

Diagram Documentation - UPbank

1. Create an account: use the Accounts and Cards table.

2. Close an account: use the Accounts table;

3. View account balance: use the Accounts table;

4. View transactions: use the Transfers table;

- Filter by date: use the date attribute;
- By type (expense/income) expense where SenderId = requester's id, and income where RecieverId=requester's id;
- By sender/recipient: get all transactions where sender matches that name or the receiver matches that name;

4.1 Change transaction's notes: use the Transfers table;

4.2 Get a proof of transaction: use the Transfers table;

5. Transfer Money: use the Transfers table and the Accounts table. Create a transfer and remove the money from the sender's balance and add the money to the receiver's account;

5.1 Make a bank transfer by IBAN: use the Transfers table and the Accounts table. Use type = "BANK" and iban = "ENTERED_IBAN" as the metadata. If the receiver's account belongs to UPbank, add it to their account, otherwise place the money in the "Bank transfer" account;

5.2 Make a service payment: use the Transfers table and the Accounts table. Use type = "SERVICE", entity = "ENTERED_ENTITY" and reference = "ENTERED_REFERENCE" as the metadata. Place the money in the "Service payment" account;

5.3 Make a government payment: use the Transfers table and the Accounts table. Use type = "GOVERNMENT" and reference = "ENTERED_REFERENCE" as the metadata. Place the money in the "Government payment" account;

5.4 Make a telco payment: use the Transfers table and the Accounts table. Use type = "TELCO", number = "ENTERED_NUMBER" and provider = "PROVIDER_ID" as the metadata. Place the money in the respective provider's account;

6. View a scheduled transfer:

6.1 Schedule a transfer: use the StandingOrders table and the Accounts table. With the given frequency, perform all StandingOrders;

Diagram Documentation - UPbank

6.2 Change a schedule transfer: use the StandingOrders table;

6.3 Delete a schedule transfer: use the StandingOrders table;

7. View Direct debits:

7.1 Toggle a direct debit: use the DirectDebits table;

8.View cards: use the Cards table, the card number is generated from the card ID;

8.1 Toggle online payments: use Cards table;

8.2 Toggle NFC payments: use Cards table;

8.3 Change PIN: use the Cards table;

9.Get Documents:

9.1 Get IBAN proof: use the Accounts table. The account id will be used to generate the account's IBAN;

9.2 Get account statements: use the Accounts table and the Transfers table. Include the account information and the transfers from the given month, using the criteria defined in 4 for filtering by date;

10. Change account information: use Accounts and Addresses table.

Account Entity

ATTRIBUTE	DATA TYPE	ADDITIONAL INFO
ID	long	Unique, primary key, used to generate the account's IBAN.
FULLNAME	varchar	
BIRTHDATE	date	
ADDRESSID	long	
EMAIL	varchar	Unique, email format
TAXNUMBER	varchar	
IDNUMBER	int	
BALANCE	long	Represents the account's balance in cents.

Cards Entity

ATTRIBUTE	DATA TYPE	ADDITIONAL INFO
ID	long	Unique, primary key, used to generate the card's number.
NAME	varchar	
EXPIRYDATE	date	Automatically 2 years after creation
PINCODE	int	4 digits
ONLINEPAYMENTS	Boolean	
NFCPAYMENTS	Boolean	
ACCOUNTID	long	Foreign key to Account

Transfers Entity

ATTRIBUTE	DATA TYPE	ADDITIONAL INFO
ID	long	Unique, primary key
DATE	datetime	
SENDERID	long	Foreign key to Accounts
RECIVERID	long	Foreign key to Accounts
AMOUNT	long	
METADATA	varchar	JSON, see use cases for schema
NOTES	varchar	
IMAGES	image	

TelcoProviders Entity

ATTRIBUTE	DATA TYPE	ADDITIONAL INFO
ID	long	Unique, primary key
NAME	varchar	

StandingOrder Entity

ATTRIBUTE	DATA TYPE	ADDITIONAL INFO
ID	long	Unique, primary key
RECIVERID	long	Foreign key to Accounts
AMOUNT	long	
FREQUENCY	Enum	DAILY, WEEKLY, MONTHLY, YEARLY
SENDERID	long	Foreign key to Accounts

DirectDebit Entity

ATTRIBUTE	DATA TYPE	DESCRIPTION
ID	long	Unique, primary key
ACTIVE	Boolean	
AMOUNT	long	
RECEIVERID	long	Foreign key to Accounts
SENDERID	long	Foreign key to Accounts
LASTDEBIT	datetime	

Address Entity

ATTRIBUTE	DATA TYPE	DESCRIPTION
ID	long	Unique, primary key
LINE1	varchar	
LINE2	varchar	Optional
POSTALCODE	varchar	
CITY	varchar	
DISTRICT	varchar	
ACCOUNTID	Long	Foreign key to Accounts

All entities store the date of creation and the date of the last update.