# CS251

# Introduction to Software Engineering

## Toffee Project

Software Design Specifications

Version 1.0

Team Names and Emails

CS251: Phase 2 – <Team Name>
Project: <Project Name>

## Software Design Specification

# Month & Year

## Contents

**CU – FCAI – CS251 Introduction to Software Engineering – 2023 - Software Design Specifications**
**Prepared by Mostafa Saad and Mohammad El-Ramly V1.0**
**Edited by Mohamed Samir, Updated to V2.0 by Mohammad El-Ramly 10/4/2020 and V3.0 25/5/2021**          **| 2**

# CS251: Phase 2 – <Team Name>
## Project: <Project Name>

# Software Design Specification

## Instructions [To be removed]

### Team

| ID | Name | Email | Mobile |
|---|---|---|---|
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| 20210171 | سيف ماهر حمدي | seifmaherx@gmail.com | +20 111 442 8314 |
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## Document Purpose and Audience

This document is an SDS (Software Design Specification) document. It outlines the design of the software and describes its features, functionalities, architecture, and technical specifications.

The target audience for this document includes software developers, software architects, project managers, and quality assurance teams. It may also be reviewed by stakeholders such as customers, clients, or investors who are interested in understanding the technical details of the software design.

## I. Architecture Diagram

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User(Customer and Admins)

interaction with application(request)

response

**presentation tier**
This layer shows interaction between users and the application to perform actions like
user interactions

- Sign in / up.
- navigate through available items in the catalogue .
- if registered , add items to the shopping cart .
- checkout
- acess profile settings
- show history of his/her orders

admin interactions

- keep track of the quantity available of each item and the status of the item
- edit schema of loyalty points
- Ban / Suspension

send user data

processed data to display

**Application tier**
This layer shows how data is being processed

processed data to store

data to process

**Data tier**
this layer shows how data is stored and managed in the database

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# CS251: Phase 2 – &lt;Team Name&gt;
## Project: &lt;Project Name&gt;

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## II. Class Diagram(s)

Look at TOFFEE Class Diagram.pdf in the same folder.

## III. Class Descriptions

| Class ID | Class Name | Description & Responsibility |
|---|---|---|
| 1.C01 | User | Entity class have users info |
| 2.C02 | Item | Entity class have items info |
| 3. C03 | catalog | Entity class have list of items<br>Responsible for searching for items and viewing items |
| 4. C04 | User Address | Entity class carries the address info of user |
| 5. C05 | Shopping Cart | Entity class has items to buy<br>Responsible for carrying products to make an order |
| 6. C06 | Order | Entity Class responsible for saving order , making orders to customers |
| 7. C07 | Owner | Owner of the company can assign and remove admins |
| 8. C08 | Admin | Admin have priviliges to perform many actions as the owner |
| 9. I09 | Admin Actions | This interface responsible for admin actions like adding , removing or updating items in catalog , suspend users , show statistics |
| 10. C10 | Payment Method | Abstract class responsible for verifying payment method |
| 11. C11 | Cash | Child class responsible for delivering order to customers |
| 12. C12 | Voucher | User can buy and redeem Vouchers to decrease the total price of order |
| 13.C13 | Wallet | Is-a payment method like Fawry , etc.. . |

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## IV. Sequence diagrams

**#1 Register:**

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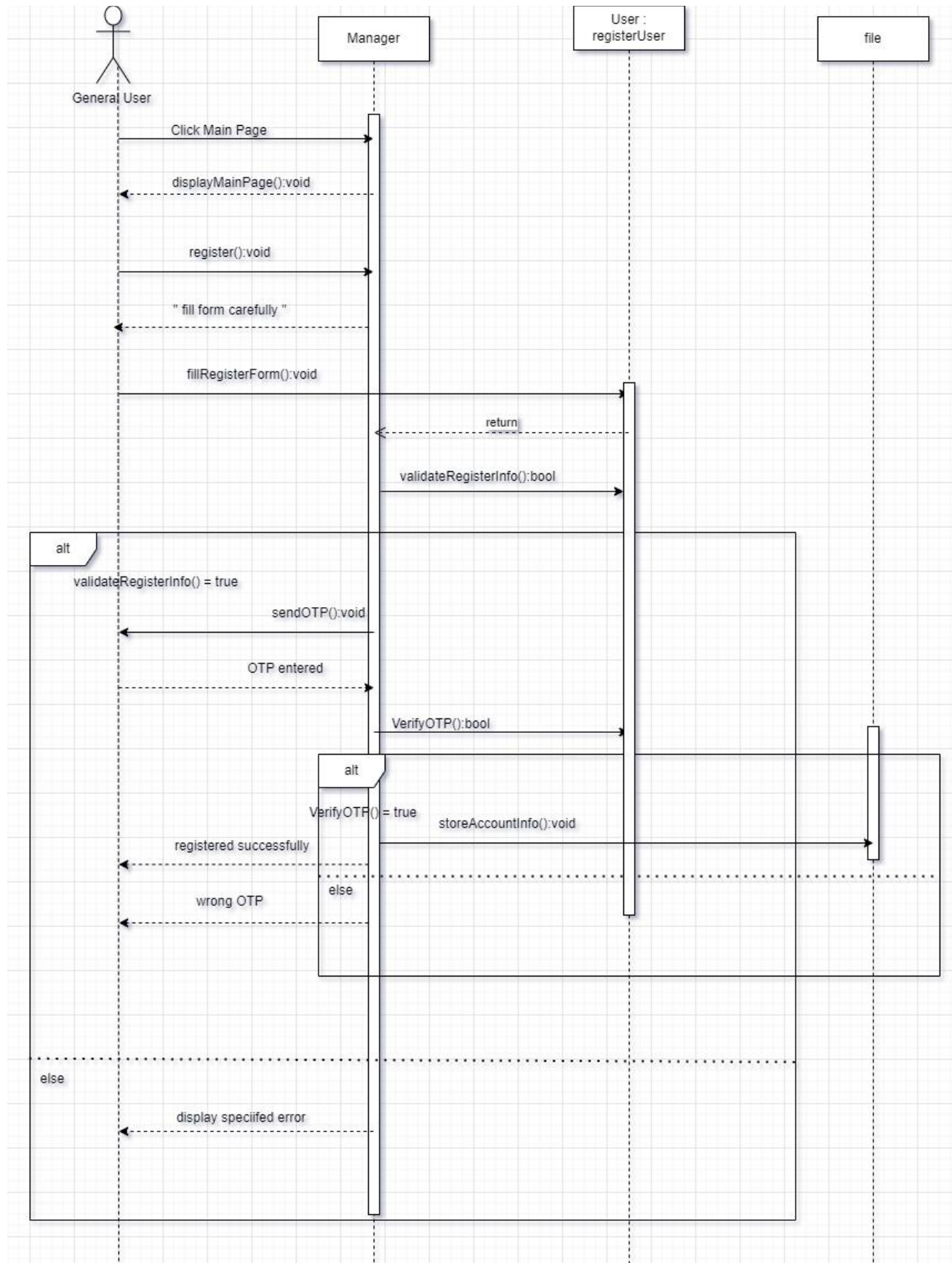
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**#2 Login**

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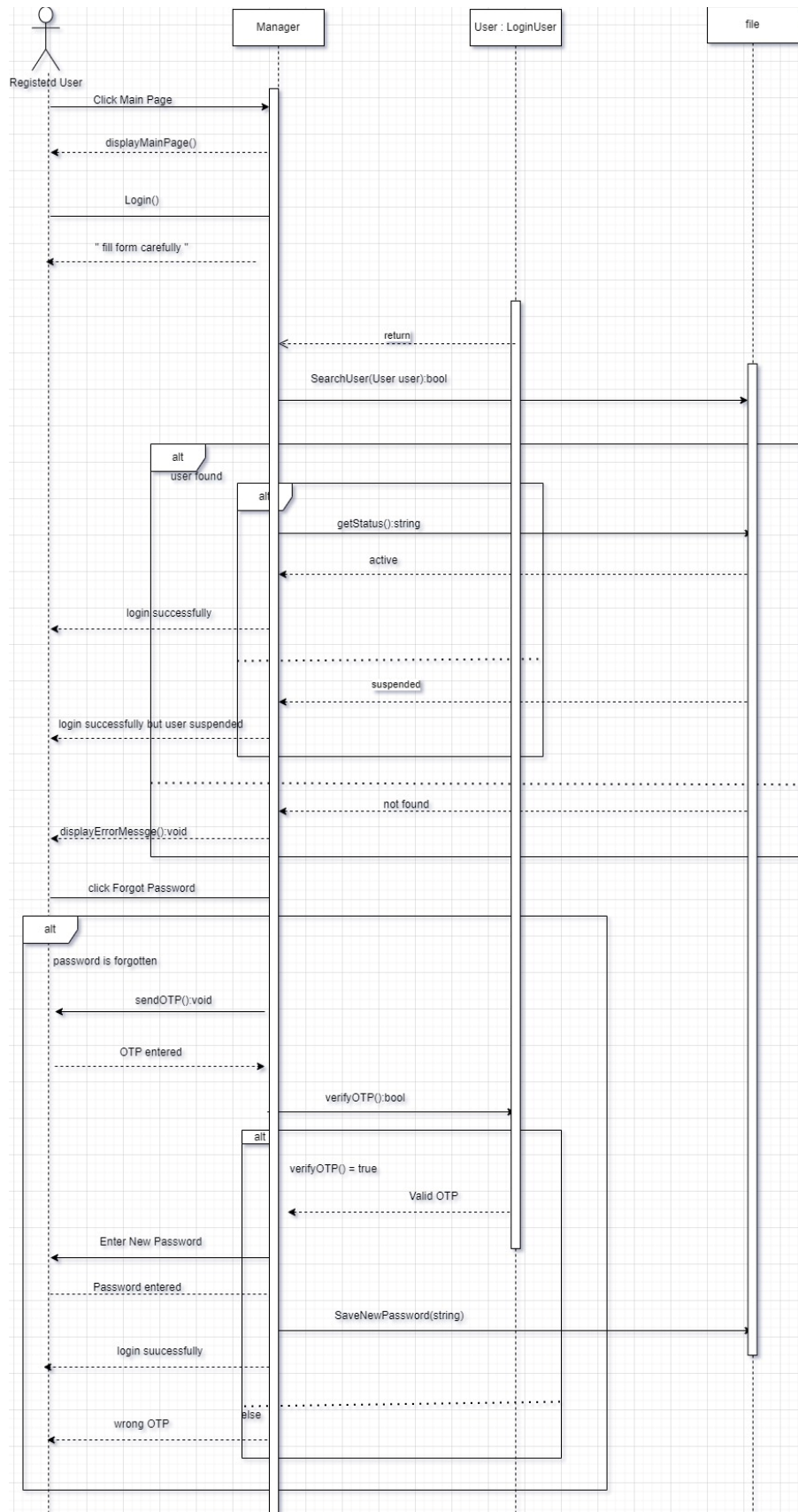
# Software Design Specification

# Software Design Specification

**#3 View Catalog**
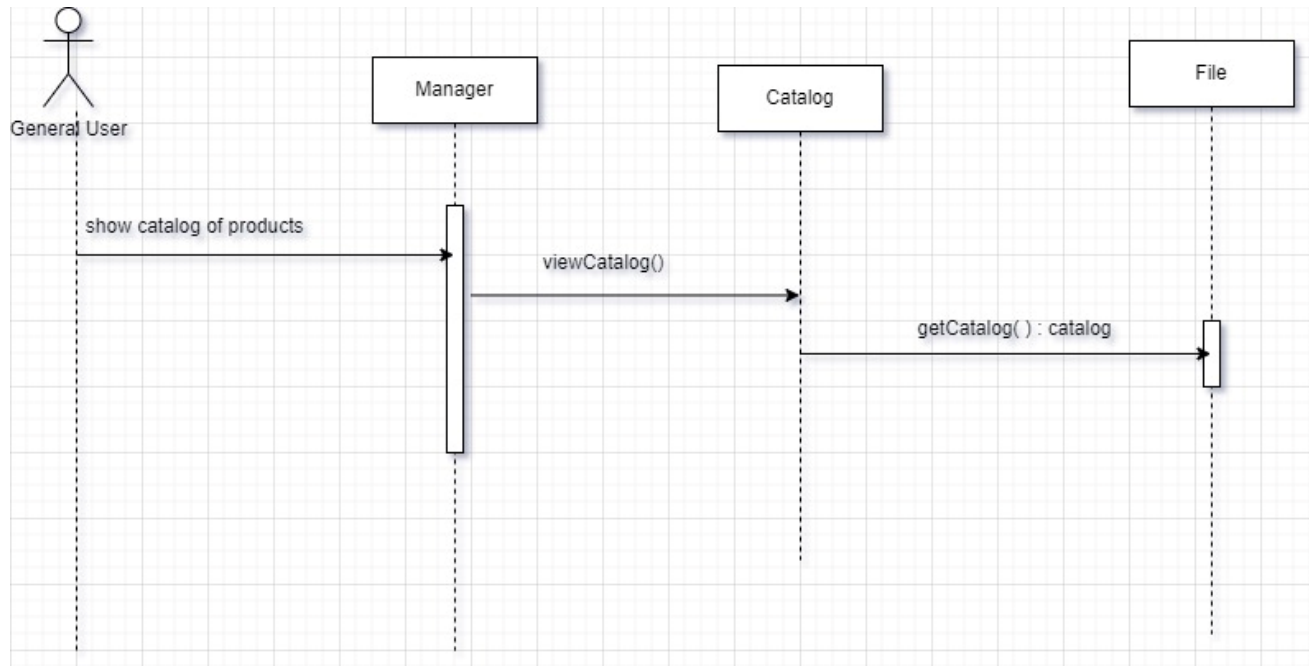


**#4 Select Item And Add To Cart**

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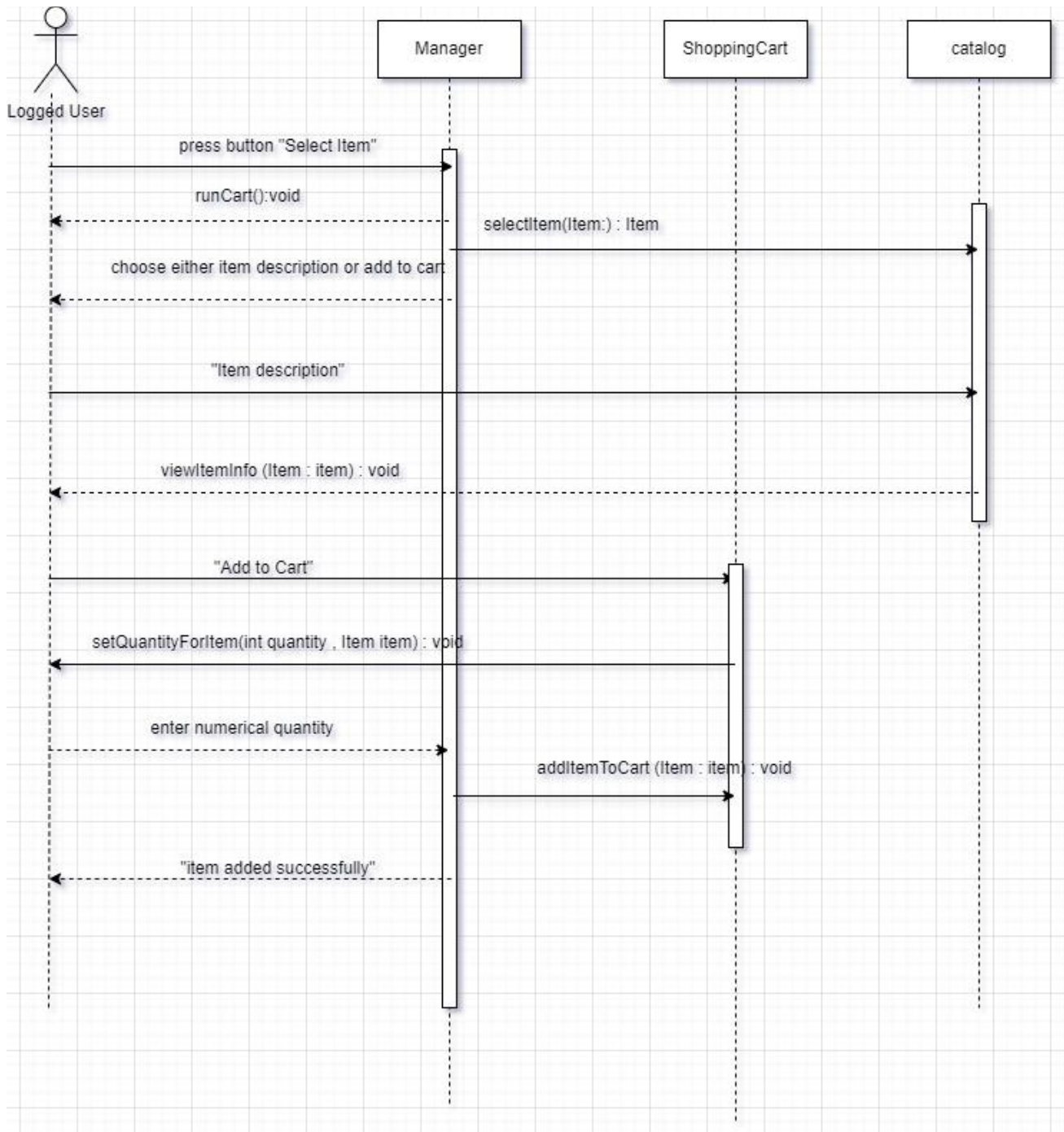


**#5 Manage Shopping Cart**

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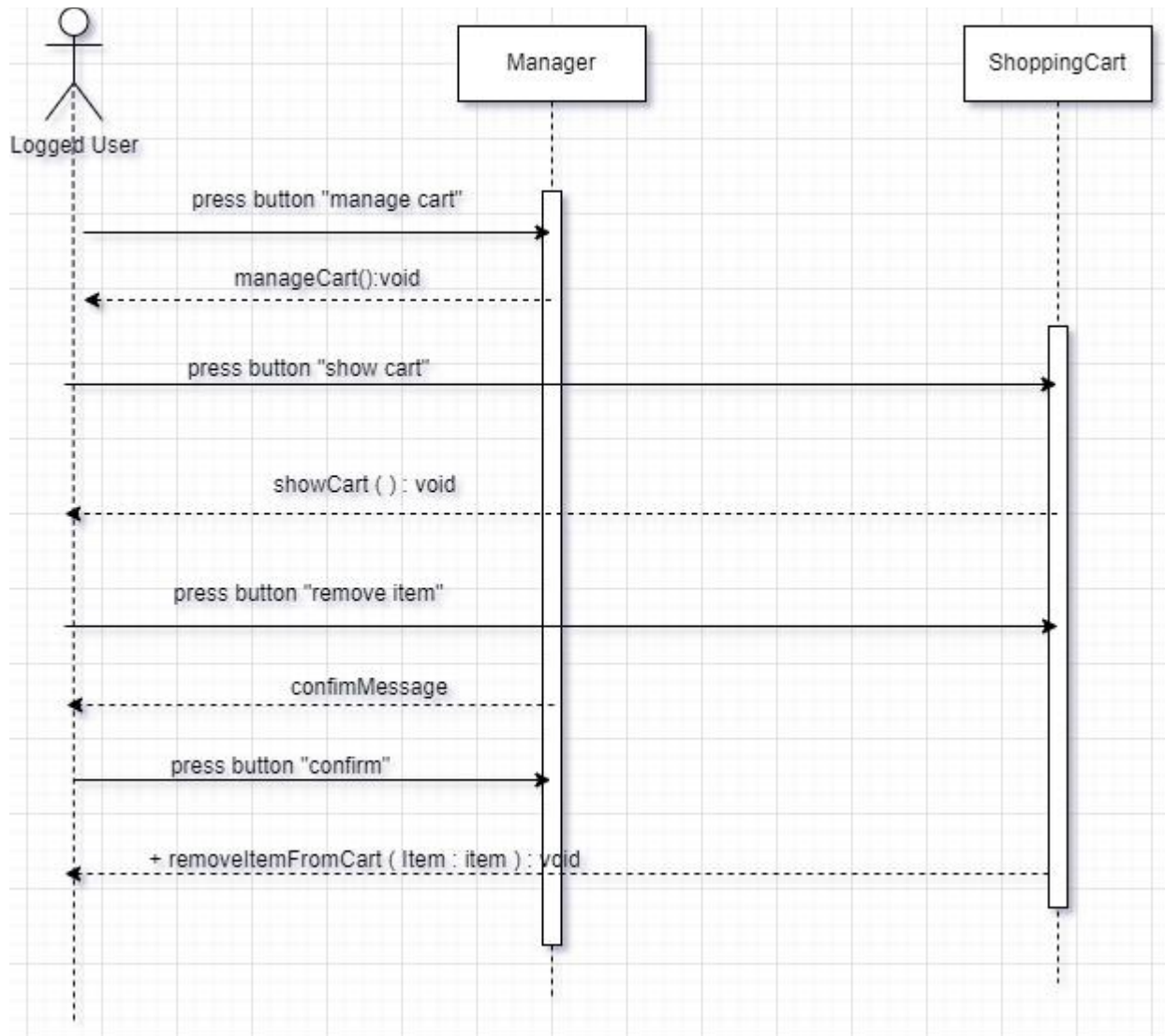**Prepared by Mostafa Saad and Mohammad El-Ramly V1.0**
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customer
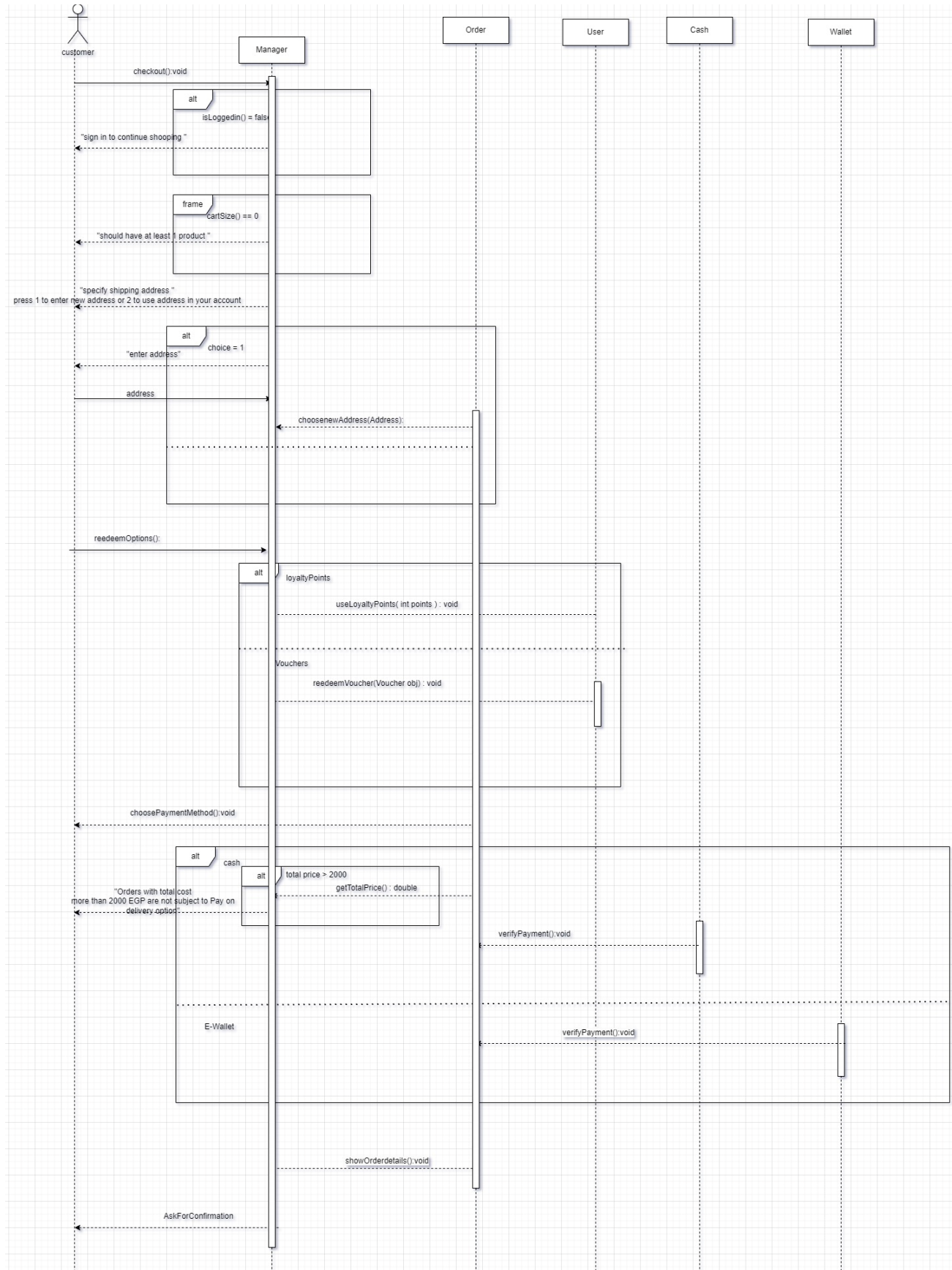
Manager

Order

User

Cash

Wallet

checkout():void

alt

isLoggedin() = false

"sign in to continue shooping "

frame

cartSize() == 0

"should have at least 1 product "

"specify shipping address "
press 1 to enter new address or 2 to use address in your account

alt

choice = 1

"enter address"

address

choosenewAddress(Address):

reedeemOptions():

alt

loyaltyPoints

useLoyaltyPoints( int points ) :  void

Vouchers

reedeemVoucher(Voucher obj) : void

choosePaymentMethod():void

alt

cash

alt

total price > 2000

getTotalPrice() : double

"Orders with total cost
more than 2000 EGP are not subject to Pay on
delivery option"

verifyPayment():void

E-Wallet

verifyPayment():void

showOrderdetails():void

AskForConfirmation

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## Class - Sequence Usage Table

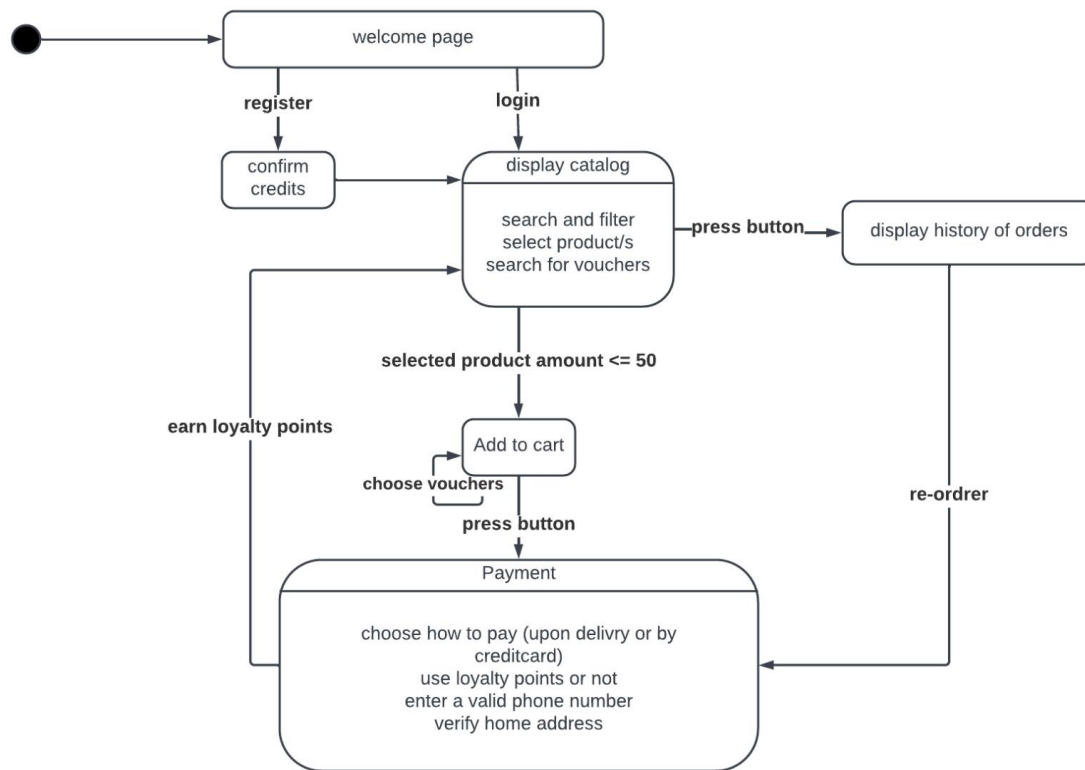| Sequence Diagram | Classes Used | All Methods Used |
|---|---|---|
| 1. Register | User<br>Manager | displayMainPage():void<br>register():void<br>fillRegisterForm():void<br>validateRegisterInfo():bool<br>sendOTP():void<br>verifyOTP():bool<br>storeAccountInfo():void |
| 2. login | User<br>Manger | Login():void<br>SearchUser(User user):bool<br>getStatus():string<br>sendOTP():void<br>verifyOTP():bool<br>SaveNewPassword(string) |
| 3. view catalog | Manager<br>Catalog | viewCatalog():void<br>getCatalog( ) : catalog |
| 4. select item and to cart | Manager<br>Shopping Cart | runCart():void<br>selectItem(Item:) : Item<br>viewItemInfo (Item : item) : void<br>addItemToCart (Item : item) : void |
| 5. mange shopping cart | Manager<br>Shopping Cart | manageCart():void<br>showCart ( ) : void<br>removeItemFromCart ( Item : item ) : void |
| 6. Check Out | Manager<br>Order<br>User<br>Wallet<br>Cash | checkout():void<br>isLoggedin() = false<br>cartSize(): int<br>choosenewAddress(Address):<br>reedeemOptions():<br>choosePaymentMethod():void<br>getTotalPrice() : double<br>verifyPayment():void<br>showOrderdetails():void |

## V. State Diagram

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## Tools

- Draw.io : https://app.diagrams.net/

## Ownership Report

| Item | Owners |
|---|---|
| عبدالرحمن حسام الدين احمد عبدالجواد | Sequence diagrams, class diagrams, most of implementation. |
| سيف ماهر حمدي | State diagram, classes Item, User and some methods in class Manager |
| ياسين عمادالدين صابر مفتاح | Classes Catalog, ShoppingCart, |

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| | Sign in + Sign-Up sequence diagrams in draft version. |
|---|---|

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