

Initial attempt - digital wallet system

Who are its users

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

Functional requirements

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

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

Non-functional requirements

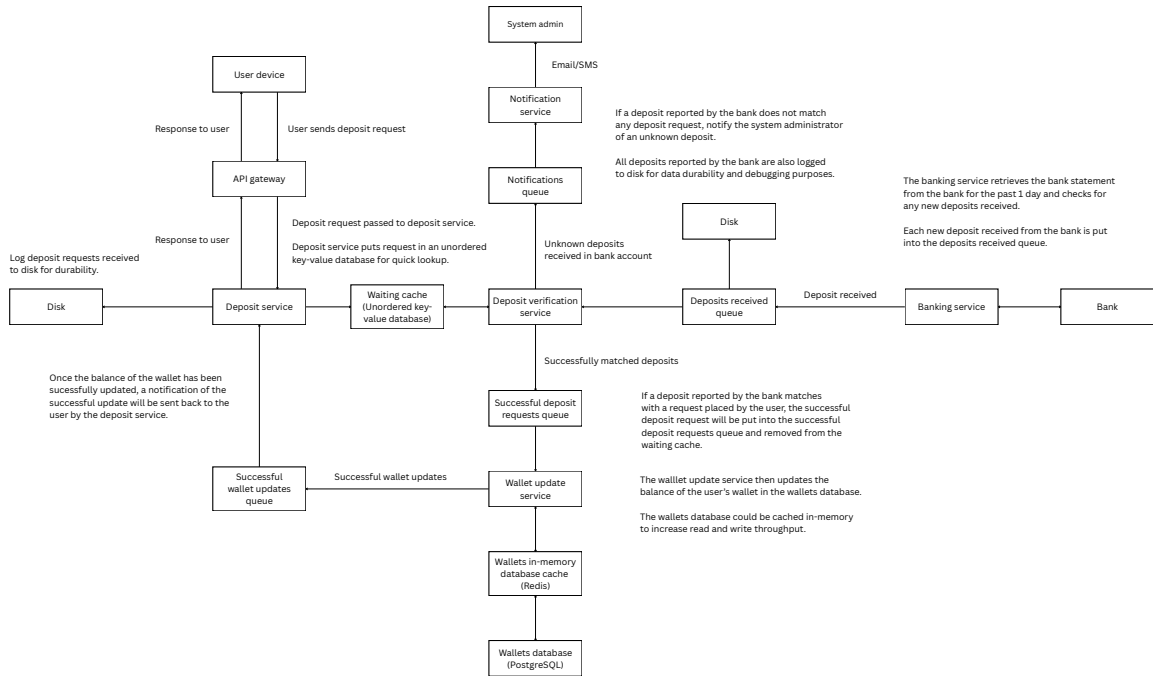
- System has to be secure. The user must be authenticated before he is allowed to perform any of the above API calls.
- Transactions entered by the user must not be lost: depositing money, withdrawing money, transferring money. The data must be highly durable.
- Highly available. The system must be up 99% or more of the time.
- Highly scalable. The system can be scaled to cater to an exponentially increasing number of users.

Notes

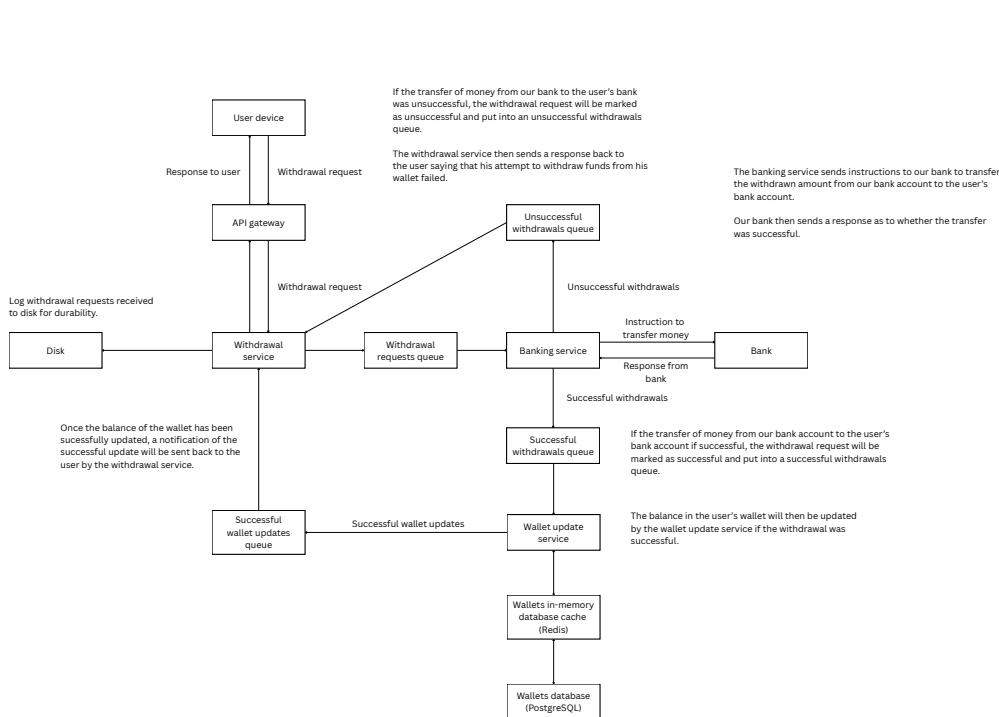
There is a need to interact with third party APIs to withdraw money from a bank and deposit that money into the user's wallet.

There is a need to interact with third party APIs to withdraw from the user's wallet and deposit the money into the user's bank.

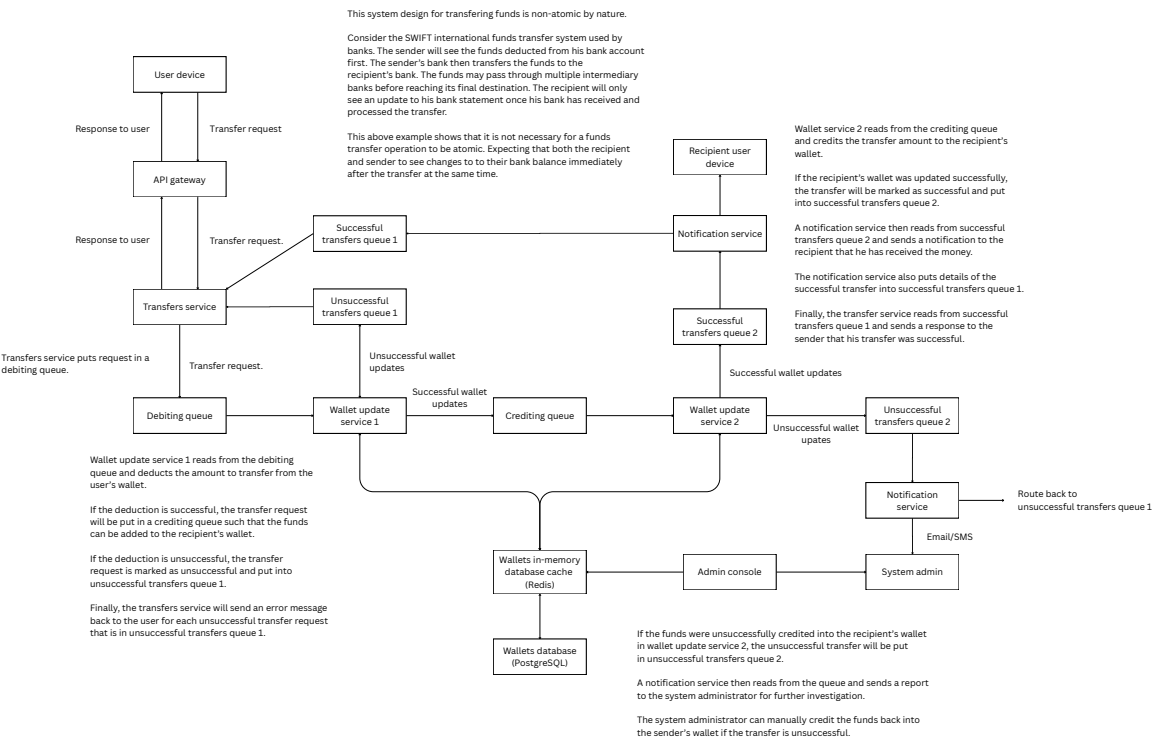
System design for depositing money into a wallet



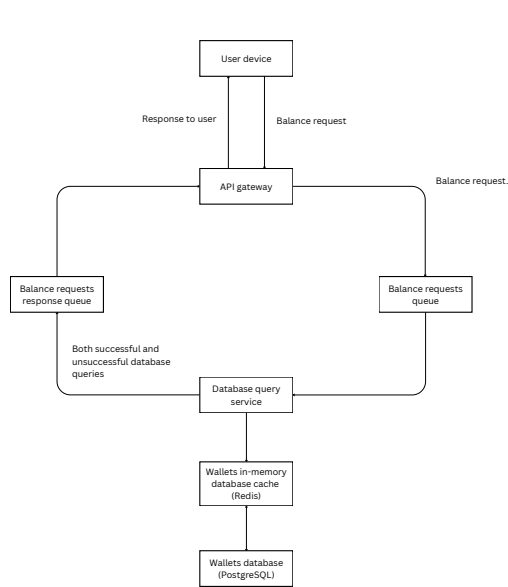
System design for withdrawing money from a wallet



System design for transferring money from one wallet to another



System design for retrieving the balance of a wallet



System design for retrieving the transaction history of a wallet

