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Task 1.1

Purpose: Chipper Cash is a fintech app, launched in 2014, that is used to send and receive money between people across 7 African countries namely Kenya, Ghana, Rwanda, Nigeria, Tanzania, Uganda and South Africa. It can also be used to buy airtime and pay bills. A user gets access to it via an Android or iOS app that they can download from the Playstore or Appstore. After downloading, they need to get verified with a valid ID to begin transacting on the app. Before a user can make a payment to another user, both parties should be on the Chipper Cash platform. The sender also needs to make a deposit before every transaction. Chipper Cash generates revenue by charging a 2% fee on every type of transaction except airtime purchases.

Principal operations/ structure: Chipper Cash has employees managing everything that happens on their side of the business and have partners consisting of telecommunication networks and Banks that they work with. When a user wants to make a transaction, they deposit money from a partner to the Chipper Cash app. Once that deposit is confirmed, the user can now send to another user on the app. Chipper Cash manages this part entirely. When a recipient receives the sent money, they then withdraw it through the partner in the other country/same country.

Products/services: Sending and receiving of money across borders to 7 countries, purchase of Airtime and Payment of Bills

Target audience: Anyone in the listed 8 African countries wanting a fast and cheap way of moving money around, especially across borders, pay bills and buy airtime on the go.

Functionalities of database:

• Account creation and user verification: The database will keep track of new accounts as and when they are created

• User identification management: It also keeps track of the unique identity of every user on the platform.

• External deposits and forwarding: It tracks all the external deposits users have to do in order to have a balance and go force to make a transaction via the app.

• Transaction type tracking: The app has the ability to make different types of transactions. The database will track people's engagements with the different options available.

• Transaction processing: The database will also keep track of the total number of successful tractions processed.

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• Transaction record management: It will also keep a record of all transactions that go on per day

• Revenue tracking: Finally, the database will keep track of the revenues generated through

transactions.

Task 1.2
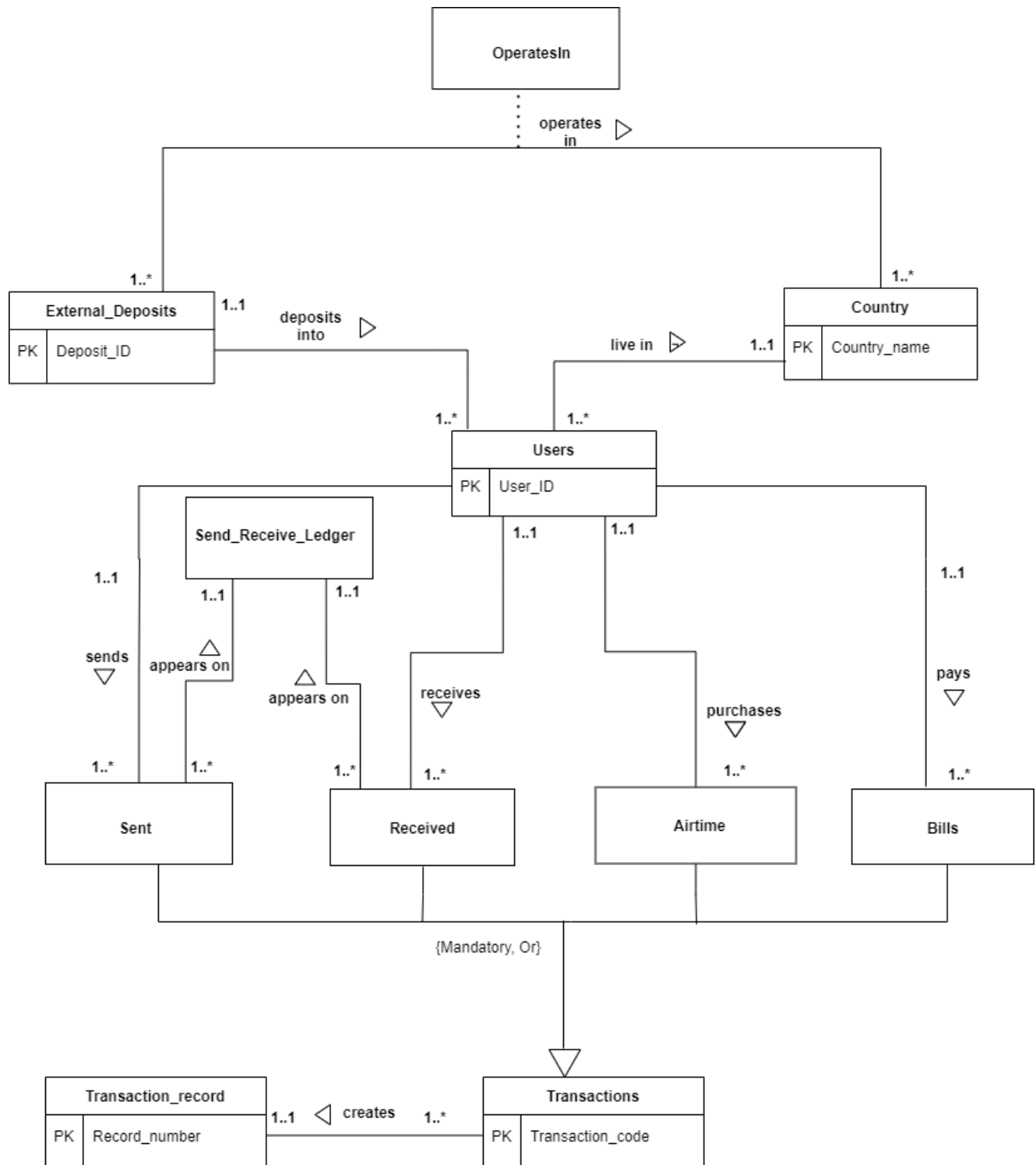
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Enterprise Rules

1. A user can live in only one countries

2. A country can can have one to many users living in it.

3. A country can have one to many external deposit methods

4. An external deposit method can operate in one to many countries

5. A user can send one to many transactions

6. Each sent transaction can be attributed to only one user

7. A user can receive one to many transactions

8. Each received transaction can be attributed to only one user

9. A sent transaction can appear on the ledger only one time

10. The ledger can have one to many sent transactions on it

11. A received transaction can appear on the ledge only one time

12. The ledger can have one to many received transactions on it

13. A user can purchase one to many airtime vouchers

14. Each airtime voucher can be attributed to only one user

15. A user can pay one to many bills

16. Each bill payment can be attributed to only one user

17. A transaction generates only one revenue

18. Each revenue component is from one transaction

Non-key attributes

Payment_partners: Partner_name, telephone_number, deposit_method, amount_deposited, time_completed

Accounts: Account_balance, Creation_date,

Country: Country_location

Verifications: Verification_date,

Users: Telephone_number, Username, DOB, Gender, Email_address, Verification_ID, ID_card_used, Verification_Date, Account_number, Account_balance, Creation_date,)

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Send_Receive_Ledger: amount_transfered, time_sent, time_received

Send: Amount sent, fees_charged

Receive: Amount_received

Airtime: Telco_network, Amount_bought

Bills: Bill_type, Amount paid, fees_charged

Transactions: (*Record_number*, time_initiated, time_completed)

Transaction records: transaction_type, amount_transacted, date_completed

OperatesIn: date_started

Assumption

A user can only send money after a deposit has been made from a payment pertner's external deposit.

Task 2.1

External_Deposits: (**Deposit_ID**, Partner_ID, *Country_name,* telephone_number, Partner_name,
deposit_method, amount_deposited, time_completed)

Country: (**Country_name**,, Country_location)

OperatesIn: (*Partner_ID, Country_name,* Date_commenced)

Users: (**User_ID**, *, Country_name*, Telephone_number, Username, DOB, Gender, Email_address,
Verification_ID, ID_card_used, Verification_Date, Account_number, Account_balance,
Creation_date)

Transactions: (**Transaction_code**, *Record_number*, time_initiated, time_completed, Revenue_count)

Send_Receive_Ledger: (amount_transfered, time_sent, time_received)

Sent: (*User_ID* , *Transaction_code*, Amount sent, fees charged)

Received: (*User_ID* , *Transaction_code*, Amount received)

Airtime: (*User_ID* , *Transaction_code*, Telco_network, Amount purchased)

Bills: (*User_ID* , *Transaction_code* , Bill_type, Amount paid, fees_charged)

Transaction records: (**Record_number,** transaction_type, amount_transacted, date_completed)

Link to YouTube video: https://youtu.be/i67dSUq0dFM