



Software design specification document

2022

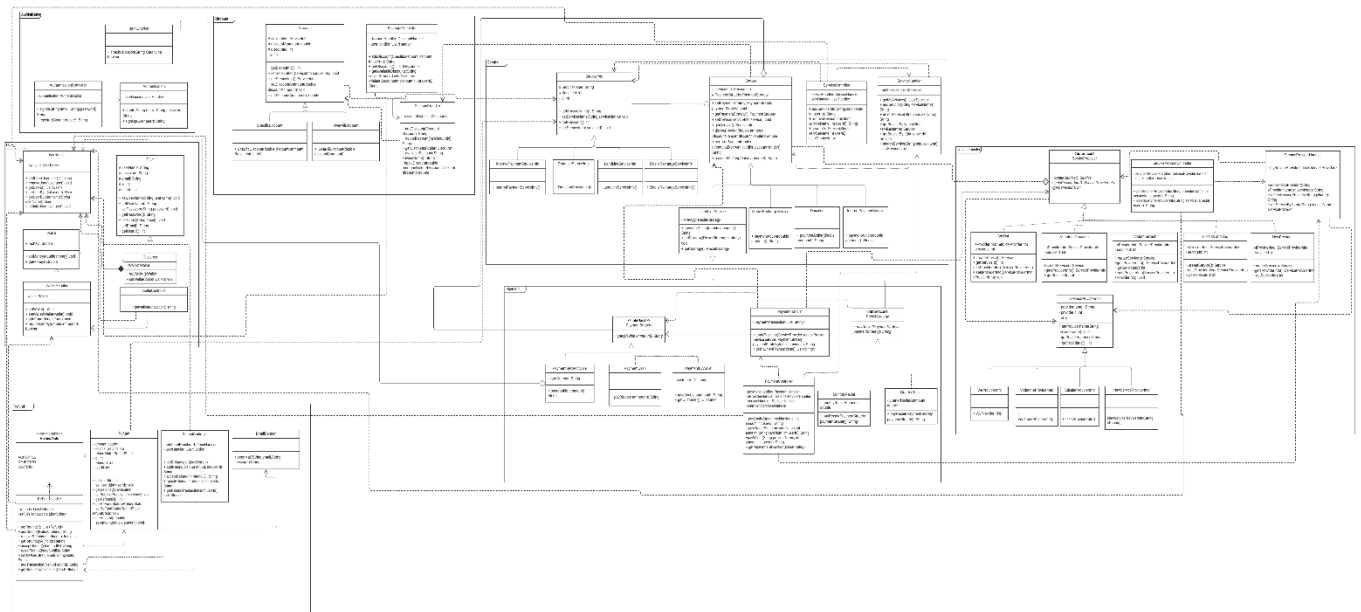
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20201041	Aya Hasanin Sayed AbdElmageed	ayaayad162002@gmail.com
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Class Diagram



I have added the picture for more observation in a folder of photos and this is the link to the diagram



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Link for class diagram

https://lucid.app/lucidchart/e7525835-965f-4813-b78e-f96a88a74411/edit?invitationId=inv_06e2e41e-56fa-4268-b5e9-6946c7cb5beb&page=HWEp-vi-RSFO#

Class diagram Explanation

Design Pattern	Justification	Related Classes
Strategy Pattern	Each payment method and The Recite strategy of landline service have different Algorithm	Payment Strategy Payment by wallet Payment by cash Payment by credit card Landline strategy Monthly recipe Quarter Recite
Factory Pattern	Each service provider can create a specific service like Vodafone cash can a create mobile recharge service	Service (product) Mobile recharge service Donation Landline service Internet payment seethe service Service provider (creator) Vodafone cash We dal Etisalat landline Donation Factory
Template Pattern	template method "perform payment" is considered an algorithm with fixed steps 1 discount action 2 payment action discount action is concrete and payment action is abstract that each service implements it	Service Mobile recharge service Donation Internet payment service Landline service

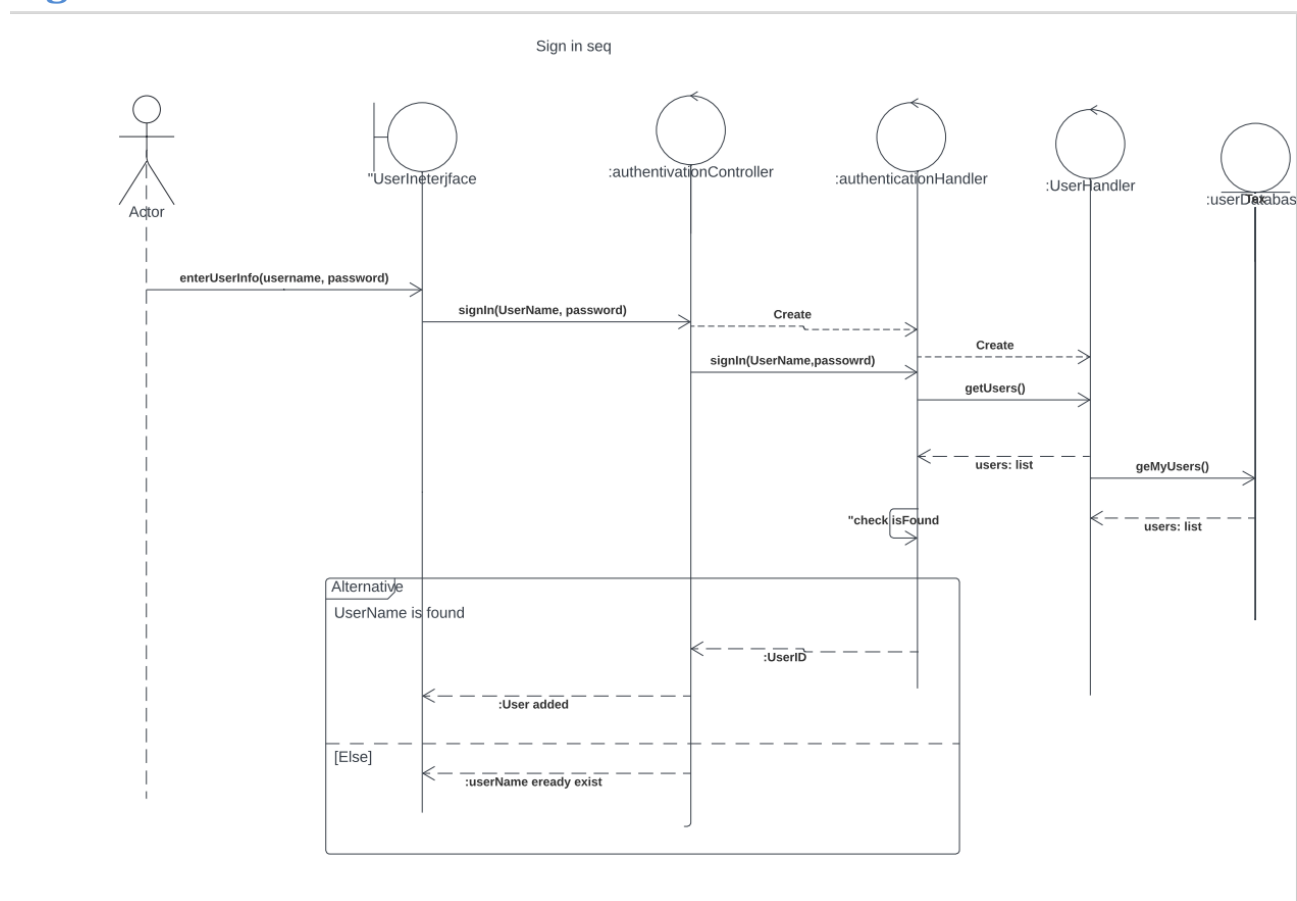


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Sequence diagram design

Sign in

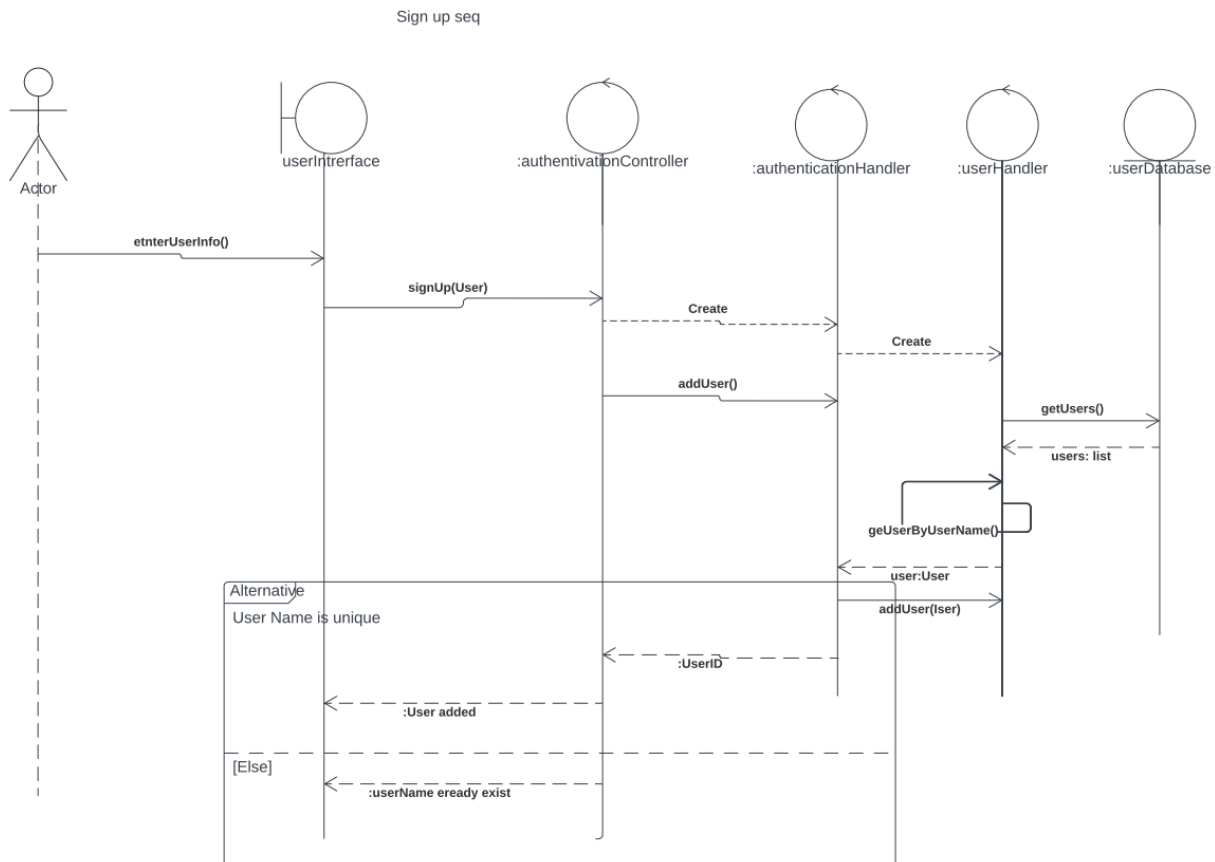




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Sign up

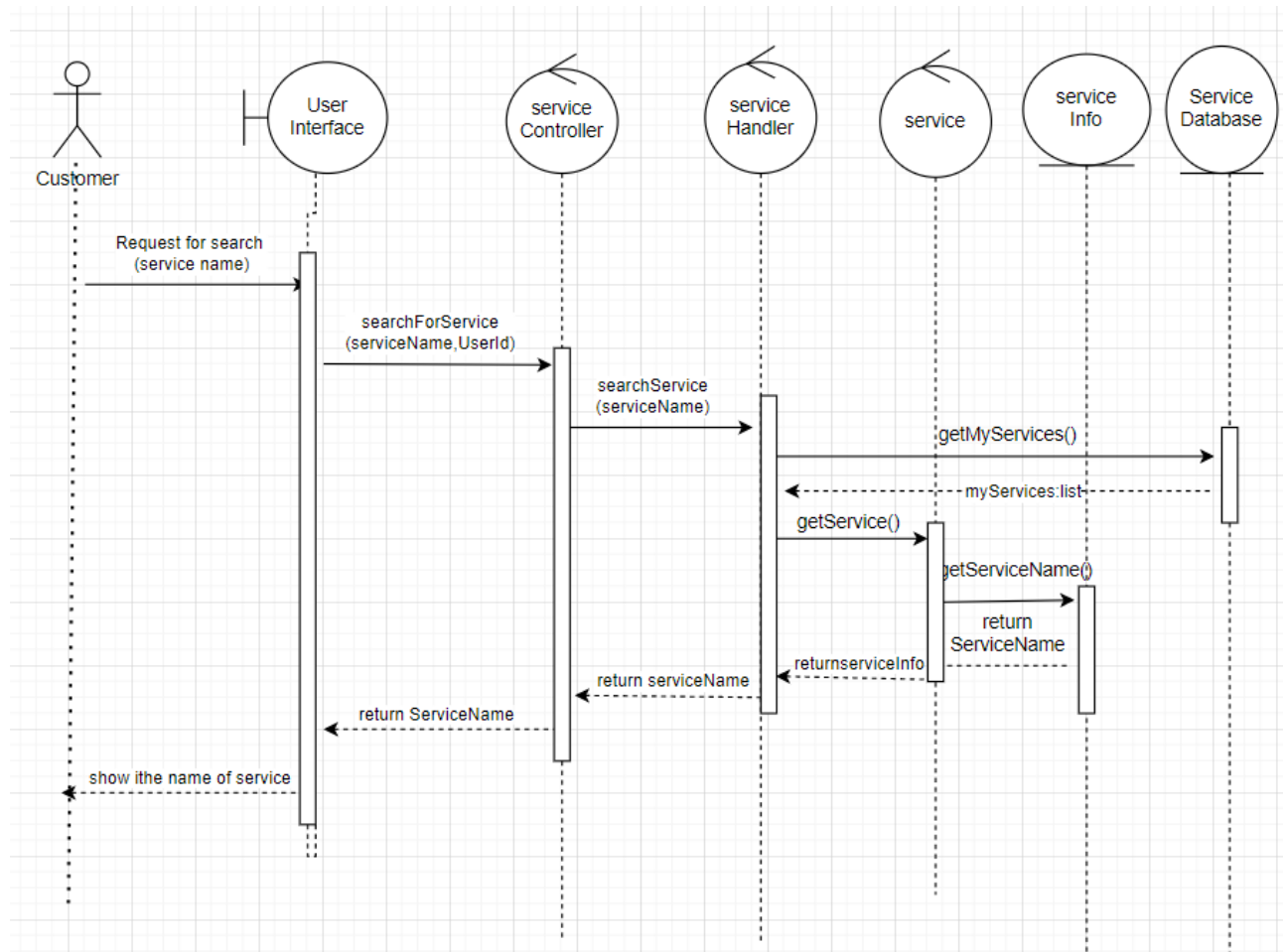




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Search for Service

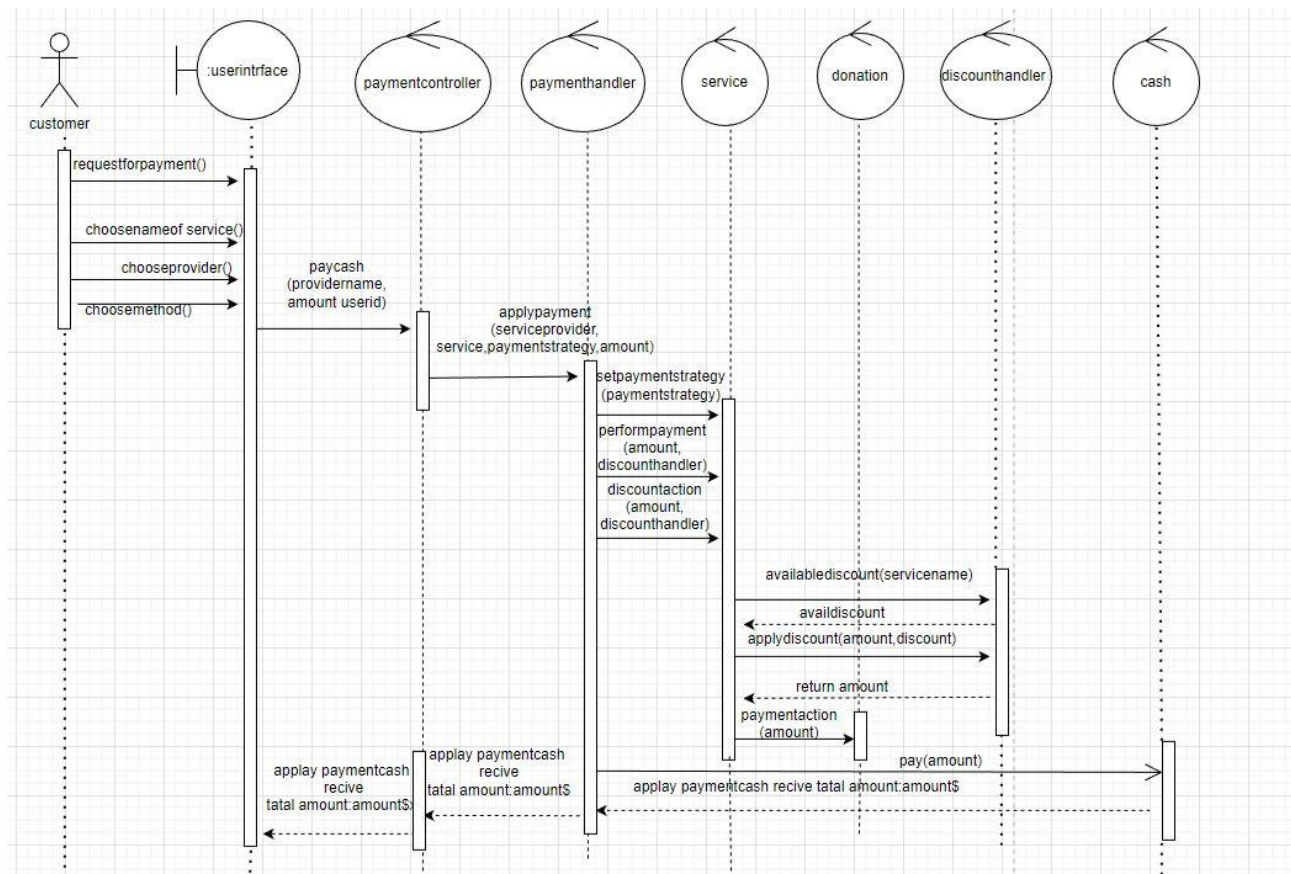




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Payment

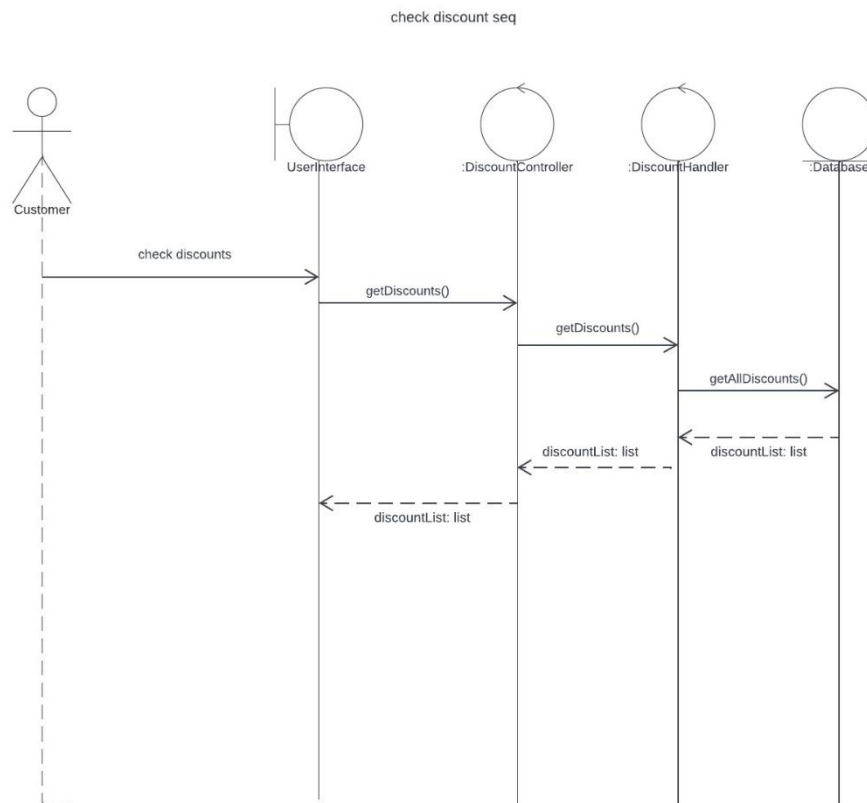




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Check Discount

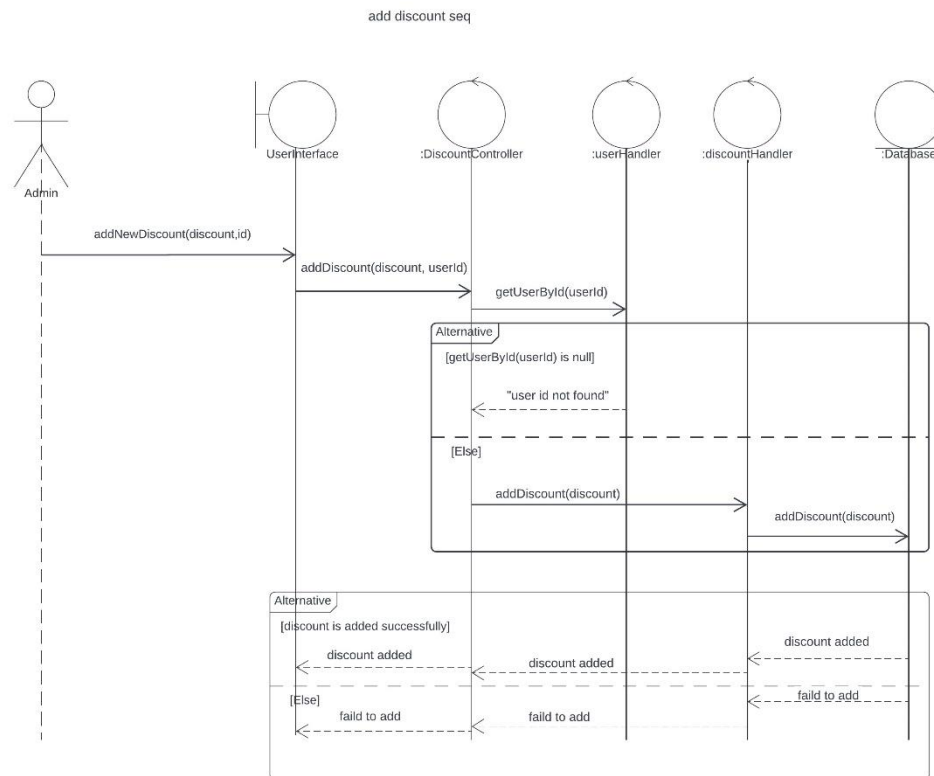




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Add Discount

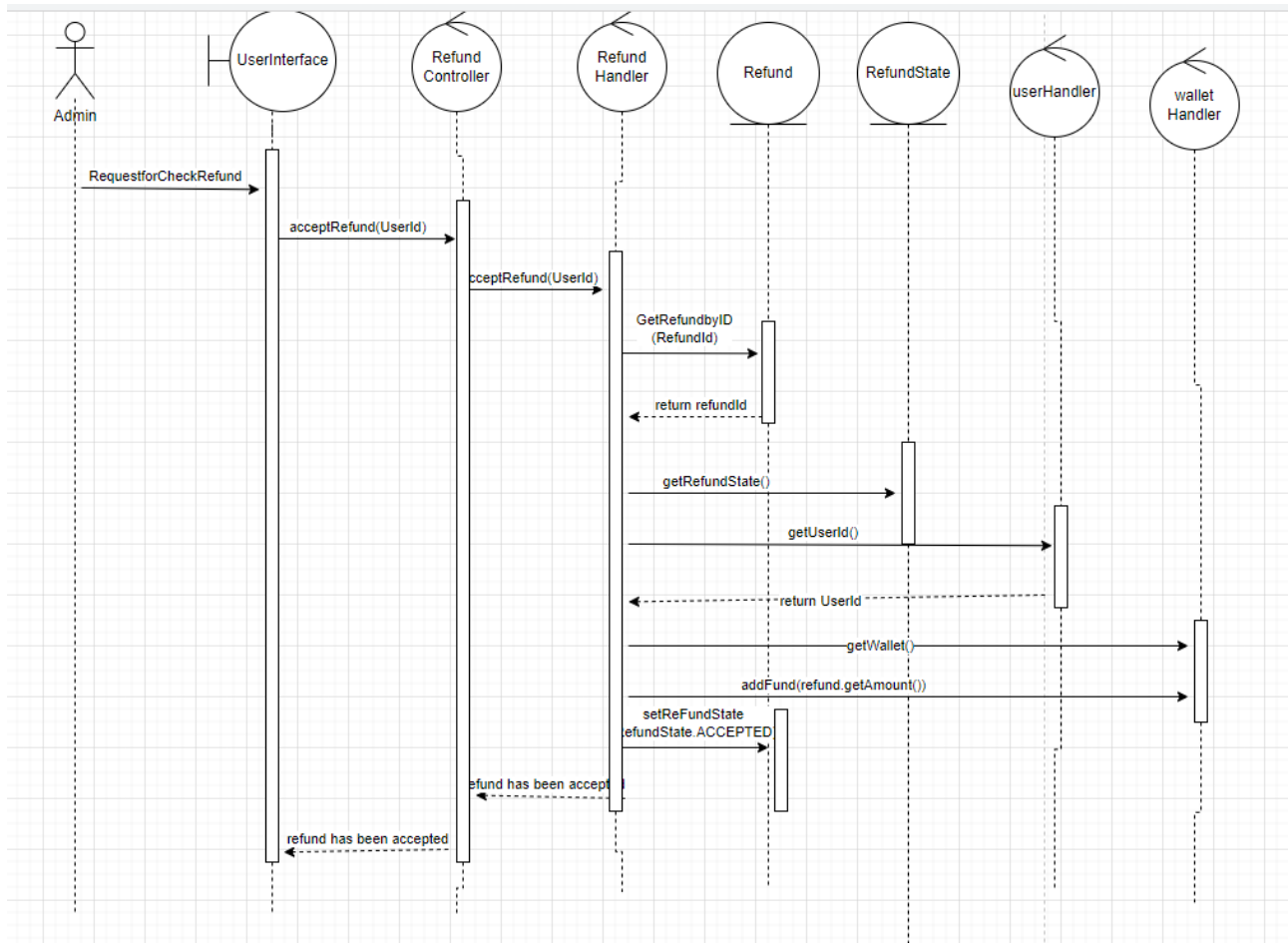




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Accept Refund

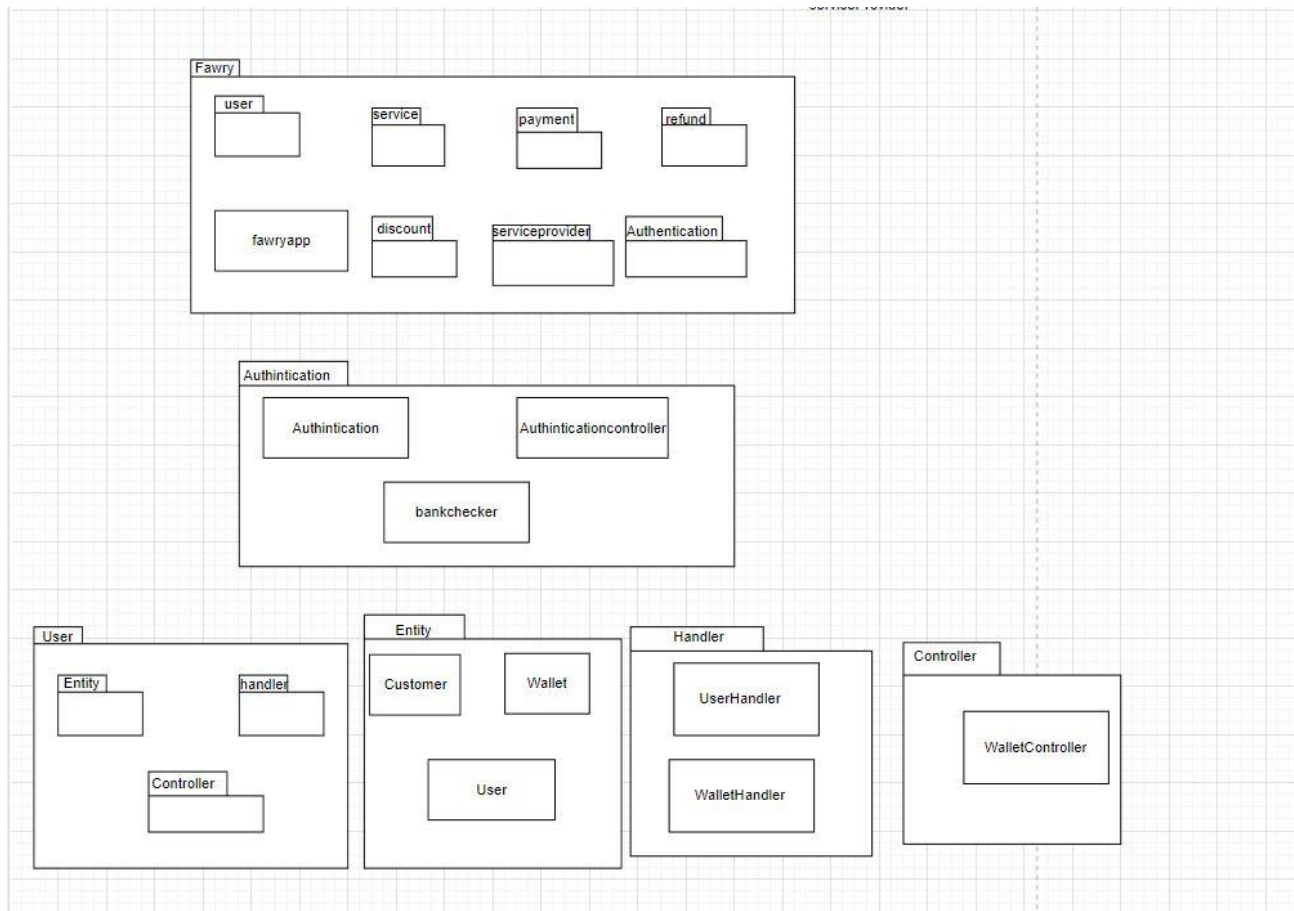




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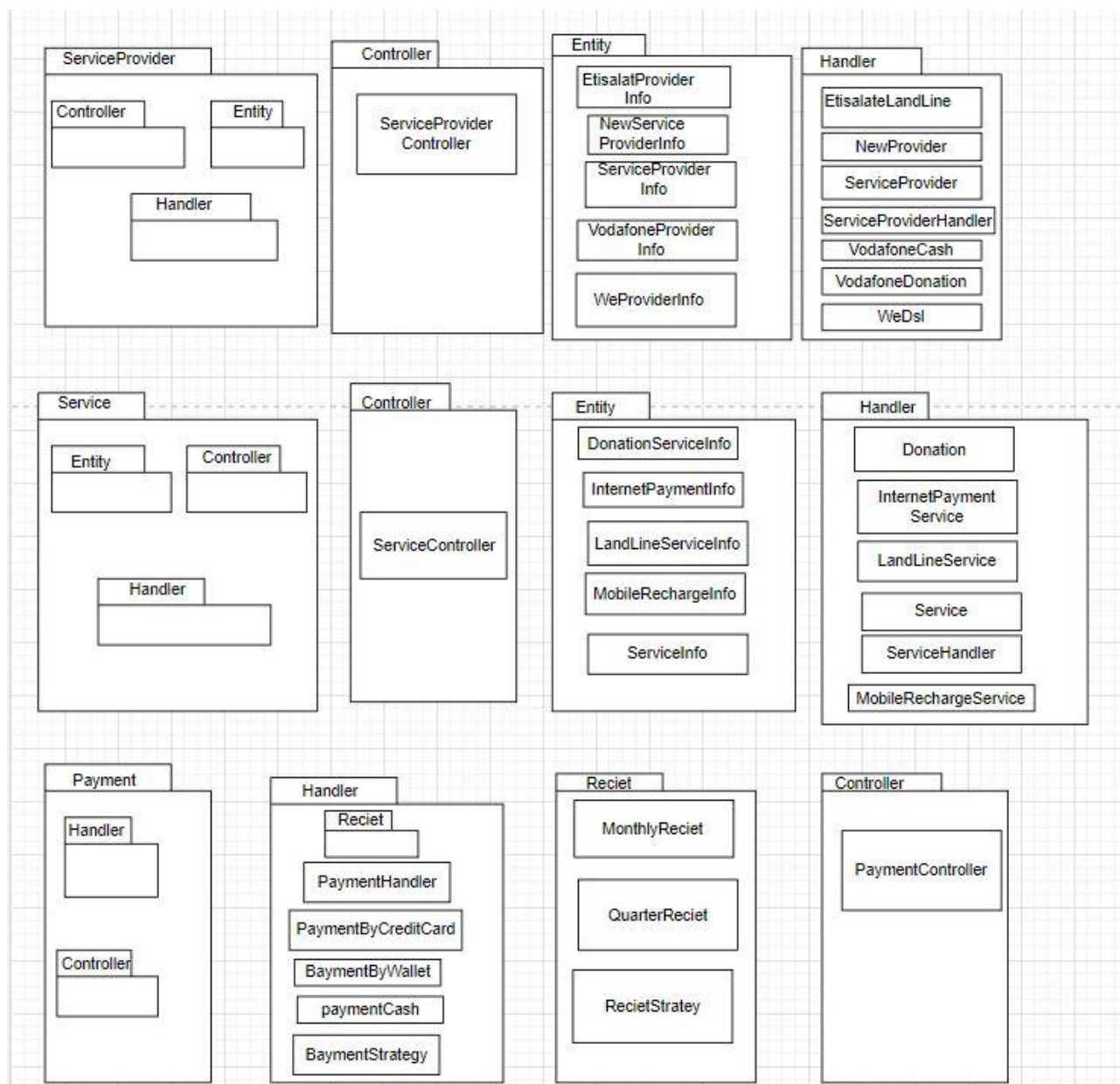
Sub System Decomposition





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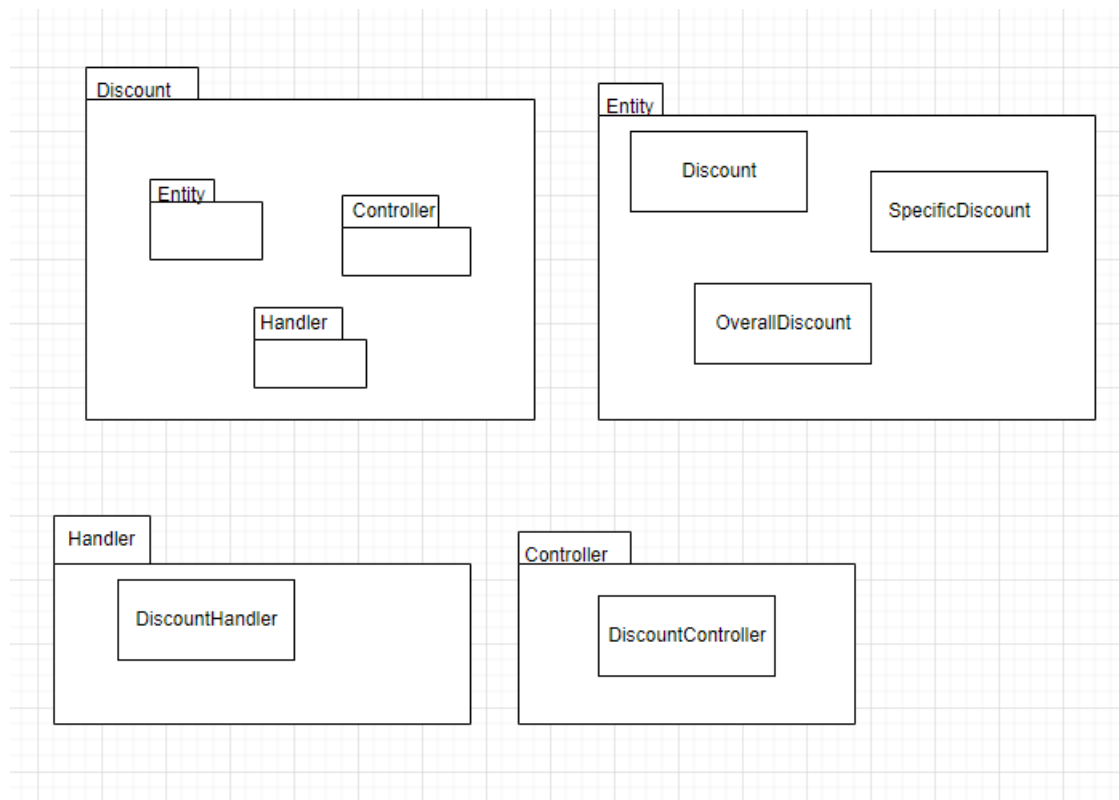
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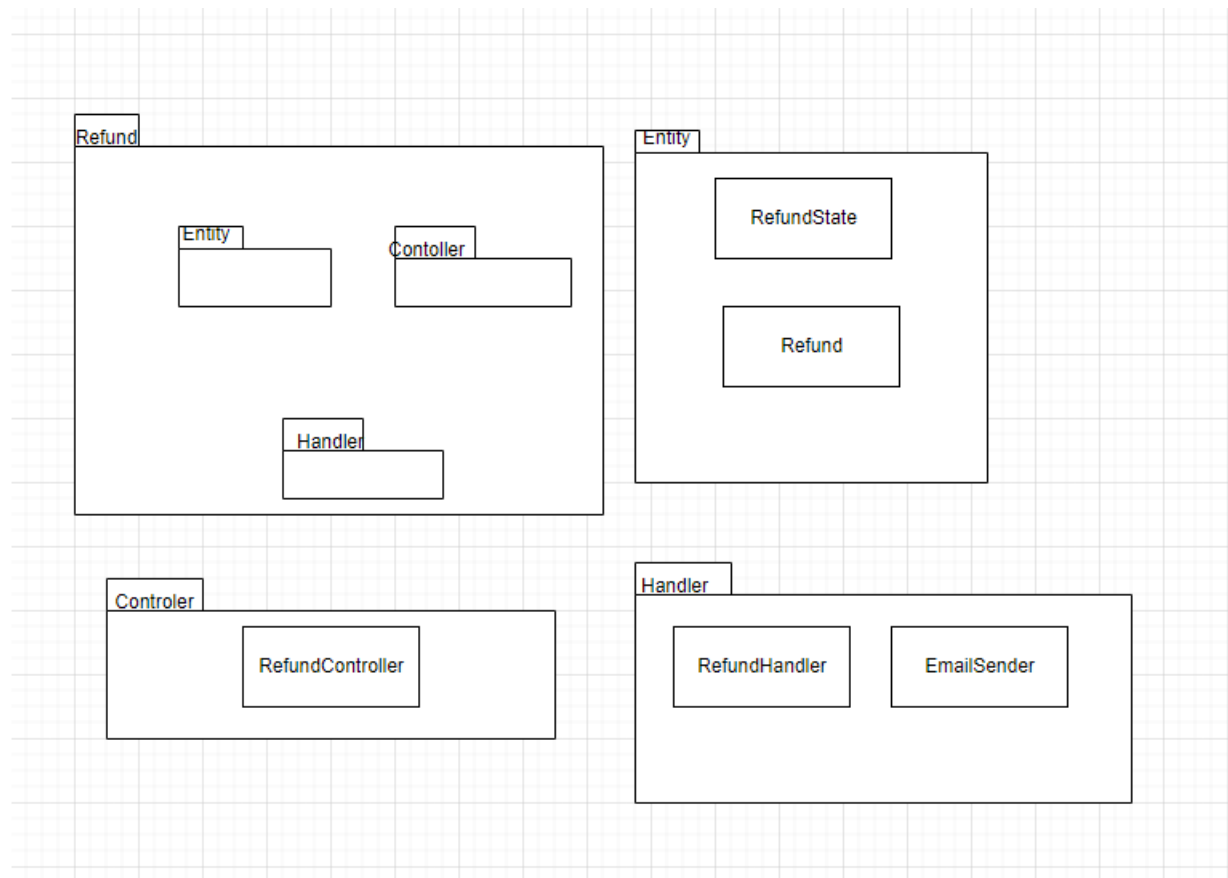
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Requirements Exposure as Web Service API

Part 1: Exposed Postman Collection

<https://www.postman.com/planetary-moon-217757/workspace/softwareproject/collection/25069920-96d9eef3-f697-451c-b7b2-50a958549e6c?action=share&creator=25069920>

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Part 2:

Explain here the exact mapping between every single requirement and its corresponding web service API operation. A sample example is provided to better explain the concept.

Requirement	Exposed API
The system should check if the username or the email is registered before	post/http://localhost:8080/rejester?=& The service checks if the user exists or not and the service returns a message that describes the sign up attempt if it was successful or unsuccessfully.
The user should be able to sign-in to the system. Given the user's email and a password, the user can login to the system	Get/http://localhost:8080/sign-in/mah@gmail/0123 The API takes e-mail and password as parameters in url query The service return if the user exists or not in a string return type.
the user should be able to	Get/http://localhost:8080/service/Mobile/1



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search for a service	this service takes service name of string type and returns the existed service
the admin should add new service provider to the system	post/http://localhost:8080/provider/Torrent/1/1 this service should take provider name , service id which the provider supports this service and takes user ID for authentication it returns provider added or failed to add or services do not exist depending on the situation
the admin should be able to add specific discounts on specific services	post/http://localhost:8080/discount/1 this service takes discount amount and user ID and checks if the user is new user or existing one to check if the user is provided one or more discount , and it returns string of discount adding status
the user should be able to check if there is a discount added on a service or not	Get/http://localhost:8080/discount/Internet Payment/1 this service takes service name , user ID to check if there are available discounts to retrieve and it returns list of available discount if exists on this service
the user should be able to request a refund add	post/http://localhost:8080/refund/1



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request to a service	this service should take user ID and refund object to request a refund formed from the user and it returns message shows that the request is added
the admin should be able to approve the refund requests given by the user	Put/http://localhost:8080/refund/accept/1/1 this service takes refund ID and user ID to approve the request of the user to accept the refund request and put money back to wallet and it returns success message of accepting the refund request
the user should be able to list all his/her refund transactions	Get/http://localhost:8080/refund/trans/1 this service should take user ID and returns a list of all the users' refund transactions
the user should be able to pay for a service cash	Get/http://localhost:8080/cash/Vodafone/120/1 this service should take provider name , amount , user ID and checks the provider name and user ID exists or not and returns status of the payment method
the user should be able to pay for the service	Get/http://localhost:8080/credit/We/120/147852/1



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using credit card	this service should take provider name , amount , card number , and user ID and checks the provider name and user ID exists or not and returns status of the payment method and apply payment in credit card
the user should be able to pay for a service using the wallet in the system	Get/http://localhost:8080/wallet/We/120/1 this service should take provider name , amount , and user ID and it takes the requested amount from the wallet after authenticating the user ID to pay for the requested service
the user should be able to list his wallet transactions	Get/http://localhost:8080/wallet/trans/1 this service should take userID and list the transactions that are done using the wallet

GitHub repository link

<https://github.com/MahmoudSayedA/software-project>