Cairo University

Faculty of Computers and Artificial Intelligence

CS251

Introduction to Software Engineering

Toffee

Software Design Specifications

Version 1.0

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CS251: Phase 2 - Fantastic 3
Project: TOFFEE

Software Design Specification

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Software Design Specification

Team

ID	Name	Email	Mobile
20210290	Farah Walid Ahmed Elsayed	Farahwalid2211@gmail.com	01157560209
20210222	Abdelrahman Elsayed Korany Mohamed	abdelrahmanelsayed877@gmail.com	01013471814
20210168	Saif Eldeen Mohamed Ahmed	saifesmael125@gmail.com	01000946346

Document Purpose and Audience

- **What is this document about ?**
  - This document is about software design specification that show how to do the system .

- **What is the purpose of this document ?**
  - It's aim is to fill the gap between system requirements and developers.

- **Who are Audience?**
  - Audience of this document can be Developers , Project Manager , CEO.

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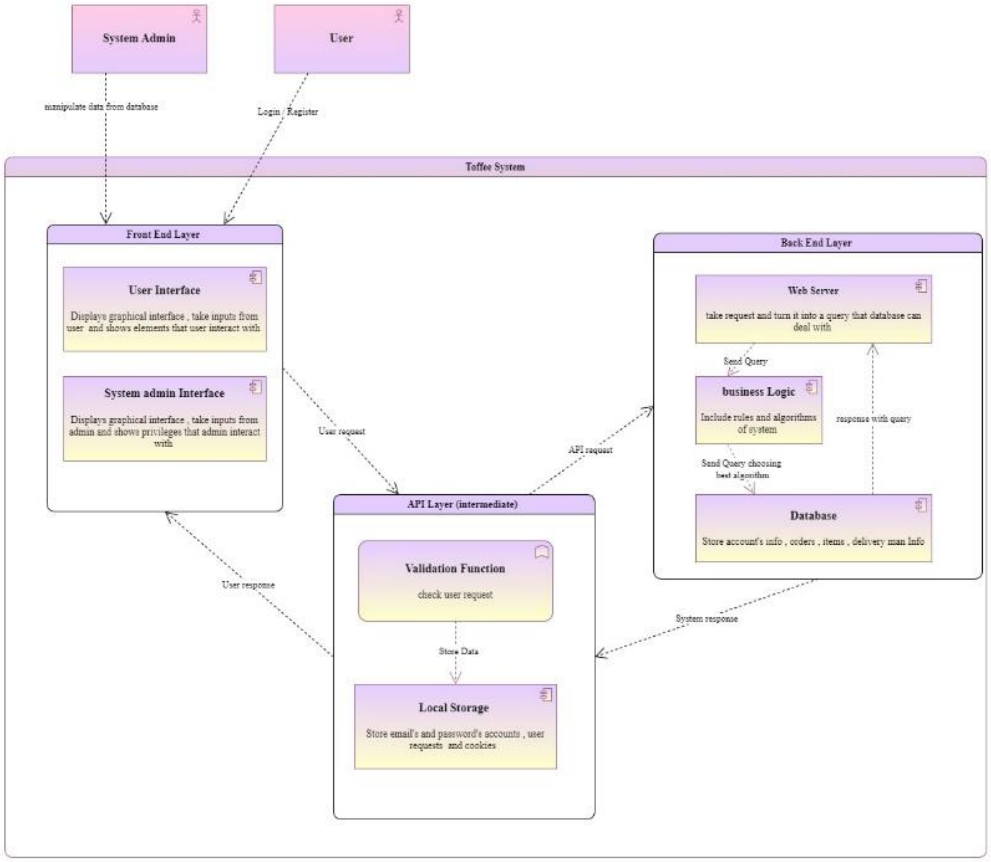
System Models

I. Architecture Diagram

- We choose Layered Architecture to apply the system architecture because we thought that it is more suitable for our system which includes layers communicating with each other.



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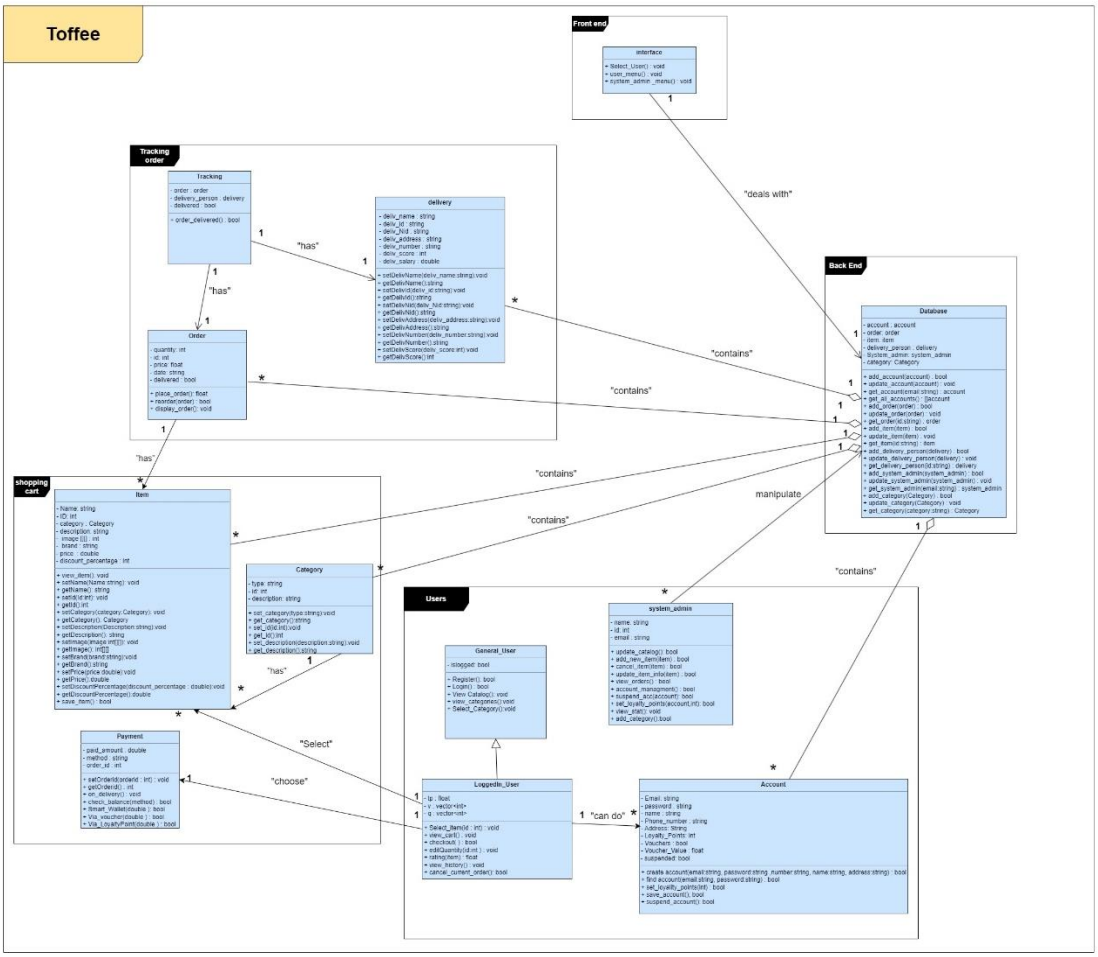
II. Class Diagram(s)



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III. Class Descriptions

Class ID	Class Name	Description & Responsibility
1.	System_admin	User management: system admin manages or suspends or delete account. System management: manipulate database. Can view statistics.
2.	General_user	Can View items in the catalog – can register (create object of account) or login (if he/she has account) to the system.
3.	LoggedIn_user	Can select items from catalog – can view cart – can check out the cart to place an order – can rate the items after ordering it – can view history of orders that he/she placed.
4.	Item	Can view the item information.
5.	payment	LoggedIn_user can choose any payment method (cash - smart wallet – loyalty points - vouchers) he/she likes.
6.	order	Can be placed or reordered by LoggedIn_user – its information can be displayed and stored it in the database.
7.	tracking	Check if the order is delivered or not.
8.	delivery	Set delivery info and stored it in the database and get it.
9.	Account	Create an account or find an account and store it in the database.
10.	interface	Interact with users.
11.	database	Store all information needed in the program.
12.	category	Store all categories in data base and set, get categories through it .

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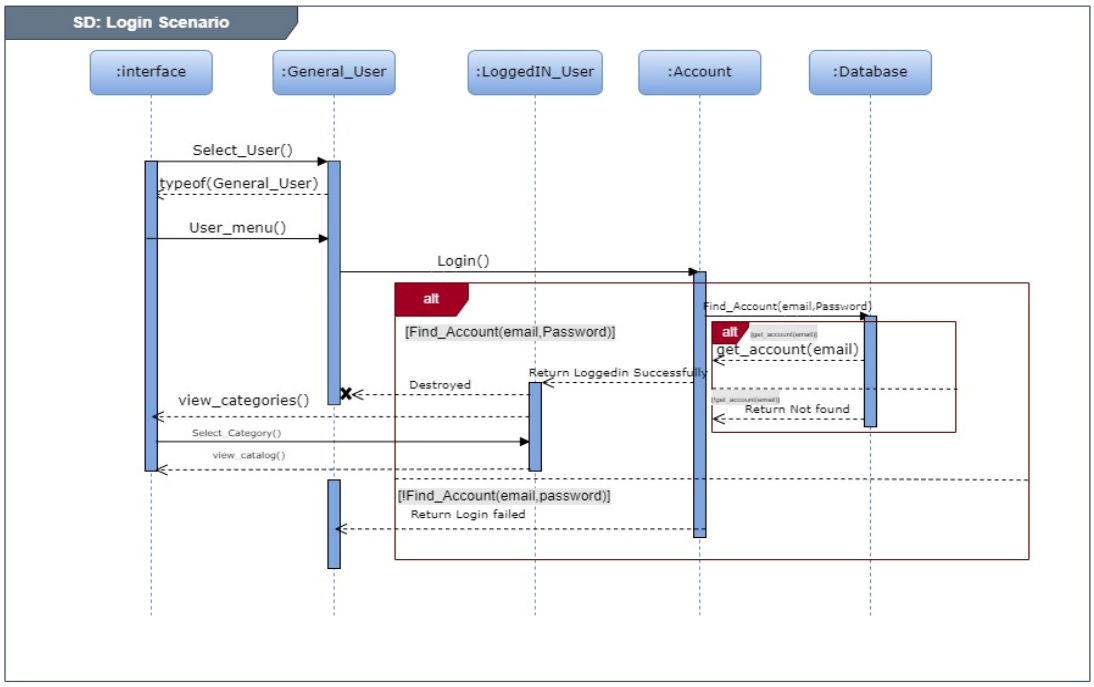
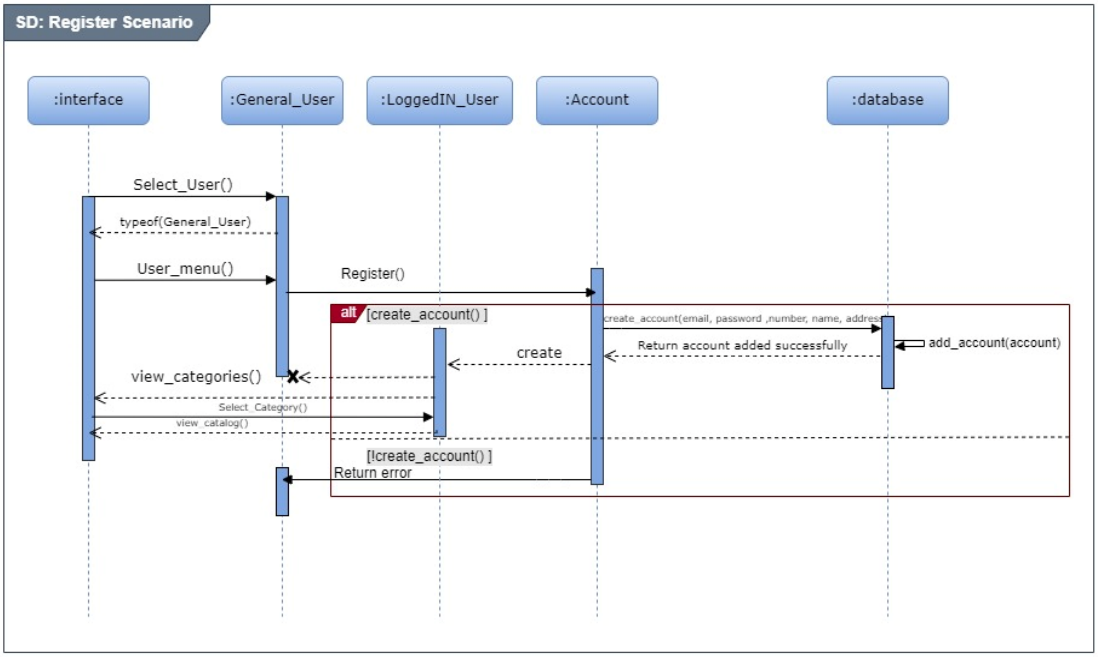
IV. Sequence diagrams





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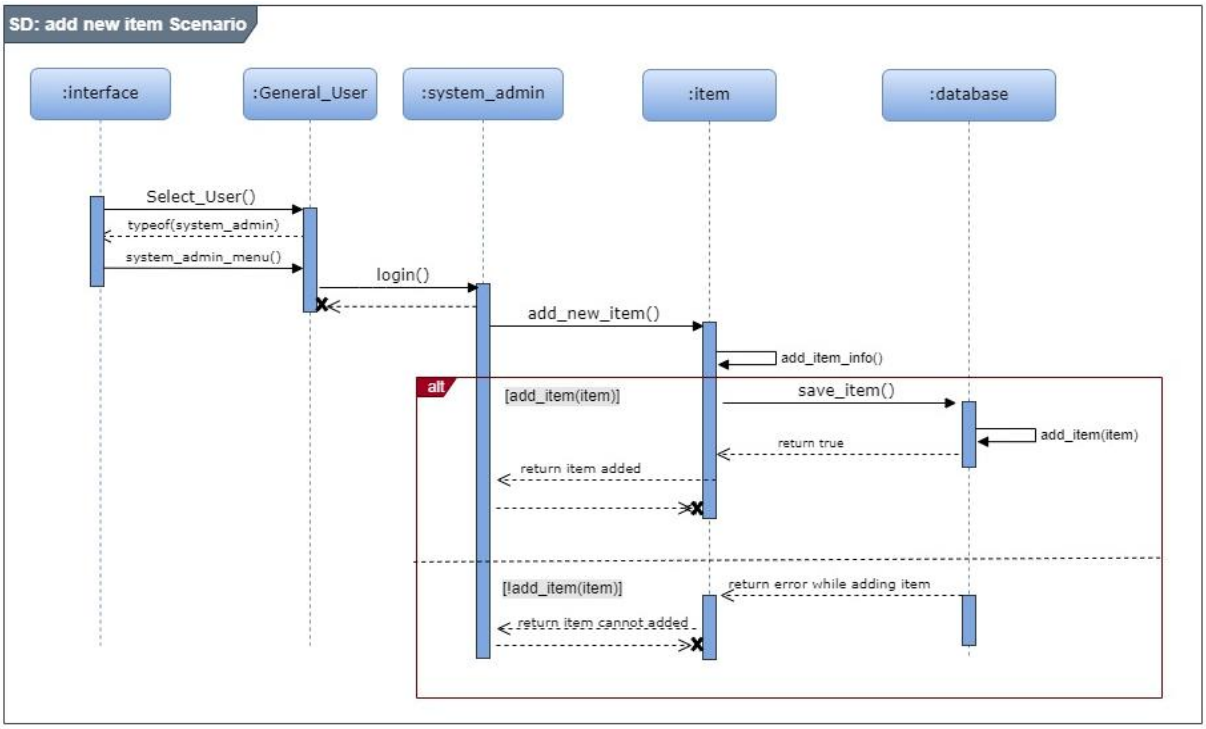

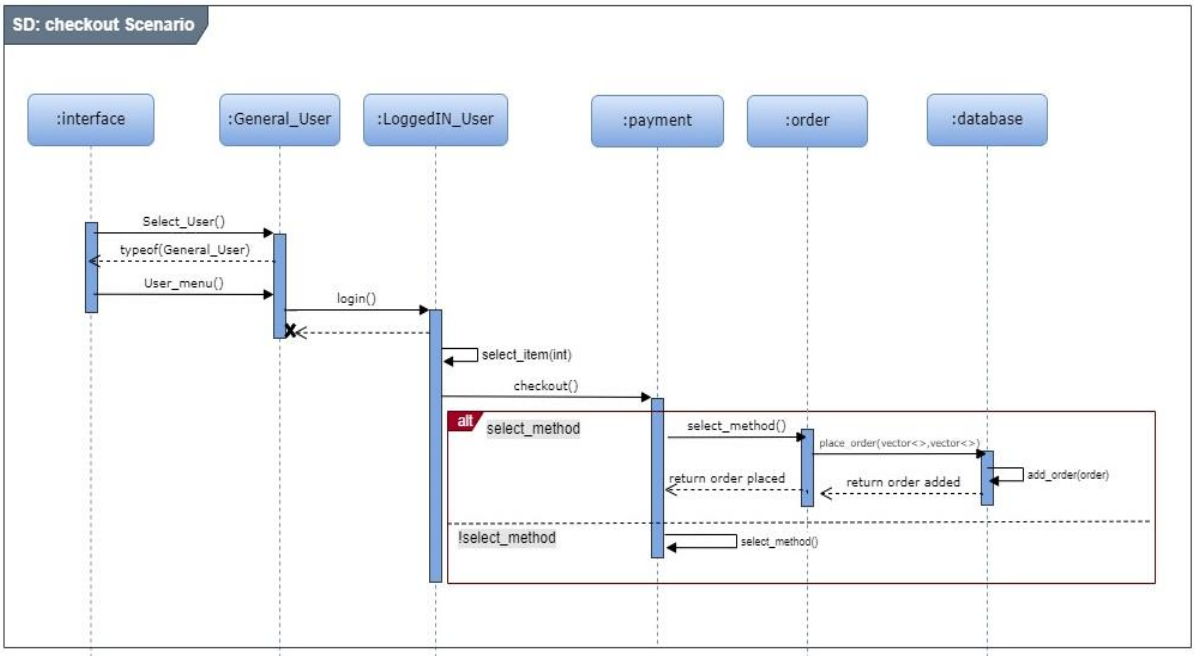

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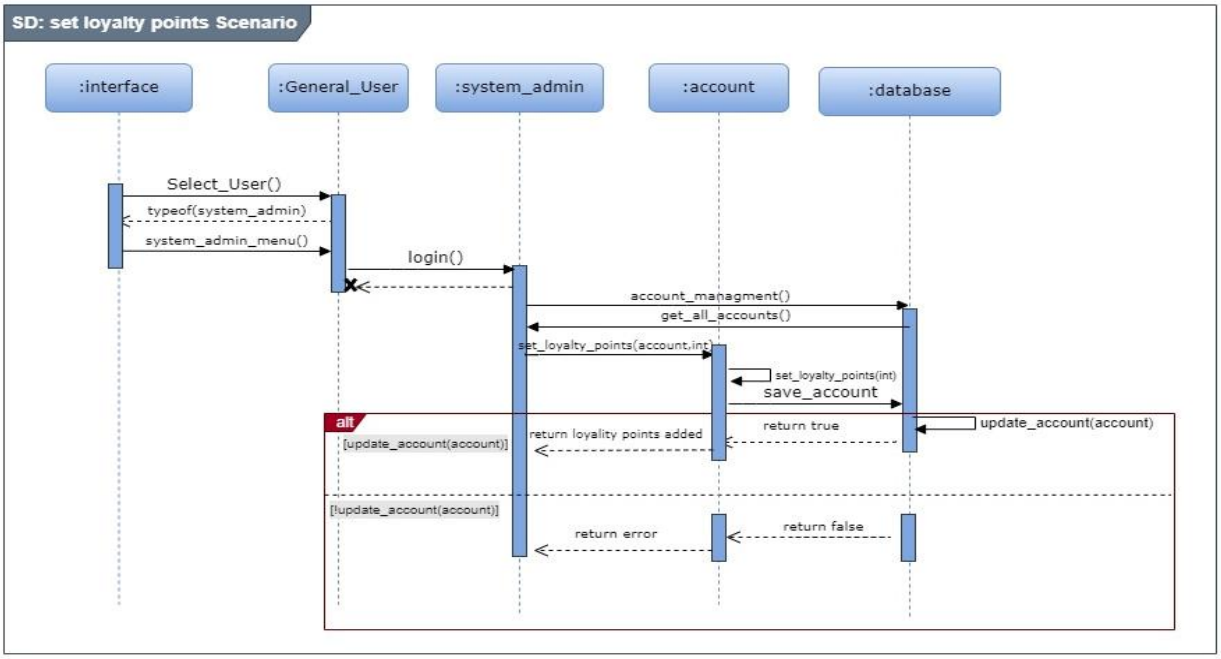

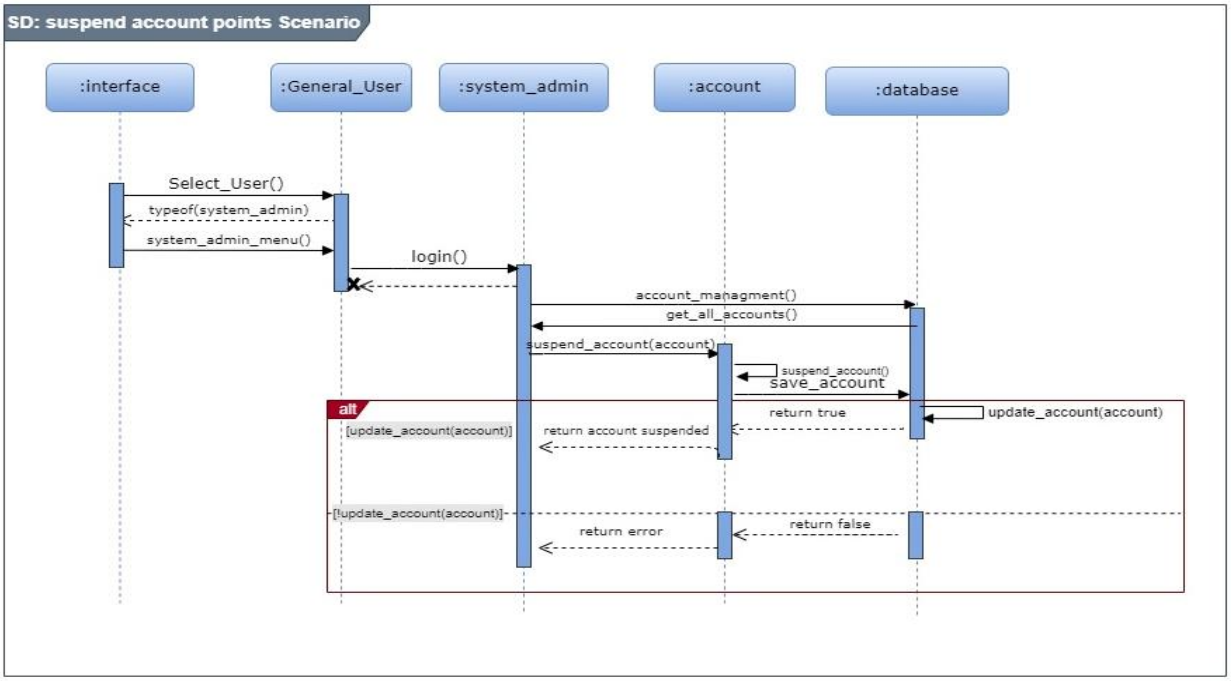

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Class - Sequence Usage Table

Sequence Diagram	Classes Used	All Methods Used
1. Register Scenario	1. Interface	• Select_User() • User_menu()
	2. General_User	• Register()
	3. LoogeIN_User	• View_catalog() • View_Categories() • Select_category()
	4. Account	• Create_account(email, password ,number, name, address)
	5. Database	• Add_account(account)
2. login Scenario	1. Interface	• Select_User() • User_menu()
	2. General_User	• Login()
	3. LoogeIN_User	• View_catalog() • View_Categories() • Select_category()
	4. Account	• Find_Account(email, password)
	5. Database	• get_account(email)
3. add new item Scenario	1. interface	• Select_User() • System_admin_menu()
	2. General_User	• Login()
	3. System_admin	• Add_new_item()
	4. item	• add_itemm_info() • save_item()
	5. database	• add_item(item)

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Sequence Diagram	Classes Used	All Methods Used
4. checkout Scenario	1. Interface	• Select_User() • User_menu()
	2. General_User	• Login()
	3. LoogeIN_User	• Select_item() • Checkout()
	4. payment	• select_method()
	5. order	• place_order(vector<>,vector<>)
	6. Database	• Add_order(order)
5. Set loyalty points Scenario	1. Interface	• Select_User() • System_admin_menu()
	2. General_User	• Login()
	3. system_admin	• Account_managment() • Set_loyalty_points(account,int)
	5. Account	• Set_loyalty_points(int) • Save_account()
	6. Database	• get_all_accounts() • update_account()
6. suspend account Scenario	7. interface	• Select_User() • System_admin_menu()
	8. General_User	• Login()
	9. System_admin	• Account_managment() • Suspend_account(account)
	10. account	• suspend_account() • Save_account()
	11. database	• get_all_accounts() • update_account()

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Register Scenario : https://drive.google.com/file/d/142fDMQtt3krmOicKEpcrK0rtlgeiF6mb/view?usp=sharing

Login Scenario: https://drive.google.com/file/d/1mSrdbr9npC3Mpec46lcd86IHNg-2TEZD/view?usp=sharing

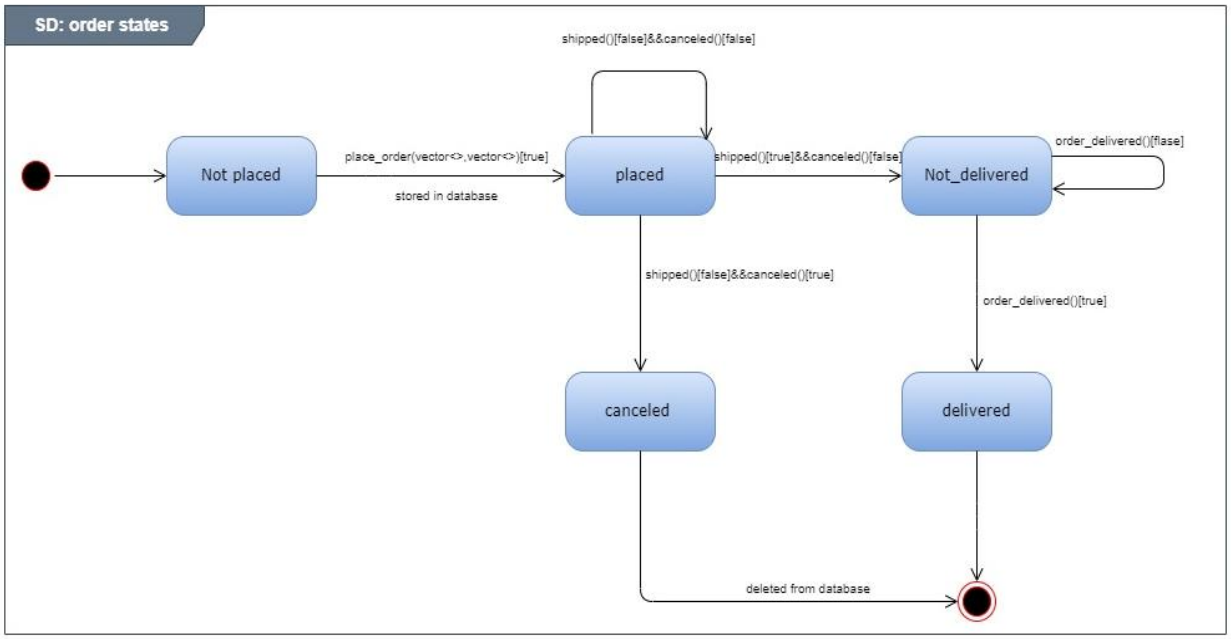
Add new item Scenario:https://drive.google.com/file/d/1hCVNs2ugahIEd2F9QWTJ4JnPqUxjliE/view?usp=sharing

Checkout Scenario: https://drive.google.com/file/d/1Cetd6Z5NJ0EoZgTzm2KBbQ5pImjVtB3J/view?usp=sharing

Set loyalty points Scenario: https://drive.google.com/file/d/1LuszlnCIh5uR8eHaNrNiezNDSXqLBHCA/view?usp=sharing

Suspend account Scenario:https://drive.google.com/file/d/1wyNOQO_f3vIqCf08N2ATC17WvRDCDL21/view?usp=sharing

V. State Diagram



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Software Design Specification

Tools

- Draw.io

Ownership Report

Owners	Items
Abdelrahman Elsayed Kornay Mohamed	Part of class diagram and 2 sequence diagrams and part of coding .
Farah Walid Ahmed Mohamed	Part of class diagram and and 2 sequence diagrams and part of coding .
Saif Eldeen Mohamed Ahmed	Part of class diagram and 2 sequence diagrams and part of coding .