Project Report: Split Bills Application

1. Objective

The goal of this project is to make it easier for people to manage shared expenses. Whether it's splitting bills for a trip, rent, or a dinner outing, the "Split Bills" app helps users track who owes what, so everything is fair and clear. The app lets users create groups, log transactions, and settle balances, simplifying the process of managing group expenses.

2. Introduction

Managing shared expenses, like splitting the bill after a group dinner or dividing rent among roommates, can be a hassle. Calculating who owes what often leads to confusion and errors, especially when done manually. The "Split Bills" application is designed to solve this issue by automating the process. It allows users to create groups, add transactions, view balances, and settle bills easily.

This application runs on a simple command-line interface (CLI), and it connects to a MySQL database via Java Database Connectivity (JDBC) to store and retrieve data. Users can organize their expenses in groups, track all transactions, and ensure everyone pays their fair share.

3. Problem Statement

One of the common struggles in shared expenses is keeping track of who owes what. Without a proper system, it can be confusing to figure out who paid, who still needs to pay, and how much each person owes. This often leads to disputes and mistakes.

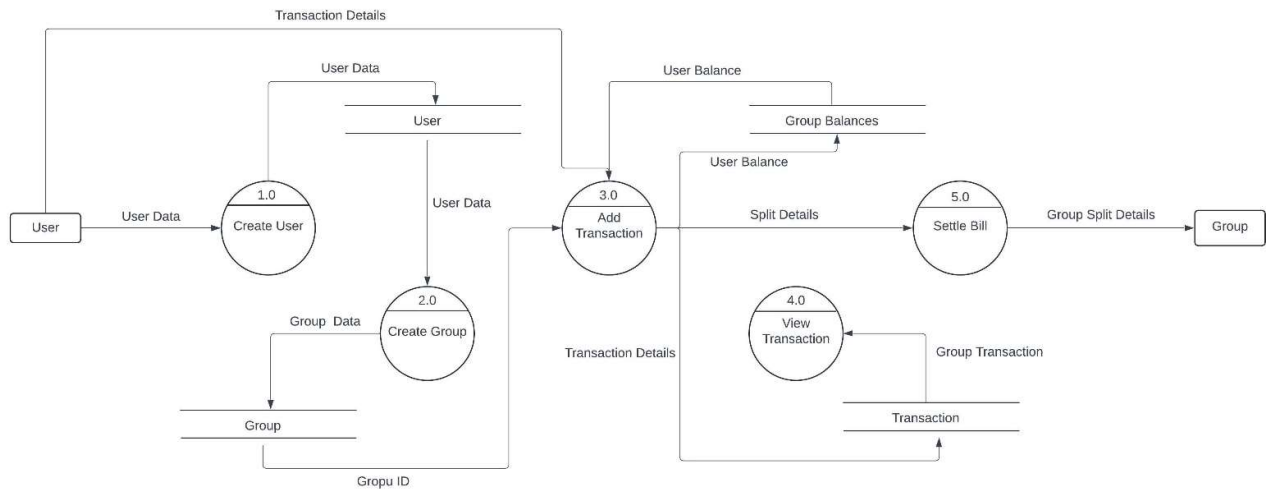The "Split Bills" app addresses these issues by:

- Allowing users to create groups and manage members.
- Tracking and displaying all expenses in one place.
- Automatically calculating and updating balances for each member.
- Helping users settle debts with clear tracking of payments and remaining dues.

4. DFD

- Level 0 DFD
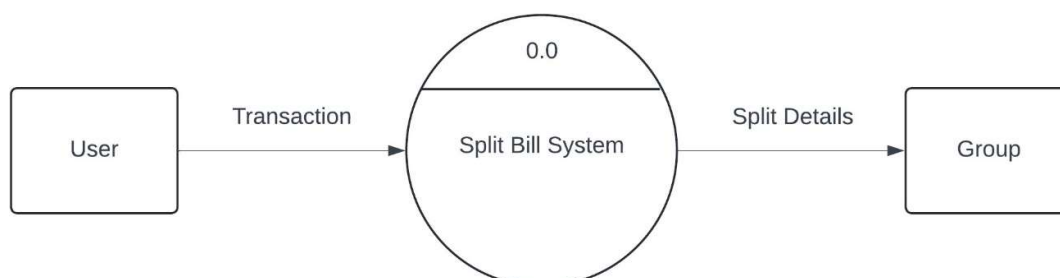
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5. Technologies Used

- **Core Java**: Java was used to write the core logic of the application. It handles everything from taking user input to processing the data and displaying results.
- **JDBC (Java Database Connectivity)**: JDBC connects the app to the MySQL database. It allows the app to store and retrieve information like user details, transactions, and group information.
- **MySQL**: MySQL is used as the database to keep all the information safe and accessible. It stores group data, transaction records, and settlement history, ensuring that everything is persistent and secure.

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