



Software design specification document

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Project Team

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Subsystem decomposition diagram design

provided in /Diagrams/

The decomposition diagram clearly illustrates the system as a whole in a package format, each package couples classes and components that provide certain functionality. The diagram also shows the dependencies and inheritances of each one class to the other.

Class diagram design

provided in /Diagrams/Class

Class diagram Explanation

- Strategy: used in payment methods as they all provide the same functionality “payment” but with different implementations.
- Proxy: Authenticator class is a proxy that is used in authenticating user login/signup
- AccountFetcher is the entity class which holds the system’s user and admin accounts
- Service has a list of serviceProviders and a Discount entity.
- ServiceFetcher is the entity class which holds the system’s services.
- Transaction is the entity class which holds all the details for a singular transaction.
- ServiceController is an abstract class which houses the common functionality between the concrete classes AdminController and userController.
- PaymentController is the controller class which handles all the payment logic.
- DiscountController is the controller class which handles all the discount logic at payment time.



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Sequence diagram design

all present in /Diagrams with svg format to be visible

1. Sign-in
2. Sign-up
3. Make refund request
4. Accept refund
5. Wallet top up
6. User pay transaction
7. Admin accept refund
8. Admin view user transactions



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Requirements Exposure as Web Service API

1-provided in ./postmanCollection

Function Name	URL / Http method	Parameters required
signUp	http://localhost:8080/auth/sign-up Uses Post Method	Takes a JSON body of a map {name,password,email,phoneNumber}
signIn	http://localhost:8080/auth/sign-in Uses Get Method	Takes userEmail and password as parameters
getService	http://localhost:8080/user/service Uses Get Method	Takes serviceName as a parameter Returns all services that match the name
pay	http://localhost:8080/transaction/payment Uses Post Method	Takes JSON body structure of a map { userEmail,password,serviceName, serviceProvider,paymentMethod ,phoneNumber,amount, {payment type data}}
addRefundRequest	http://localhost:8080/user/refund-request Uses Post Method	Takes JSON body structure of a map { userEmail,password,transactionID }
fundAccount	http://localhost:8080/user/fund Uses Post Method	Takes a JSON body of a map {userEmail,password,CCN,PIN, amount}
getServiceDiscount	http://localhost:8080/discount/service-discount Uses Get Method	Takes serviceName as a parameter serviceName must be exact match
addServiceProvider	http://localhost:8080/admin/service-provider Uses Post Method	Takes a JSON body of a map { adminEmail,password, serviceName,serviceProviderName }



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setOverAllDiscount	http://localhost:8080/discount/overall-discount Uses Post Method	Takes a JSON body of a map { adminEmail,password,amount }
setServiceDiscount	http://localhost:8080/discount/service-discount Uses Post Method	Takes a JSON body of a map { adminEmail,password, serviceName,amount } serviceName must be exact match
getAllAccountTransactions	http://localhost:8080/admin/user-transactions Uses Get Method	Takes adminEmail,password and userEmail as Parameters
getRefundRequests	http://localhost:8080/admin/refund-requests Uses Get Method	Takes adminEmail and password as Parameters
processRefundRequest	http://localhost:8080/admin/refund-requests Uses Post Method	Takes JSON body of a map { adminEmail,password,answer, userEmail,transactionID }

Github repository link

- <https://github.com/greatyassoo/EPayment>