Simplified digital wallet system

People needing to transfer money locally or across international borders. Examples: Wise, Grab Wallet

The user must be able to do the following through RESTful API calls.

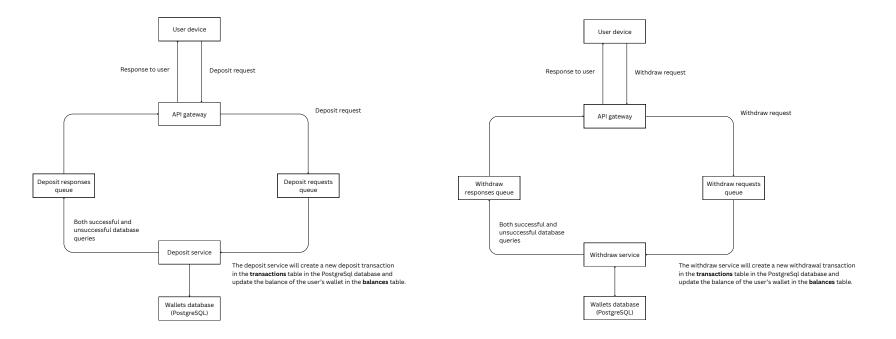
- 1. Deposit money into his wallet.
- Withdraw money from his wallet.
 Transfer money from one wallet to another.
- A. Retrieve the balance of his wallet.
 S. Retrieve the transaction history of his wallet.

- 1. System is greatly simplified such that it can be coded up in 3 days with the time of
- only 1 person for job assessment purposes.

 2. System need not be secure.

 3. Not try to achieve high availability, scalability and durability as it would be too difficult to build with limited resource.

System design for withdrawing money from a wallet



Use a single database transaction to make the transfer atomically

Debit amount from sender's wallet
 Credit amount to recipient's wallet

Transfer request

Transfer requests queue

The transfers service will create a new transfer transaction in the **transactions** table in the PostgreSql database and update the balance of the user's wallet in the **balances** table

for both the sender and recipient.

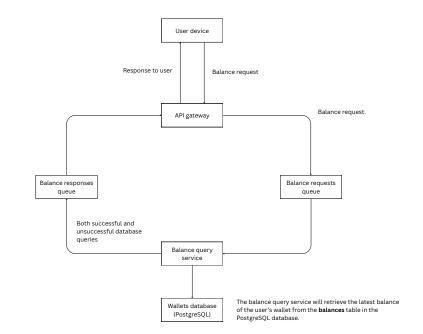
Transfers service

Wallets database (PostgreSQL)

System design for transferring money from one wallet to another

Both successful and unsuccessful transfers

System design for retrieving the balance of a wallet



System design for retrieving the transaction history of a wallet

