Part A: System Documentation

Module: CSE202 - Object Oriented Analysis & Design with Java

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1. Requirements Elicitation

1.1. Functional Requirements

The banking system shall:

· Allow Bank Tellers to securely log in with employee credentials

· Enable Bank Tellers to onboard new customers by capturing personal details and opening initial accounts

· Allow Bank Tellers to open additional accounts for existing customers

· Enable Customers to log in with credentials provided during onboarding

· Allow Customers to view their account balances and transaction history

· Enable both Tellers and Customers to deposit funds into accounts

· Allow withdrawals from Investment and Cheque accounts (but not Savings accounts)

· Automatically calculate and add monthly interest to Savings (0.05%) and Investment (5%) accounts

· Enforce business rules: minimum BWP 500.00 deposit for Investment accounts, employment information for Cheque accounts

1.2. Non-Functional Requirements

· Security: Implement role-based access control, password encryption, and secure session management

· Usability: Provide intuitive interfaces for both technical (tellers) and non-technical (customers) users

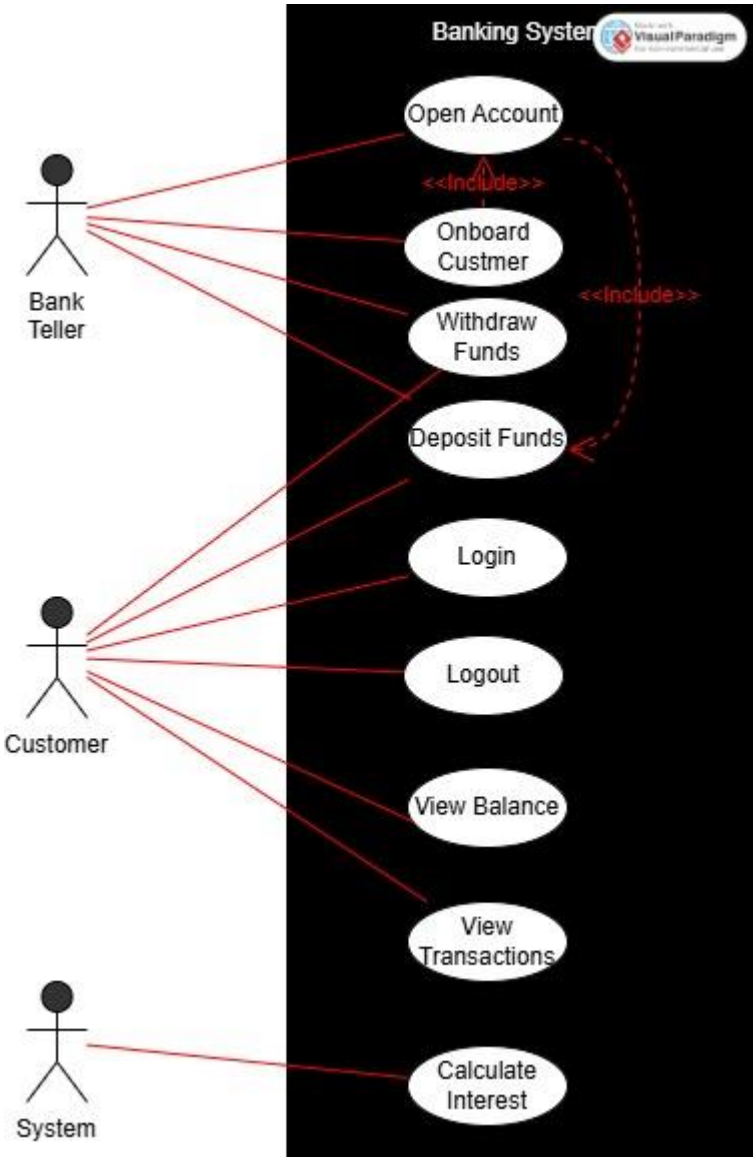
· Reliability: Ensure 99.9% uptime during banking hours and transaction accuracy

· Performance: Respond to user actions within 3 seconds under normal load

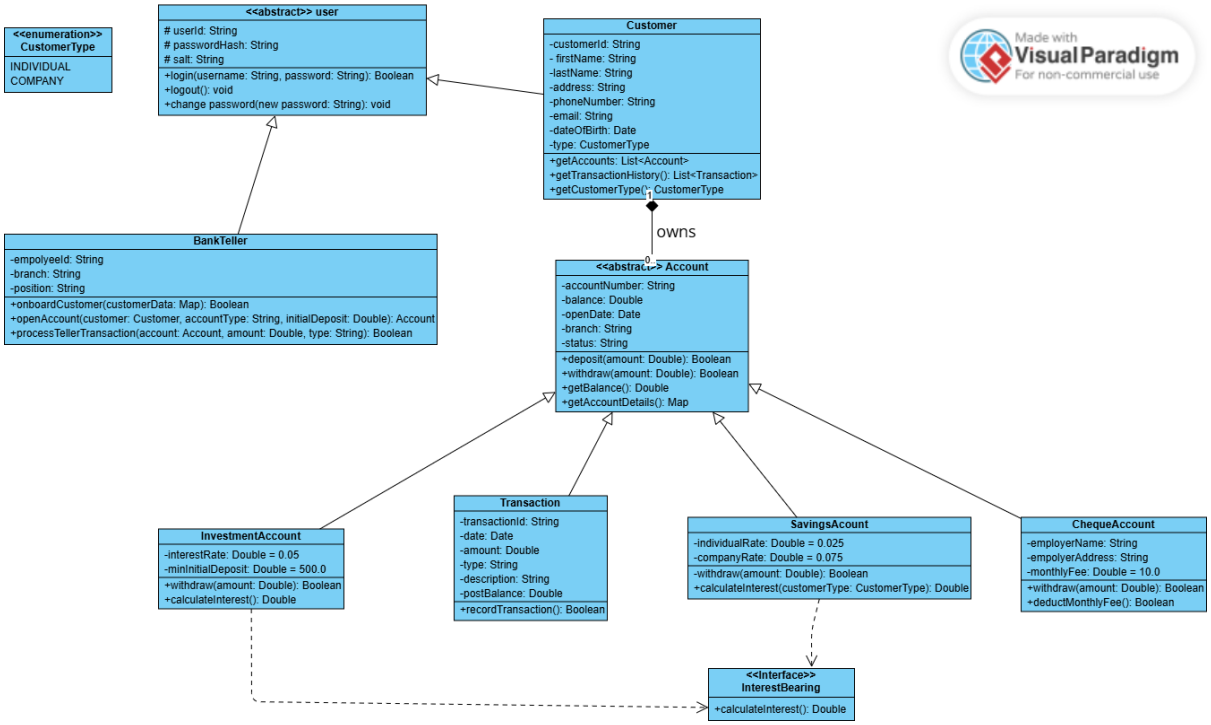
· Maintainability: Use modular design with clear separation between presentation, business logic, and data layers

2. Structural UML Modelling

2.1. System Use Case Diagram



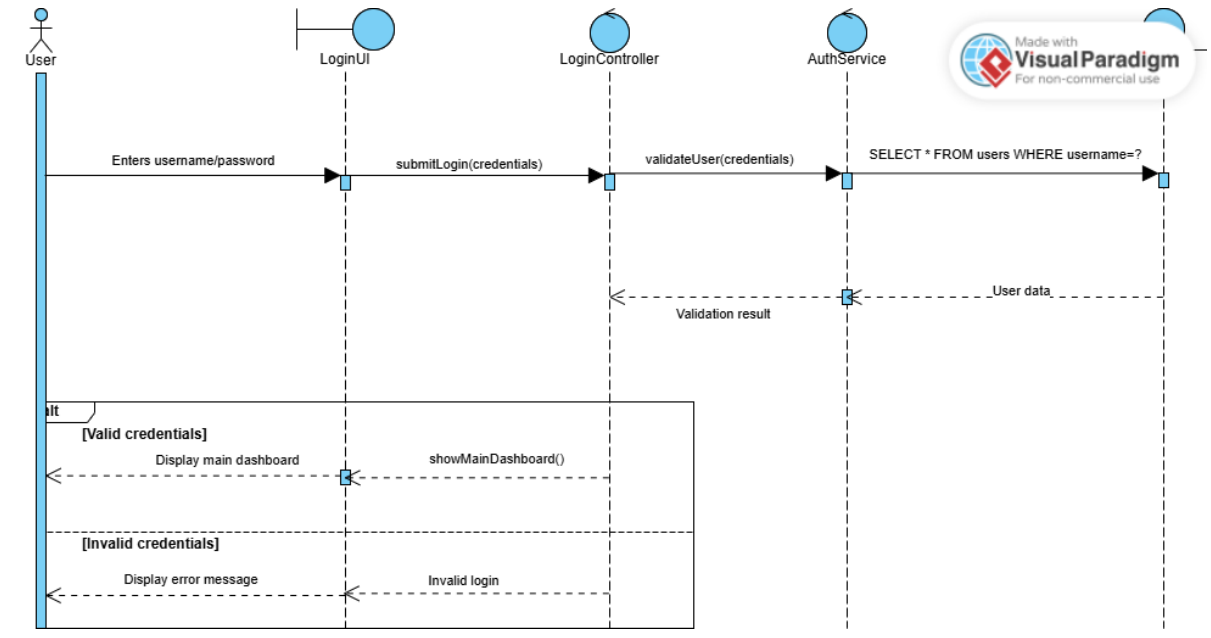
2.2. Class Diagram



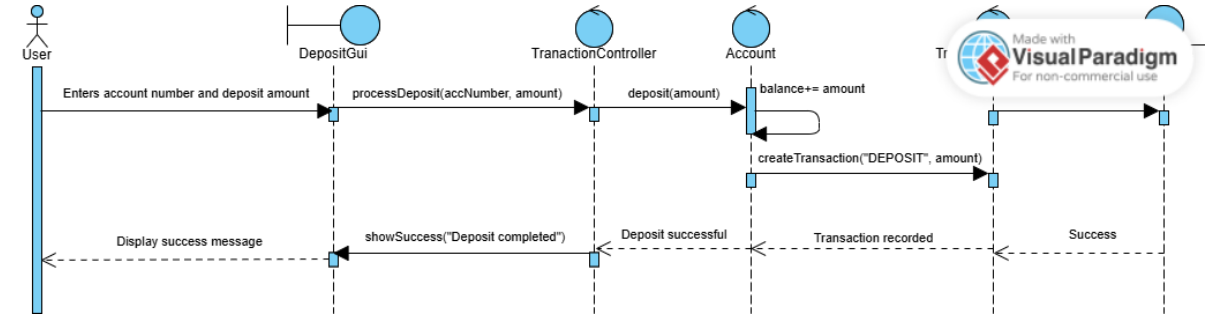
3. Behavioural UML Modelling

3.1. Login and Deposit Sequence Diagrams

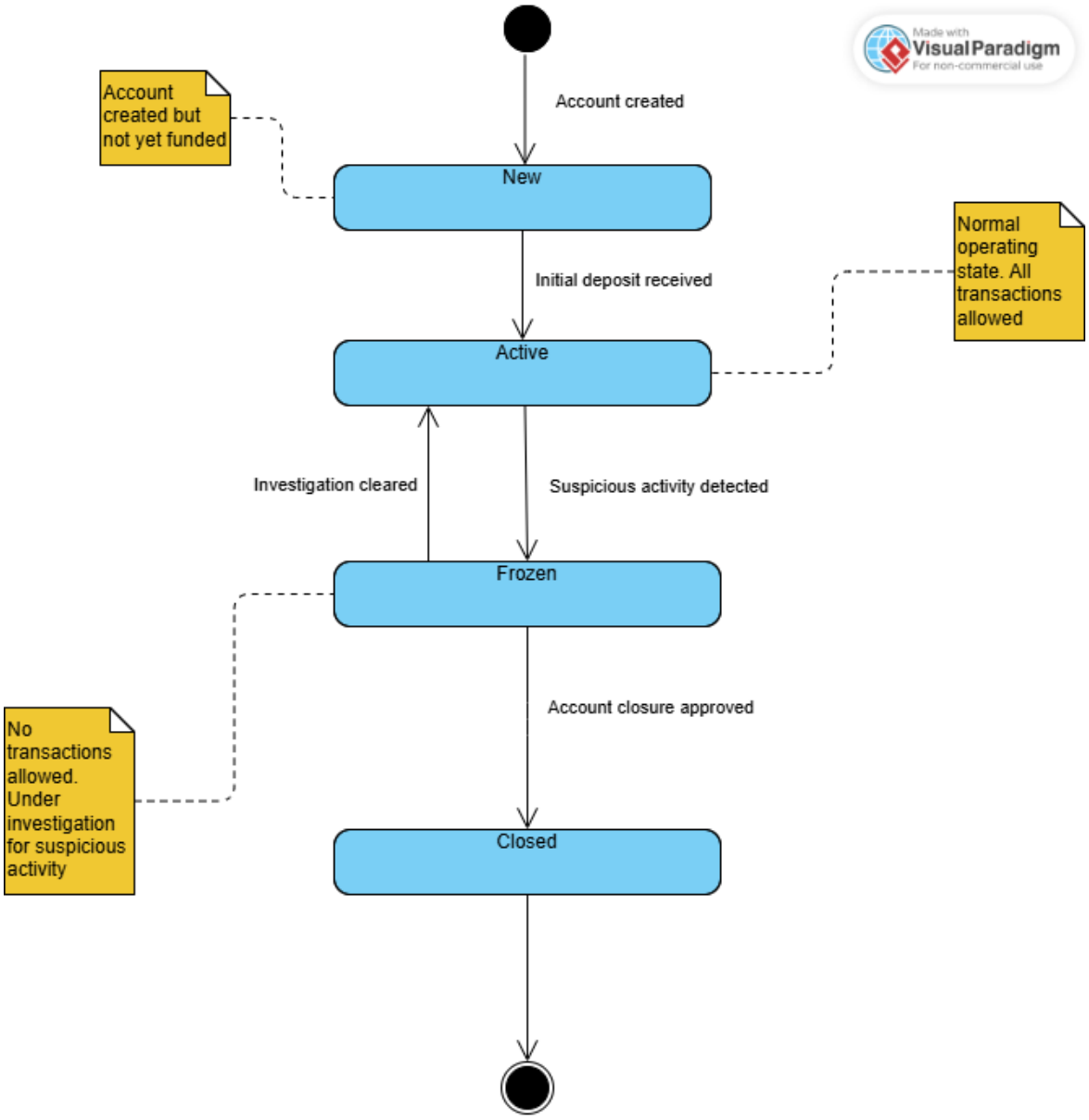
Login Sequence Diagram:



Deposit Sequence Diagram:



3.2. State Diagram



Appendix: Meeting Record

Date: 18 September 2025, 11:30am

Attendees: Mooki Gerald Moloi, Kentsenao Baseki

Key Discussion Points:

1. Confirmed that the system has two primary user types: Bank Teller and Customer

2. Clarified that the onboarding process combines customer registration and account opening into a single workflow

3. Determined that Investment accounts require only an initial minimum deposit (not a maintained minimum balance)

4. Confirmed that Cheque accounts require employment information but do not earn interest

5. Established different interest rates for Savings accounts based on customer type:

- Individual customers: 2.5% monthly interest
- Company customers: 7.5% monthly interest

6. Agreed that security is a top priority, requiring password encryption and role-based access control

7. Discussed that the system should maintain a complete transaction history for auditing purposes