hacking, phishing scams, and cybersecurity threats, the platform would implement a comprehensive security framework that goes beyond simple bug checks and surveys. This framework would include advanced authentication, continuous monitoring, and data protection (Bank of Canada, 2020).

The main focus point is to develop an assets-management system that allows customers to securely manage their financial assets. The application will enable users to create and access digital financial assets for managing savings, budgets, and future expenses. It aims to provide a secure and reliable asset-management system designed to empower both individuals and small businesses in managing their finances effectively. The platform will serve as a centralized space where users can create, access and monitor their financial assets. By offering tools for saving, budgeting, and tracking future expenses the system aims to help users gain control over their money and make smarter financial decisions. Unlike basic mobile wallet applications, this system will focus on long-term financial management by offering detailed financial reports, budget planning, savings tracking, and asset categorization. Through an intuitive interface and secure data handling, the application will serve as a trusted digital financial space bridging the gap between everyday digital payments and comprehensive financial management.

The proposed solution is a secure, centralized digital-asset-management platform designed to assist individuals to efficiently manage both cash and digital funds. It will include tools that allow users to track their finances, whether for savings, paying bills, or budgeting. For the security features, the application will feature multi-factor authentication and encryption to protect users from hackers and scammers. Additionally, a feature will allow users to record and track funds lent to friends, family, or businesses. When a user lends money, they can log the transaction in a "Borrowers" tab by entering details such as the amount and recipient. This will help users easily monitor who still owes them money.

References

<APA Format Alphabetical Order>

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Bank of Canada. (2020). Security and convenience of a central bank digital currency (SAN 2020-21).

ClearlyPayments. (2024, March 18). Statistics for cash and credit card use for payments in 2024.

Investopedia. (2024). Types and characteristics of digital currencies: Pros, cons.

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PayComplete. (2023). The advantages and disadvantages of cash payment.

The rest still in progress.