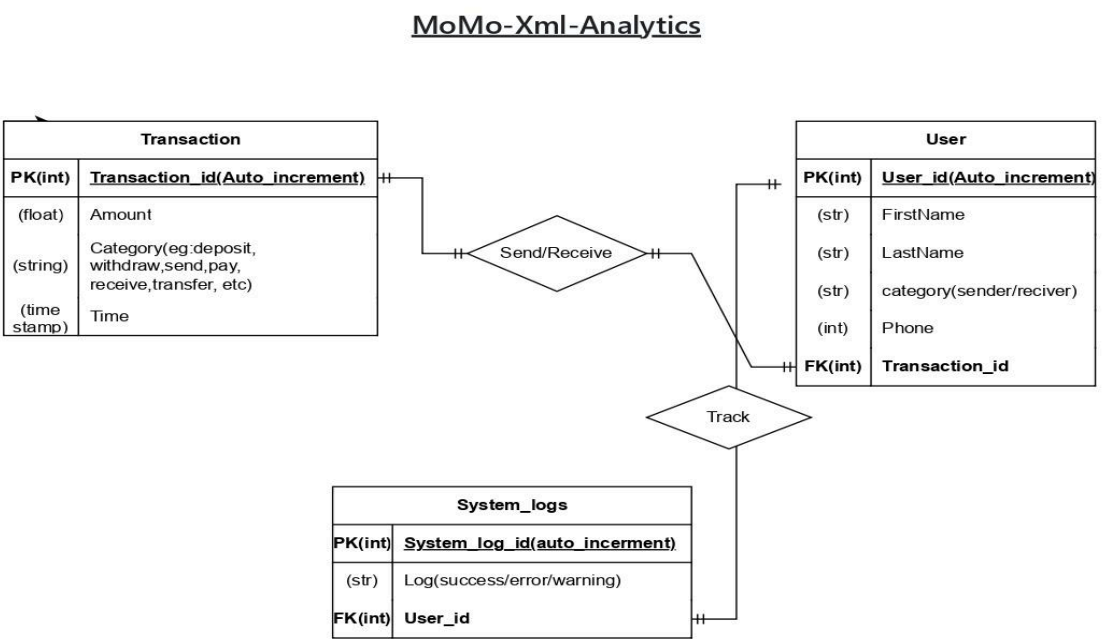
ERD for MOMO XML Analytics



ERD for the MoMo SMS database system is designed around three central entities: **Users**, **Transactions**, and **System_Logs**. The **Users** table serves as the foundation for capturing customer information. It includes a unique identifier (User_id), personal details such as first name and last name, a phone number, and a category field indicating whether the user is acting as a sender or a receiver. To establish a link between users and their financial activities, a foreign key referencing the transaction identifier is included in the Users table.

The **Transactions** table records the details of mobile money operations. Each transaction is uniquely identified by a Transaction_id and includes attributes such as the amount involved, the type of transaction (e.g., deposit, withdrawal, transfer, or payment), and a timestamp to capture when the transaction occurred. This table forms the core of the system, ensuring that all financial activity is systematically recorded and easily traceable.

The **System_Logs** table ensures that every interaction is monitored and accounted for. Each log entry has a unique identifier (System_log_id) and records the status of the process, whether it was a success, error, or warning. The table also contains a foreign key linking it to the Users table, enabling administrators to track which user's activity generated the log.

In this design, the relationships are modeled as **one-to-one**: a user is tied to a single transaction, and each user can have a corresponding log entry. While this approach simplifies the structure, it creates a tightly coupled model that clearly demonstrates direct links between users, their transactions, and the system's monitoring activities.