

This Entity-Relational Diagram illustrates the core components of the financial transaction system(MoMo app). The ERD has four entities. Transactions, users, transaction\_categories, and system\_logs. The transactions are the core entity, with money information like references to sender and receiver users, time information, and status. The user entity contains the user contact and identity and the entity refers the transactions to users using receiver\_id and sender\_id in a bid to reduce user history and render it readable. The Transaction\_categories table establishes the types of transactions being performed like payment, transfer, and airtime. The entity simplifies working with categories and faster. System\_logs hold vents as well as links optionally to the transaction performed. Logs are trackable and searchable worldwide.

My design option emphasized the connection of items outlined above by having foreign key values in a table always point to primary key values found in another table. The design further emphasizes traceability through identification of where the transactions are occurring. Also, critical like amount employs exact notation (DECIMAL), and timestamp types to order events. Overall, the formal design ensures readability and traceability, allowing the system to easily monitor financial transactions while creating an auditable history of all user and system activity.