



# Software design specification document

## 2023

### Project Team

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# CS352: Sprint SDS– G.O.A.T, instapay system

## SDS document

### Class diagram Explanation

|   | Design Patterns   | Justification                                                                                         | Participating Classes                                                        |
|---|-------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1 | Strategy patterns | To change account type in runtime, depend on the choice of the user and make the design extendable    | Account, BankAccount, WalletAccount                                          |
| 2 | Factory Method    | To separate the complex creation of the Account from instapay System                                  | Registration, RegisterUsingWalletAccount, RegisterUsingBankAccount           |
| 3 | Strategy patterns | To change transfer method in runtime, depend on the choice of the user and make the design extendable | TransferToInstapayAccount, TransferToBankAccount and TransferToWalletAccount |
| 4 | Strategy patterns | To change API type in runtime, depend on the choice of the user and make the design extendable        | API, WalletAPI and BankAPI                                                   |
| 5 | Strategy patterns | To change Provider type in runtime, depend on the choice of the user and make the design extendable   | Provider, Bank and Wallet                                                    |
| 6 | Strategy patterns | To change Wallet type in runtime, depend on the choice of the user and make the design extendable     | Wallet, EtisalatWallet and VodafoneWallet                                    |
| 7 | Strategy patterns | To change Bank type in runtime, depend on the choice of the user and make the design extendable       | Bank, MasrBank, CIBBank and ElahlyBank                                       |
| 8 | Strategy patterns | To change Bill type in runtime, depend on the choice of the user and make the design extendable       | Bill, GasBill, WaterBill and ElectricityBill                                 |
| 9 | Strategy patterns | To change Database type, and make the design extendable                                               | DBConnection, DBHandle and ListDB                                            |

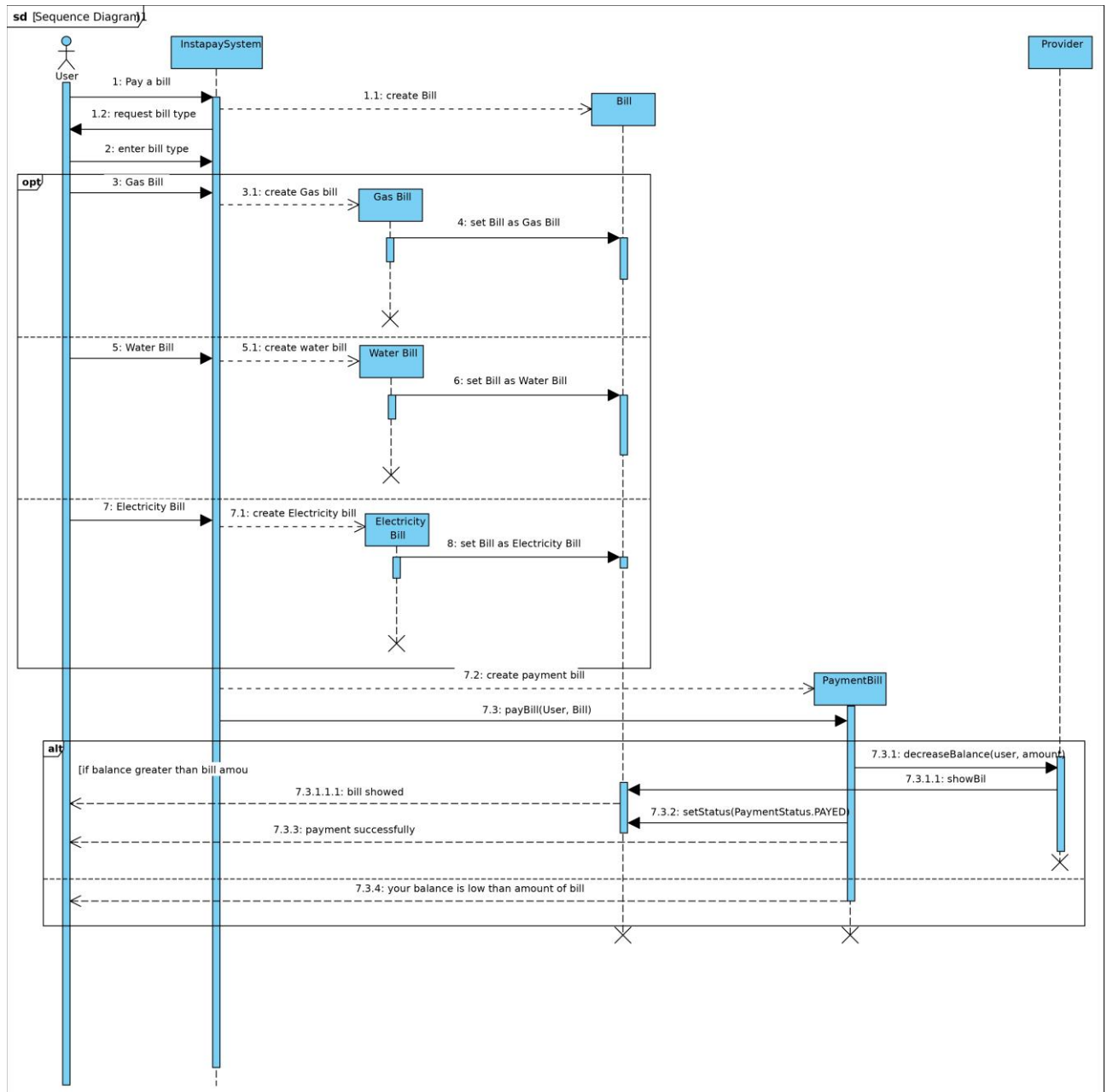


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## SDS document

### Sequence diagram design

❖ Sequence diagram for Pay Bills → Mohamed Amir

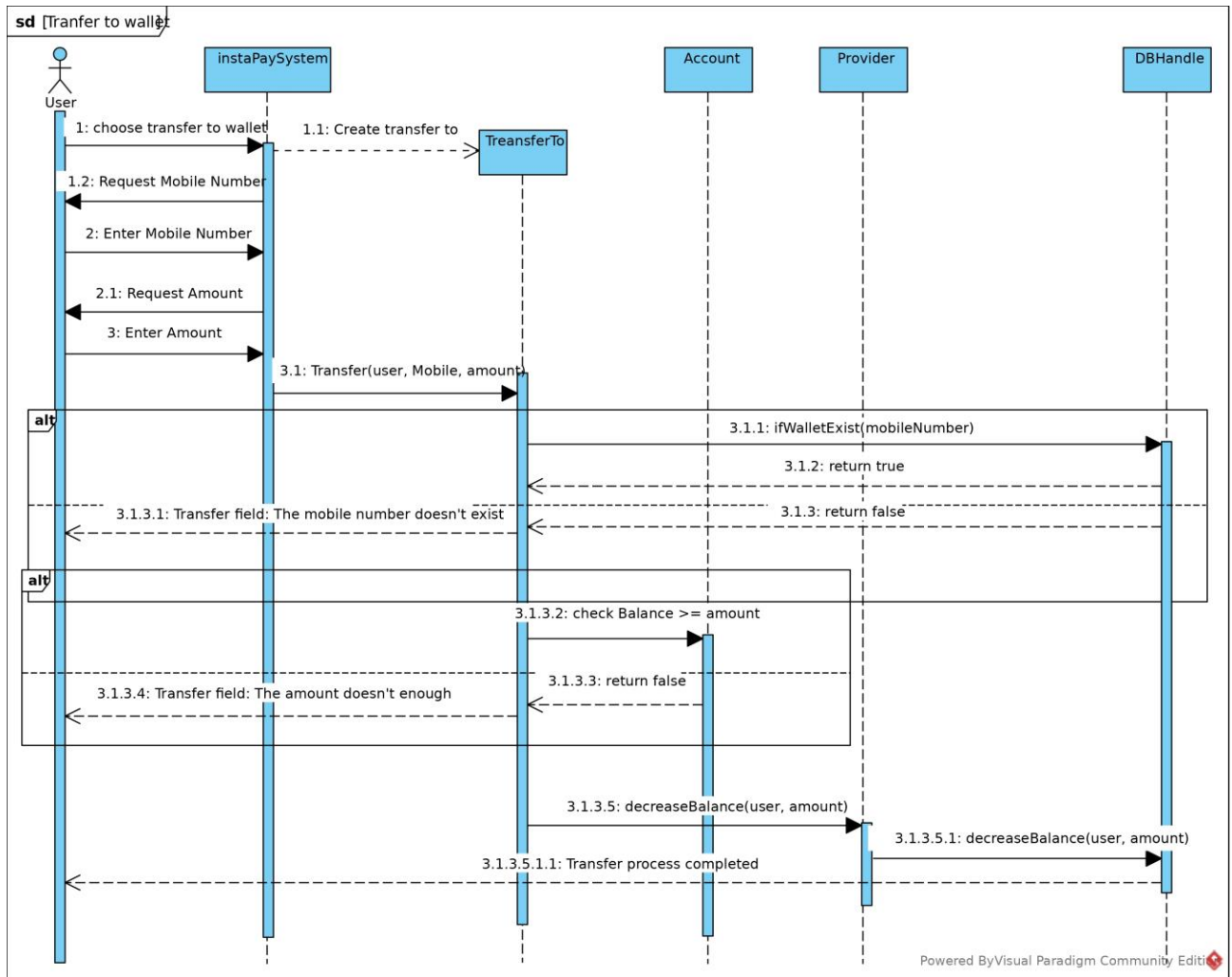




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❖ Sequence diagram for Transfer to wallet → Badr Mohamed

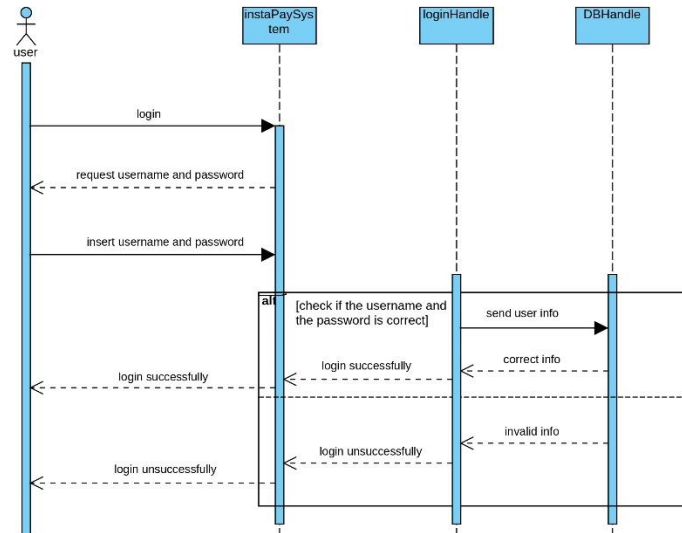




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❖ Sequence diagram for Login → Abdelrahman Adel

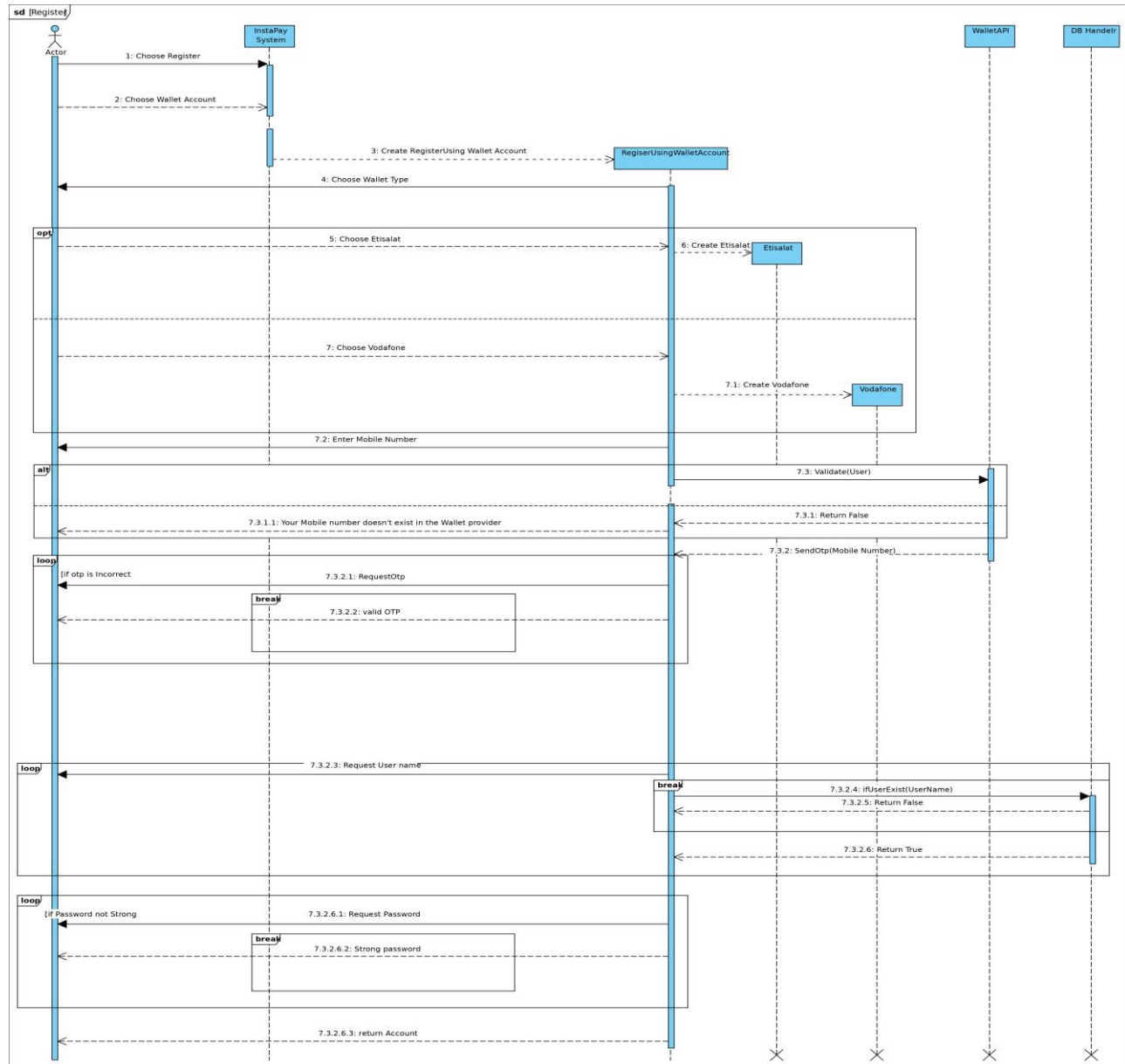




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❖ Sequence diagram for Register Using Wallet Account → Ahmed Yasser Mohamed



## GitHub repository link

❖ [https://github.com/Badrmohamedragab/InstaPay\\_Project](https://github.com/Badrmohamedragab/InstaPay_Project)