CHITTAGONG UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Report on

Process Modeling

Course Code: CSE-354

Course Name: System Analysis and Design

Submitted To:

Dr. Kaushik Deb
Professor
Dept. of CSE, CUET

Sabiha Anan
Assistant Professor
Dept. of CSE, CUET

Submitted By:

Muhammad Mubinur Rahman (1804080)

Md Nahid Imtiaz (1804101)

MD. Ali Hasan Emon (1804104)

Abu Saiyed Mohammad Sadat (1804105)

MD Rakib Uddin (1804107)

Remark

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1. Introduction:

In this section of the System Analysis and Design Sessional Project, we are going to design the Data Flow Diagram (DFD) of our desired organization, Janata Bank Limited, Pomra Branch. A Data Flow Diagram (DFD) is a visual representation of the information flow through a process or system. In DFDs a rectangle is used to represent an external entity, a circle is used to represent a process, and lines with arrows are used to represent data flows. The direction in which data flow is indicated by the arrow's direction. Leveling of DFD can be done by the successive expansion of DFD from the context diagram for giving more details. There are two types of DFDs - logical and physical. Logical diagram displays the theoretical process of moving information through a system, like where the data comes from, where it goes, how it changes, and where it ends up. Physical diagram displays the practical process of moving information through a system, like how a system's specific software, hardware, files, employees, and customers influence its flow of information.

2. Objectives:

- To learn about the flow of data in this organization with the help of different entities and processes.
- To draw and understand Physical and Logical Data Flow Diagrams related to this bank.
- To have an overview of the system.

3. System Development Life Cycle (SDLC):

System Development Life Cycle(SDLC) is a systematic approach which explicitly breaks down the work into phases that are required to implement either a new or modified Information System. An effective System Development Life Cycle (SDLC) should result in a high quality system that meets customer expectations, reaches completion within time and cost evaluations, and works effectively and efficiently in the current and planned Information Technology infrastructure.

An SDLC (software development life cycle) is a big-picture breakdown of all the steps involved in software creation (planning, coding, testing, deploying, etc.). Companies define custom SDLCs to create

a predictable, iterative framework that guides the team through all major stages of development. The character and the exact number of phases in an SDLC vary between businesses and projects.

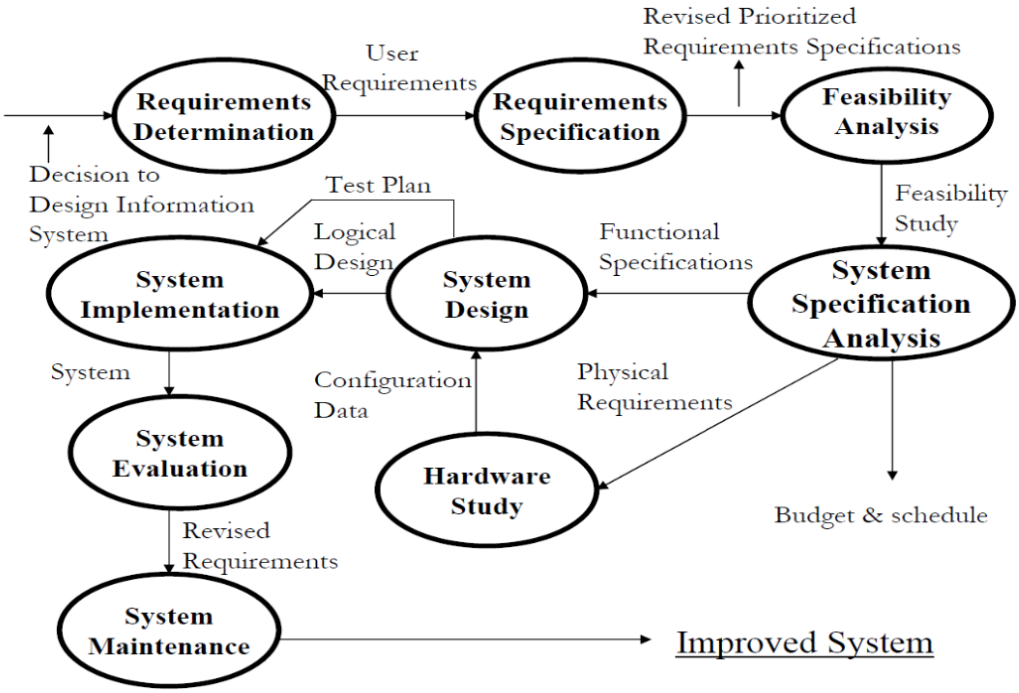

Figure-1: System Development Life Cycle

4. Context Diagram:

In this context diagram, we have six entities and one process. This is drawn on the basis of our conversation with the Head of Branch of Janata Bank Limited, Pomra branch. Details are provided below about the diagram:

1. A Customer is involved with four major activities: Deposit, Withdrawal, Loan and Inquiry of Balance.
2. Central branch controls activities and cash flow in the particular branch. It monitors daily activities and sends auditors as well for the monitoring purpose. It also sends important policy

information to the branch.

3. Head of the Branch (the manager in this case of Janata Bank, Pomra Branch) is responsible for managing employees and assigning them tasks. He also takes an important role in decision-making related to this particular branch.
4. Janata App is the online banking platform for Janata Bank. Users can transfer funds and do inquiry of balance by using this app.
5. Accountants respond to various customer queries.

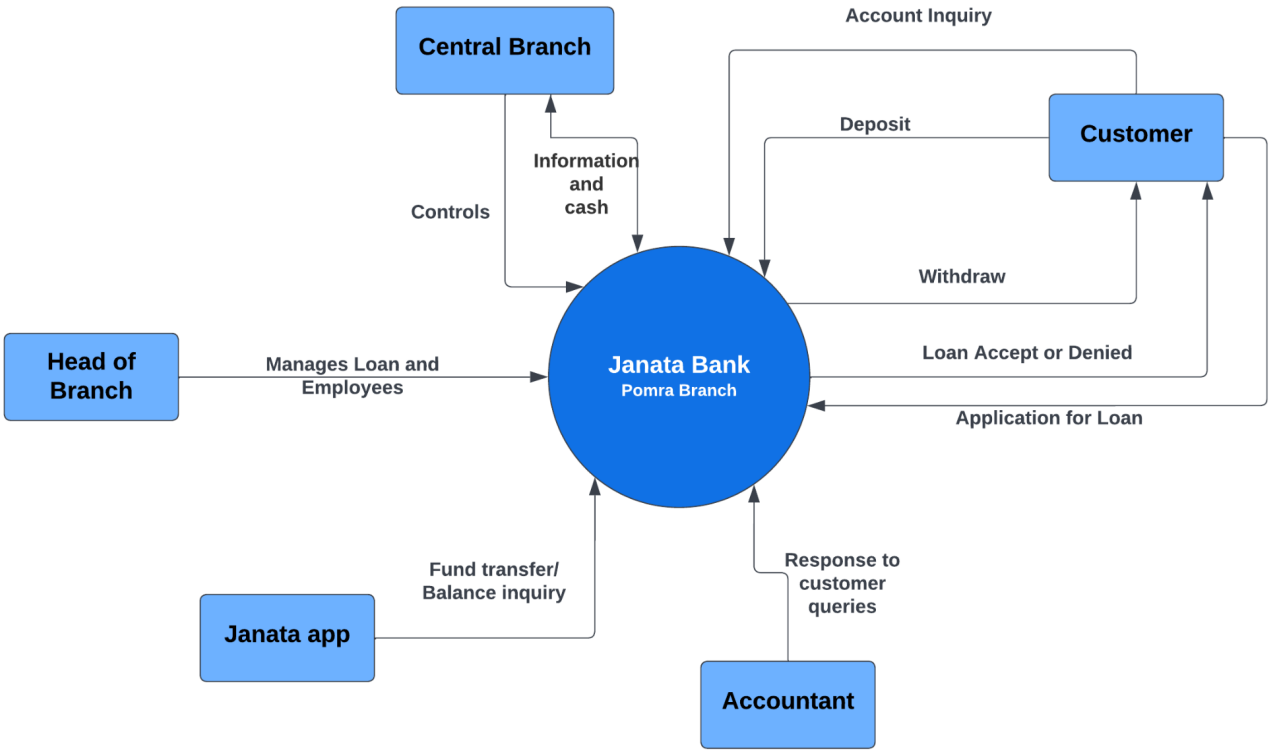

Figure-02: Context Diagram

5. Data Flow Diagram (DFD):

5.1 Logical DFD:

5.1.1 Account Section:

If a customer intends to open an account, close an account or inquiry balance, then his requests are handled in this particular section.

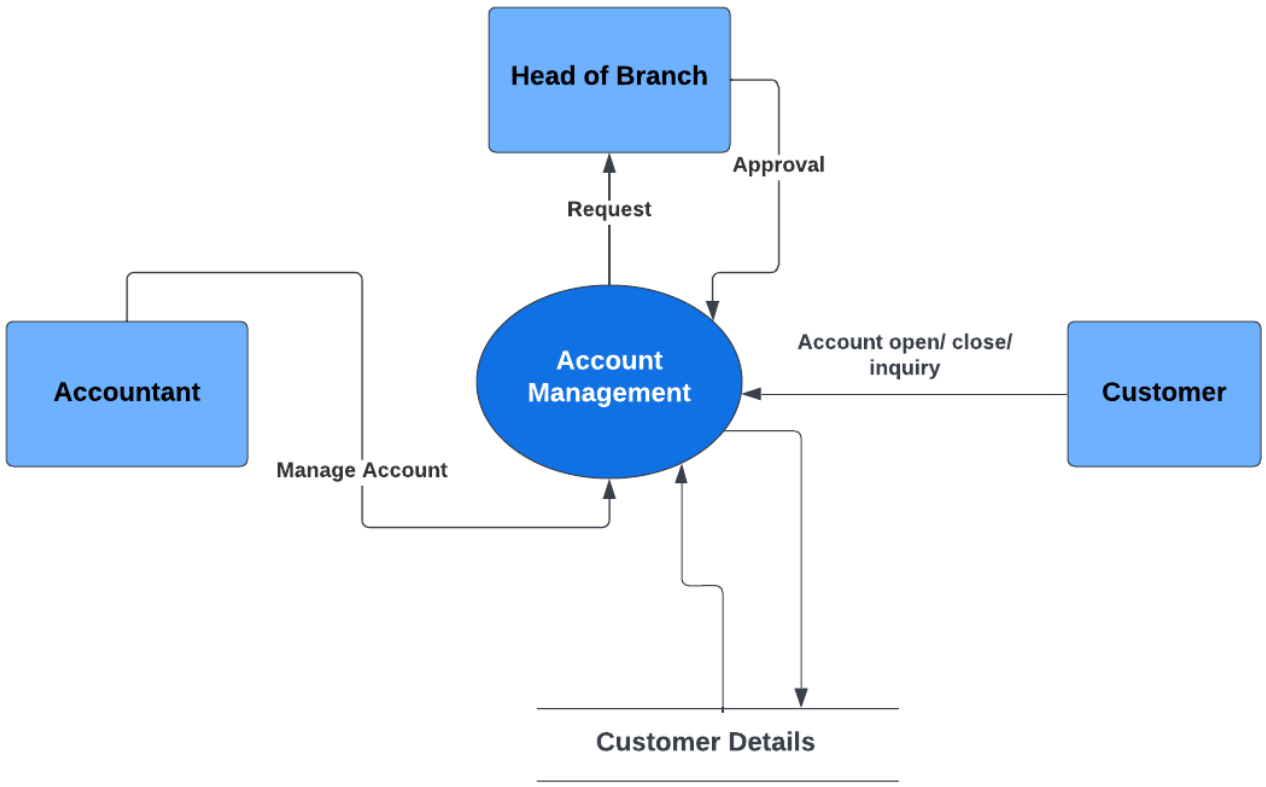

Figure-03: Logical DFD (Account section)

5.1.2 Transaction Section:

In this section, customers request for deposit or withdrawal of money. The system verifies the customer's account and the transaction request is either denied or granted. Customer Details and Account Details is used in this 'Transaction Management' process.

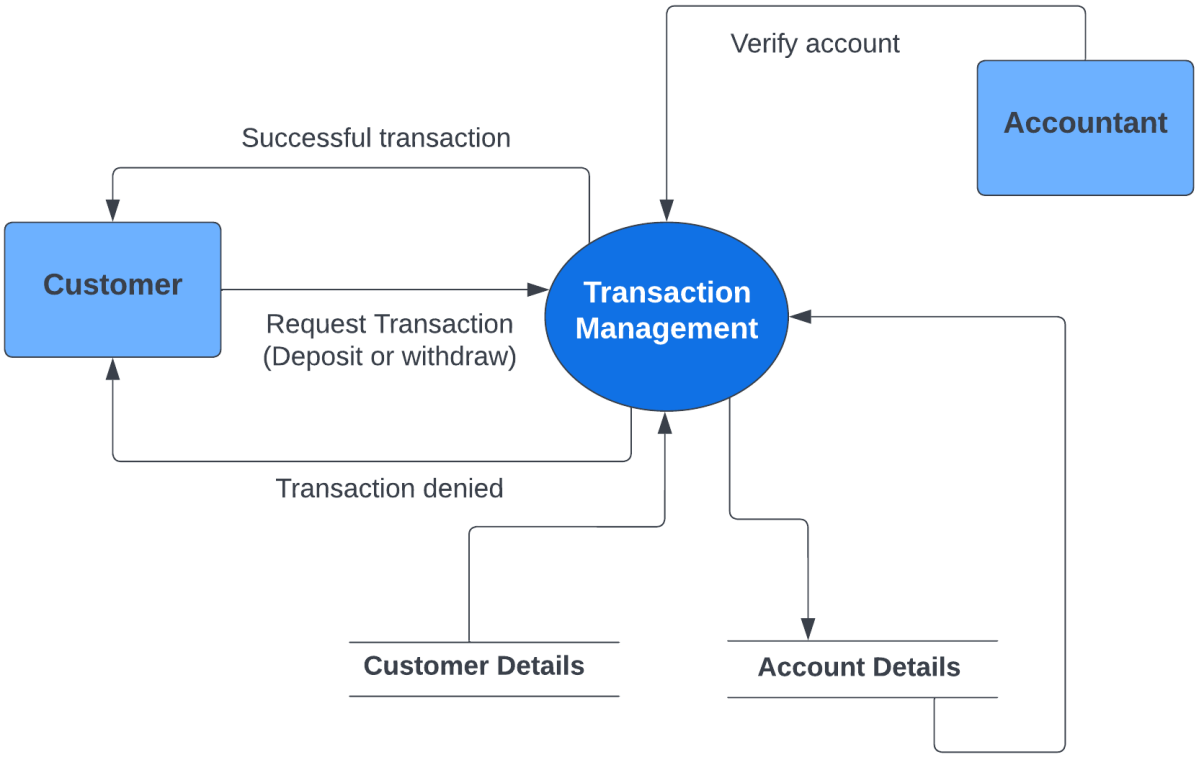

Figure-04: Logical DFD (Transaction section)

5.1.3 Loan Section:

In this section, a customer's request for the sanction of loan is received and then processed for further decision-making. If the customer meets all the requirements for the specific loan then his request is granted and otherwise denied. Two data stores are used in this process namely 'Customer Details' and 'Loan Details'.

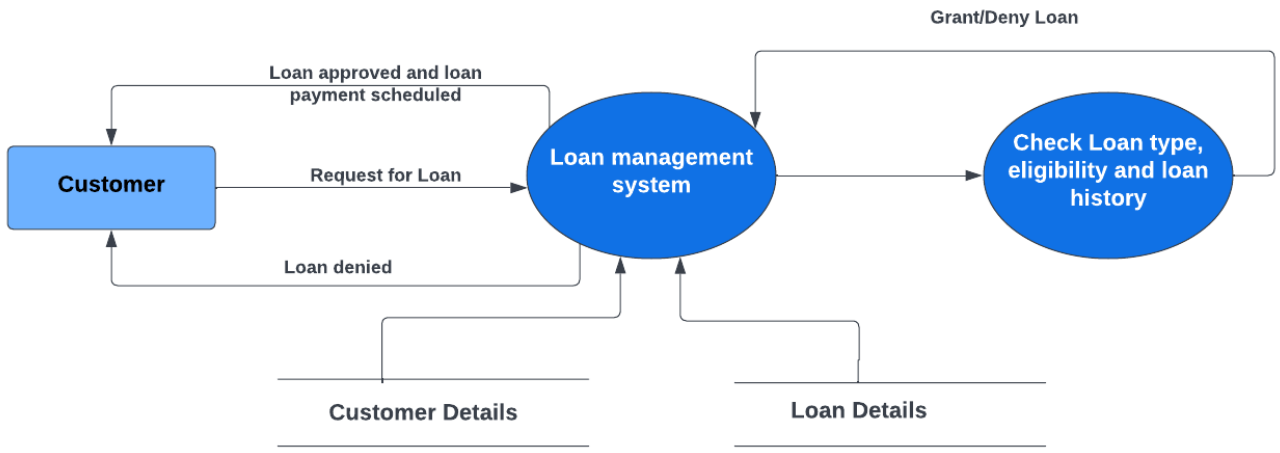

Figure-05: Logical DFD (Loan section)

5.1.4 Online Banking Section (Janata App):

Users can do various activities using 'Janata App' which is available on mobile devices. They need to log-in first using their account details to be able to use the facilities.

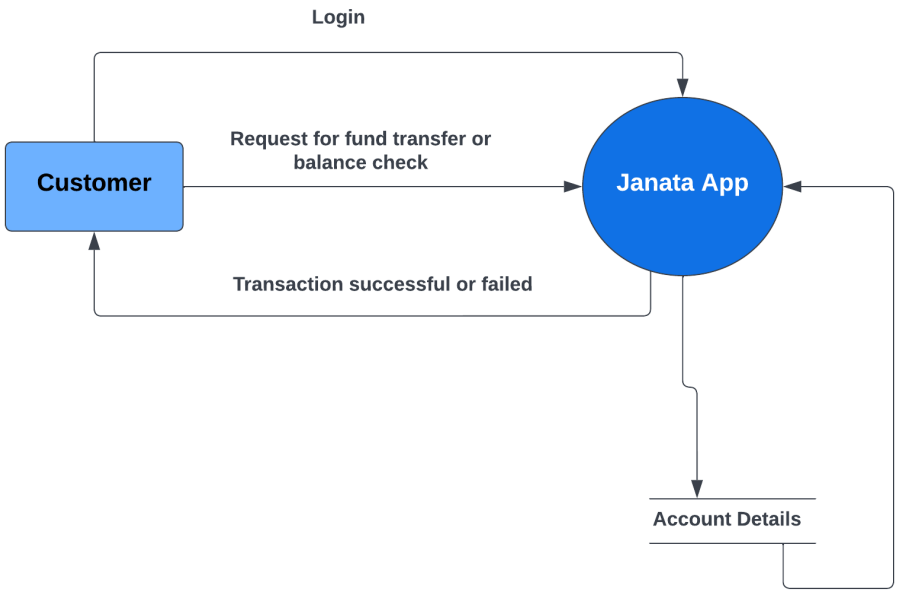

Figure-06: Logical DFD (Janata app section)

5.2 Physical DFD :

5.2.1 Account Section:

If a customer wants to open a new account or wishes to close an account, he/she will make a request. Head of the branch is mainly responsible for permitting new accounts or closing accounts. Accountants respond to different account queries of the customers by fetching data stored in 'Customer Details'. Accountants can also update customer details.

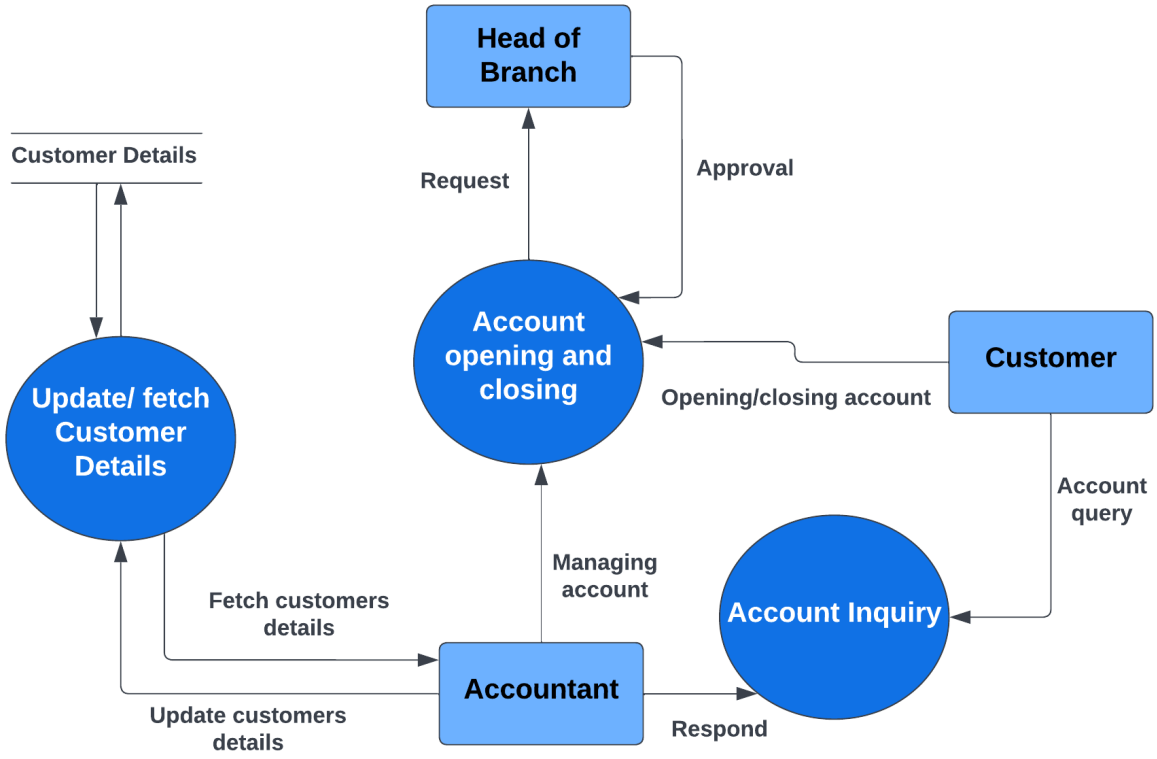

Figure-07: Physical DFD (Account section)

5.2.2 Transaction Section:

In this section, customer requests for deposit or withdrawal of money. In both the cases, the account is checked for verification purposes. In case of depositing money, the amount is deposited in the account and account-balance is updated. In case of withdrawal, the availability of funds in that account is checked first. If there is sufficient funds, the request is accepted and cash is provided to the customer. Account balance gets updated in this case as well.

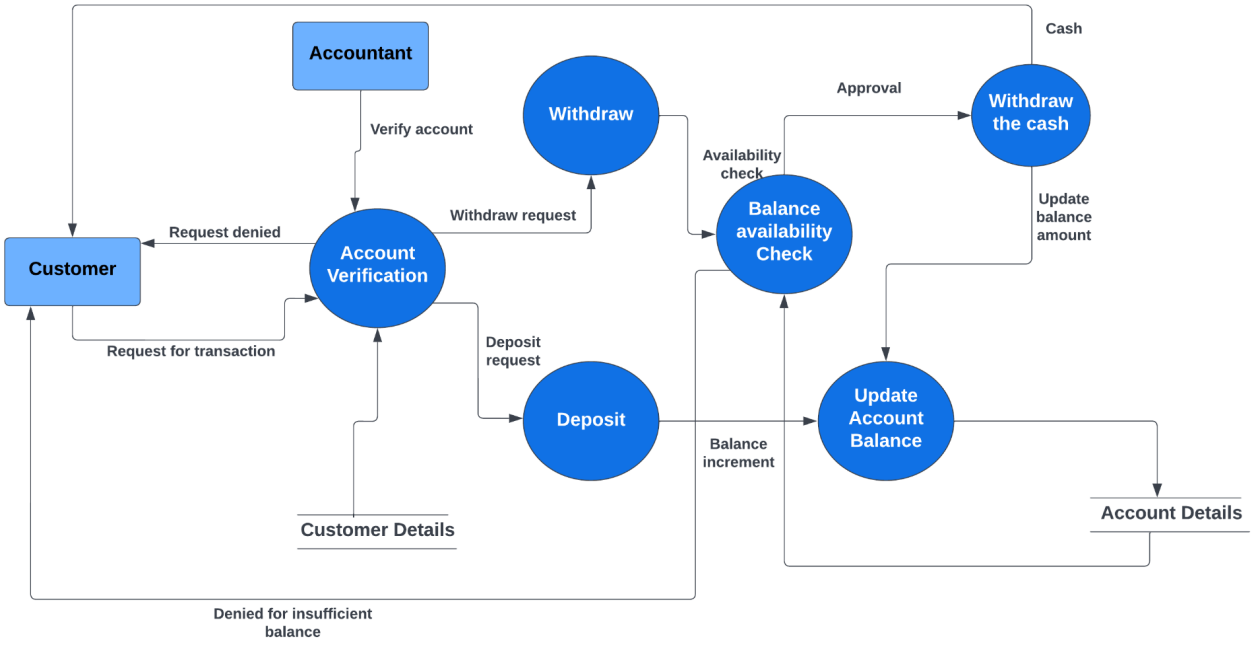

Figure-08: Physical DFD (Transaction section)

5.2.3 Loan Section:

In this section, customers apply for a loan. There are several types of loans available such as: Staff loan, Agriculture loan, Livestock loan etc. Each type has its own eligibility requirements. Accountant takes the information of the customer and forwards it for the purpose of eligibility checking. After rigorous scrutiny, the request for the loan is either accepted or denied. Head of the branch plays the major role in

taking this decision of approving or denying loans. If a loan is approved, loan payment is also scheduled and forwarded to the customer.

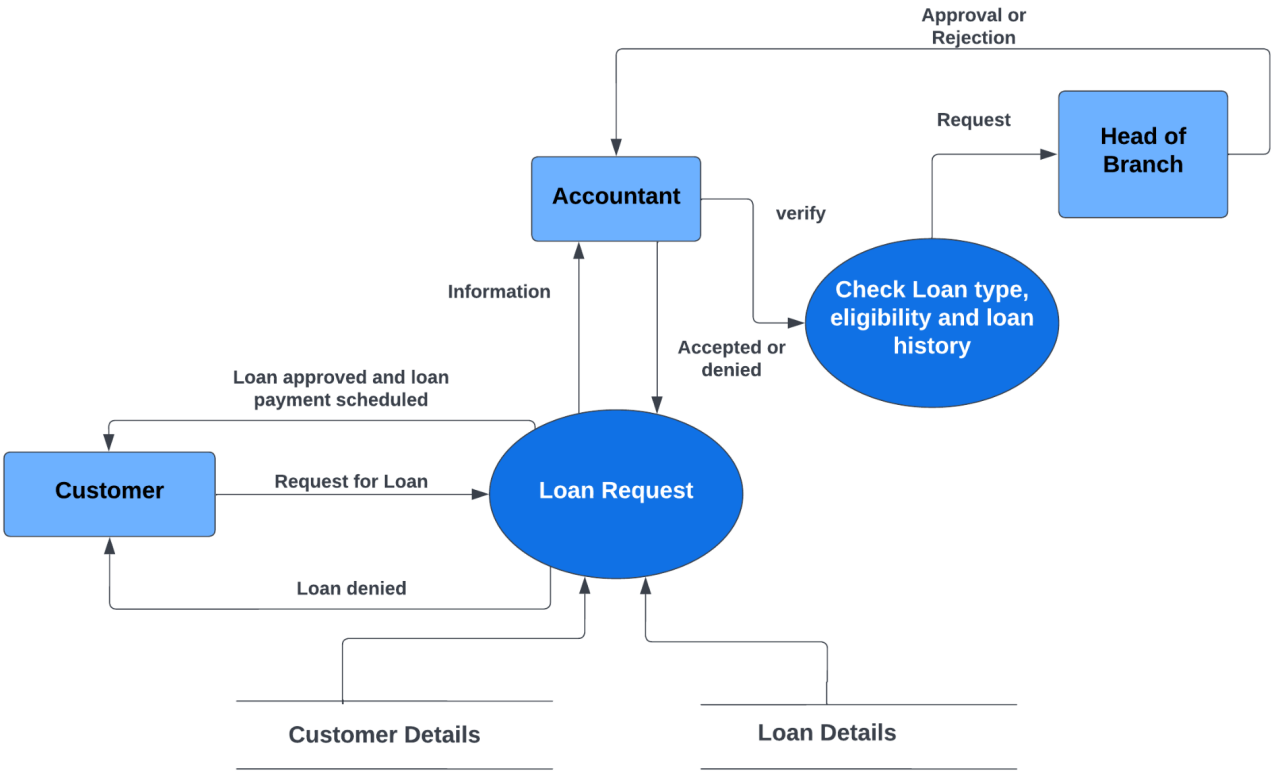

Figure-09: Physical DFD (Loan section)

5.2.4 Online Banking Section (Janata App):

Users can do multiple activities through Janata Bank's online banking platform 'Janata App'. They can transfer funds to any other banks via this app. Balance inquiry is also possible. The option to withdraw money through the app is not available yet as the manager said. In case of fund transfer, availability of funds is checked first and then the request is either granted or denied. If the fund is transferred successfully then the balance gets updated.

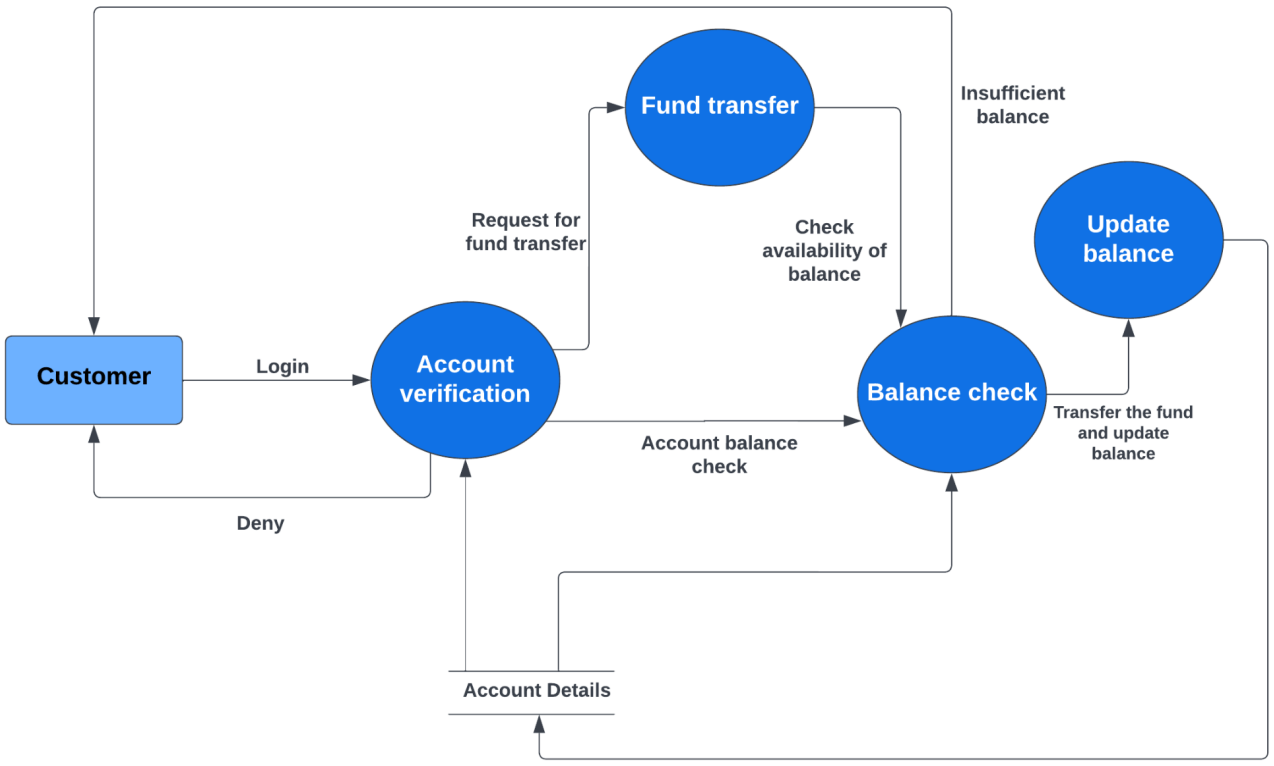

Figure-10: Physical DFD (Janata App)

6.Conclusion:

The action of modeling an organization's process so that it can be studied and improved is known as system development process modeling. We discussed Janata Bank, Pomra branch's banking system using Context Diagram and Data Flow Diagram in this study. We learned how CFD and DFD function, as well as how information flows from one entity to another. We also understood how the system life cycle is accomplished and what labor each phase entails. To have a better understanding of the system, we generated a variety of data flow diagrams.