

BANK SYSTEM DOCUMENTATION

REQUIREMENTS ELICITATION

1. Functional Requirements

- Register a customer.
- Open accounts (Savings, Investment, Cheque).
- Deposit funds.
- Withdraw funds.
- Apply monthly interest (5% for Investment, 0.05% for Savings).
- Make sure account rules are respected:
 - Savings → *no withdrawals*.
 - Investment → must open with BWP 500.
 - Cheque → only if customer is employed & provides employer info.
- A customer can have multiple accounts and all three of them if the customer wishes so.

2. Non-Functional Requirements

- Security: system should authenticate users to avoid unauthorized users.
- Usability: should be simple to use (no overly complex steps).
- Performance: system should handle multiple customers/accounts smoothly.
- Solidity: transactions update balances correctly every time.

INTERVIEW RECORD (APPENDIX A)

Interview Questionnaire

Date: [16/09/2025]

Interviewer: Isaac Osenotse

Interviewee: Themba Moeng

Questions & Answers

Qn1.What types of accounts should the system support?

Ans: Savings, Investment, and Cheque accounts.

Qn2. Can one customer have more than one account?

Ans: Yes, a customer can hold multiple accounts, all three types if desired.

Qn3. What is required to open an Investment account?

Ans: It must be opened with a minimum deposit of BWP500.

Qn4.What is required to open a Cheque account?

Ans: The customer must be employed and must provide employer information such as company name and address.

Qn5.What restrictions apply to a Savings account?

Ans: It does not allow withdrawals.

Qn6.How should deposits be handled?

Ans: Customers should be able to deposit funds into any of their accounts without restriction.

Qn7.How should withdrawals be handled?

Ans: Allowed from Investment and Cheque accounts, but not from Savings accounts.

Qn8.What interest rates should apply to accounts?

Ans: Savings accounts: 0.05% monthly. Investment accounts: 5% monthly.

Qn9.How should interest be applied?

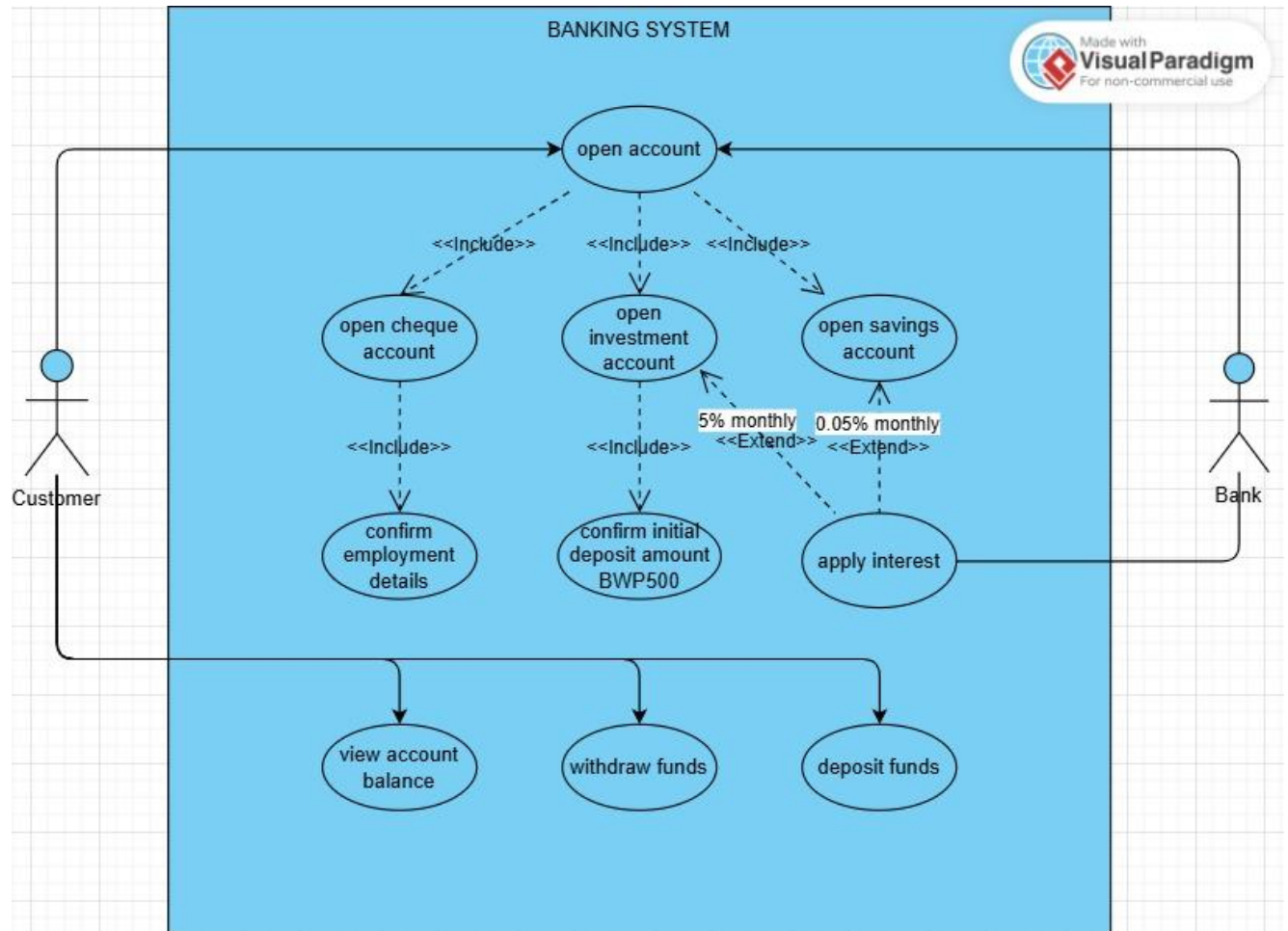
Ans: Interest is calculated monthly based on the account balance and added automatically to the account.

Qn10.What customer details must be recorded?

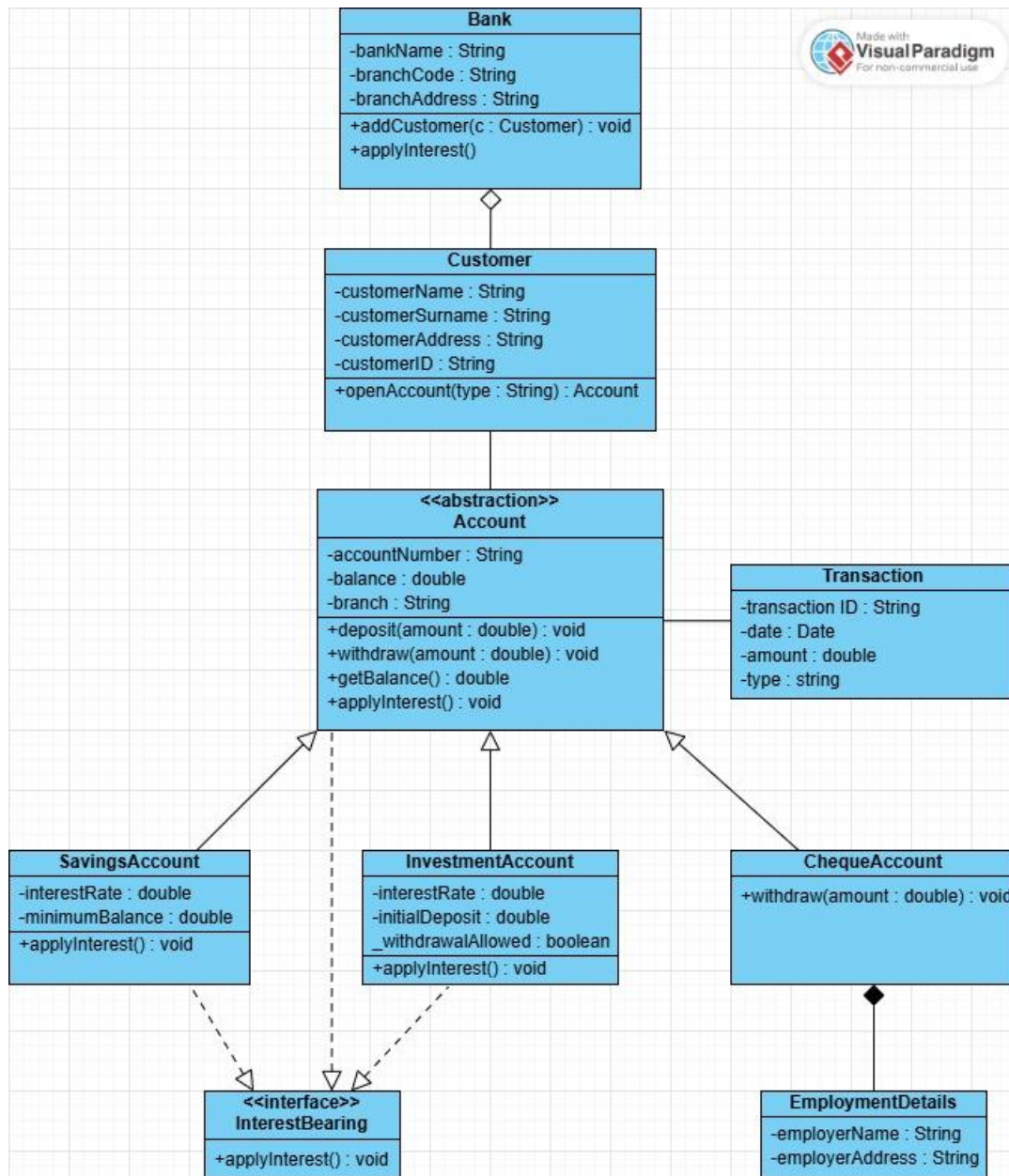
Ans: At minimum: first name, surname, address, and including employer details for Cheque account holders.

STRUCTURAL UML MODELLING

1. System Use Case Diagram



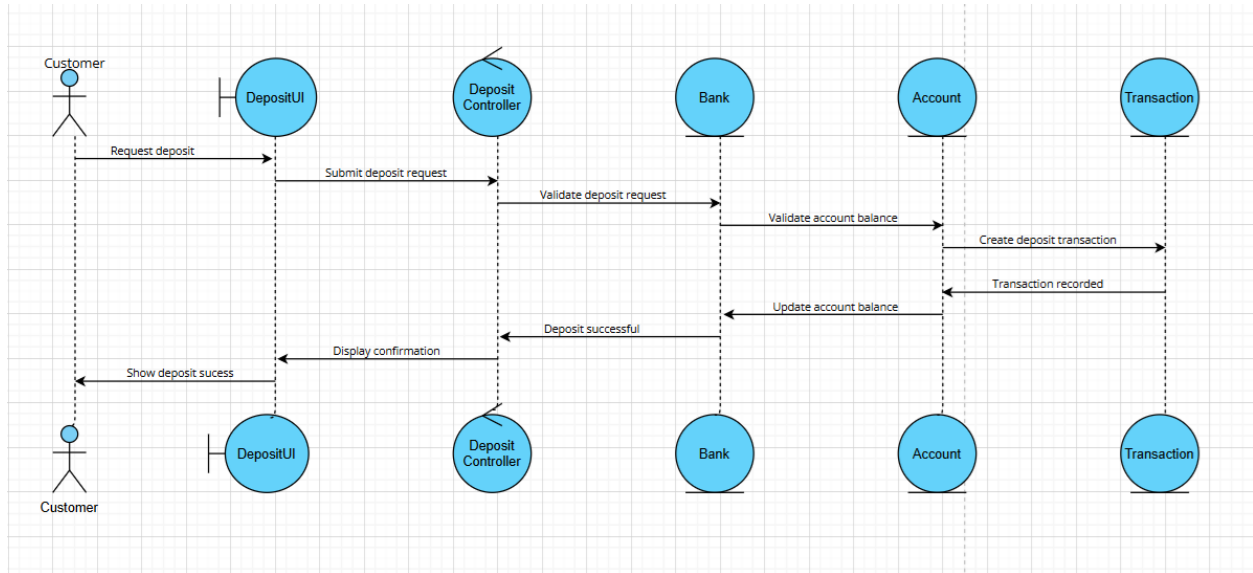
2. Class Diagram



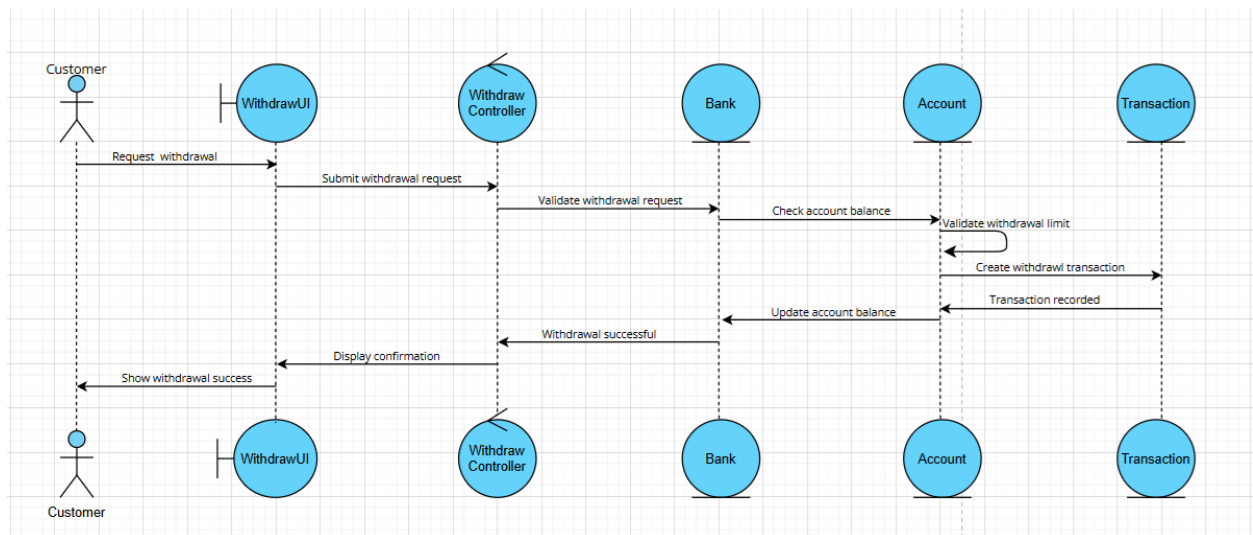
BEHAVIOURAL UML MODELLING

1. Sequence Diagrams

a) Deposit Funds



b) Withdraw Funds



2.State Diagram

