

Cairo University

Faculty of Computers and Artificial Intelligence



CS251

Introduction to Software Engineering

Toffee project

Software Design Specifications

Version 1.0

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Team

ID	Name	Email	Mobile
20210235	Abdallah Hussein Ibrahim	abiza2013@gmail.com	01118003752
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Document Purpose and Audience

- 1- The purpose of the document for the Toffee project is to provide a clear understanding of the system's architecture, functionality, and the roles and responsibilities of each component involved in the project
- 2- The audience for this document includes project managers, the development team working on the project, including developers, designers, and project managers.

System Models

Architecture Diagram

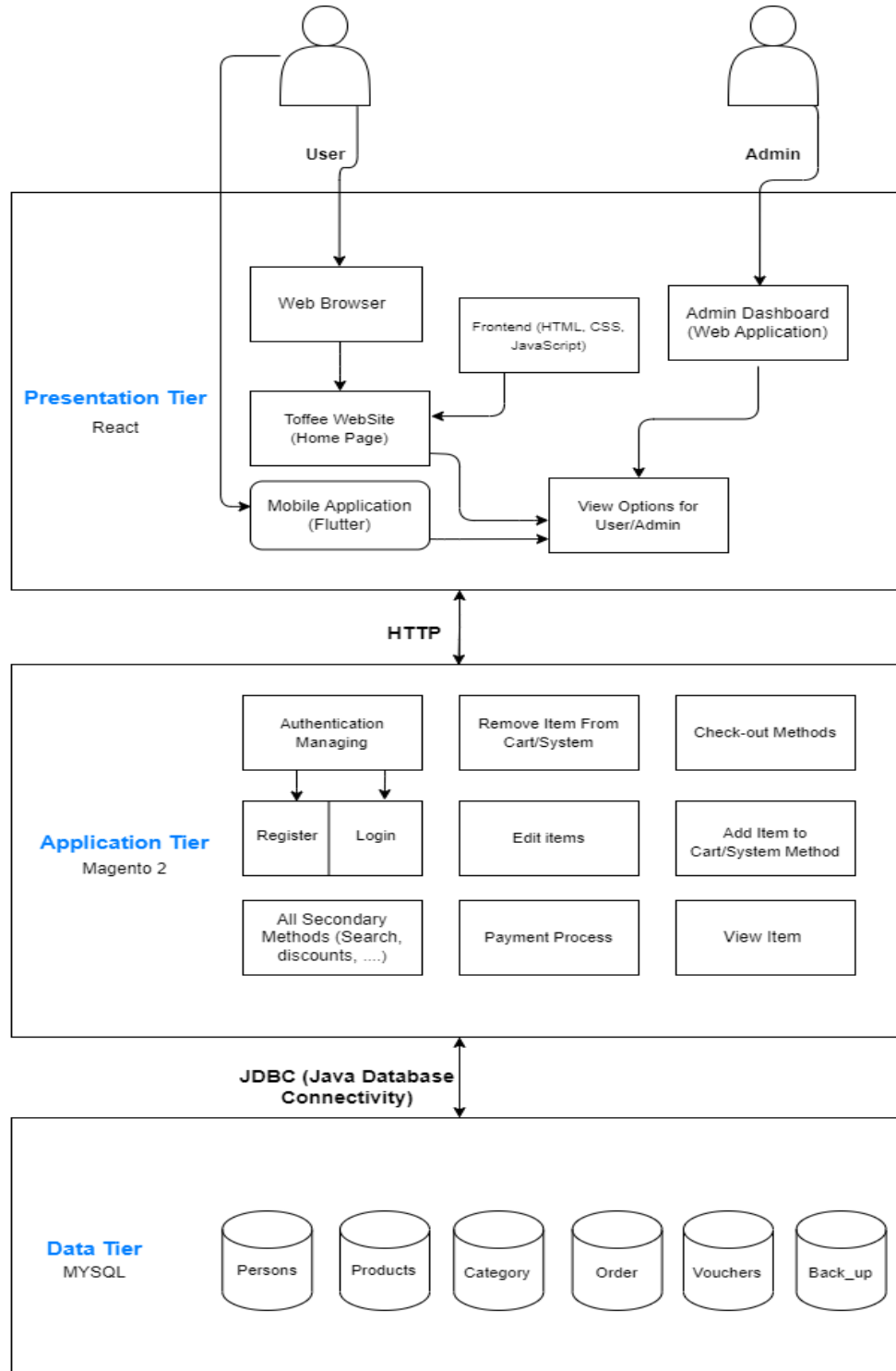
we would recommend using a 3-tier architecture, which includes a presentation tier, an application tier, and a data tier. This architecture is suitable for Toffee Project because it separates the user interface from the application logic and data storage, making it easier to maintain and scale



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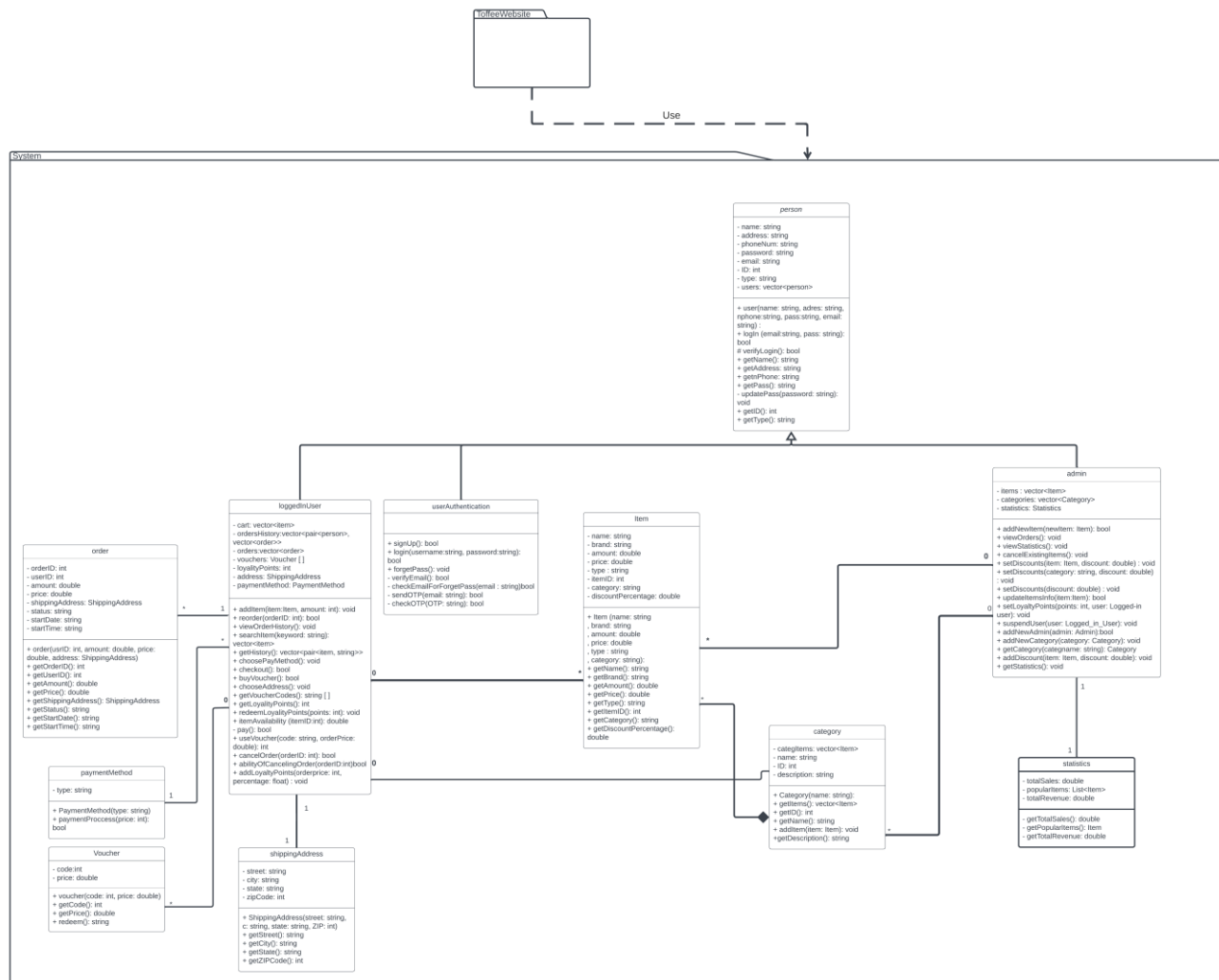


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II. Class Diagram(s)





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III. Class Descriptions

Class ID	Class Name	Description & Responsibility
1	person	This class store general data for users and admins
2	admin	This class have admin functions
3	Item	This class have items information
4	category	This class have category information
5	statistics	This class for computing statistics and store them
6	userAuthentication	This class have function to enter this website(login, forget password, sing up)
7	loggedInUser	This class have user functions
8	order	This class have details of each order
9	paymentMethod	This class to choose payment method and perform it
10	shippingAddress	This class to enter information for address that you want to receive order at it
11	Voucher	This Class for Store Voucher information and redeem it if needed



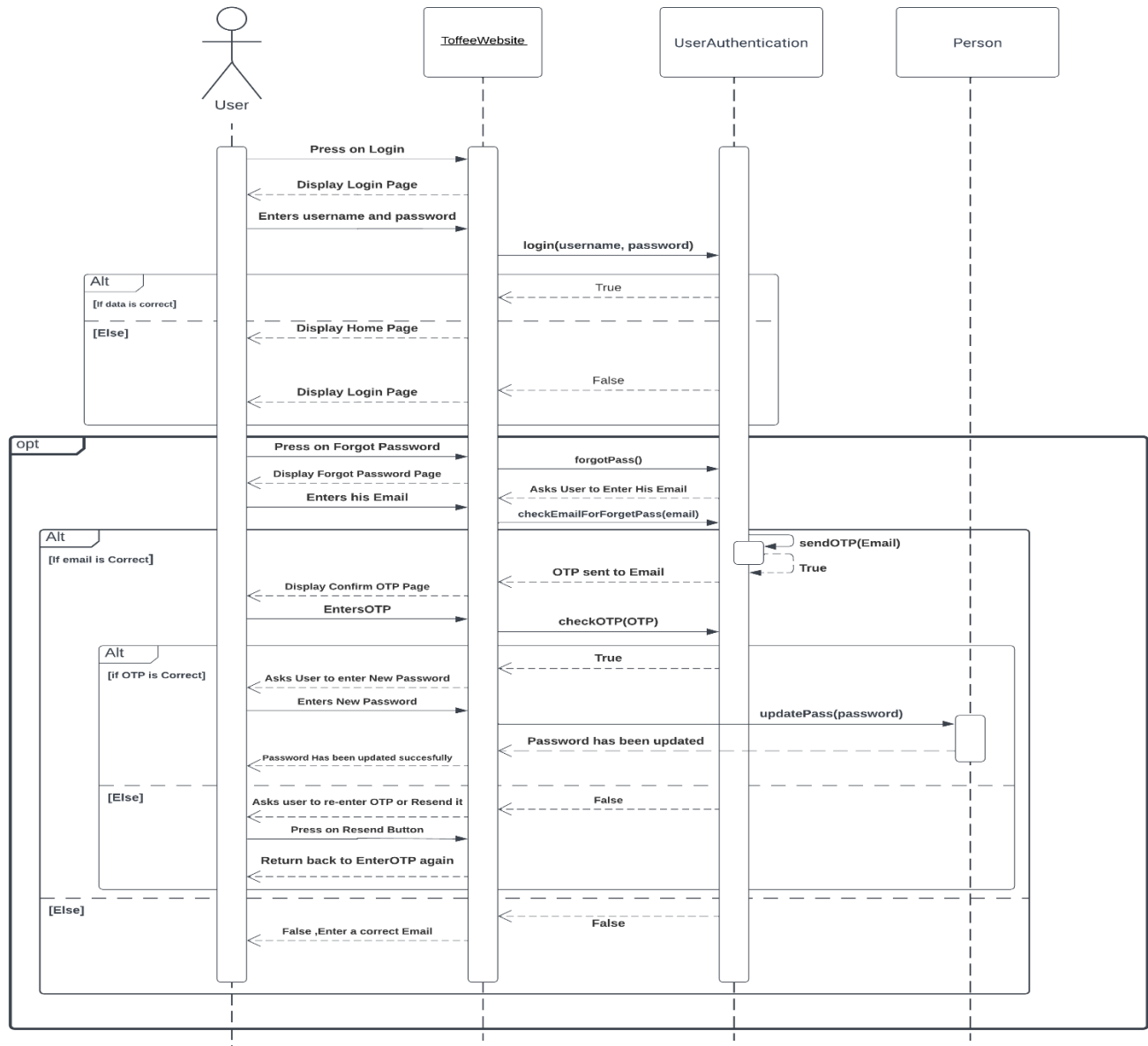
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IV. Sequence diagrams

Login sequence:



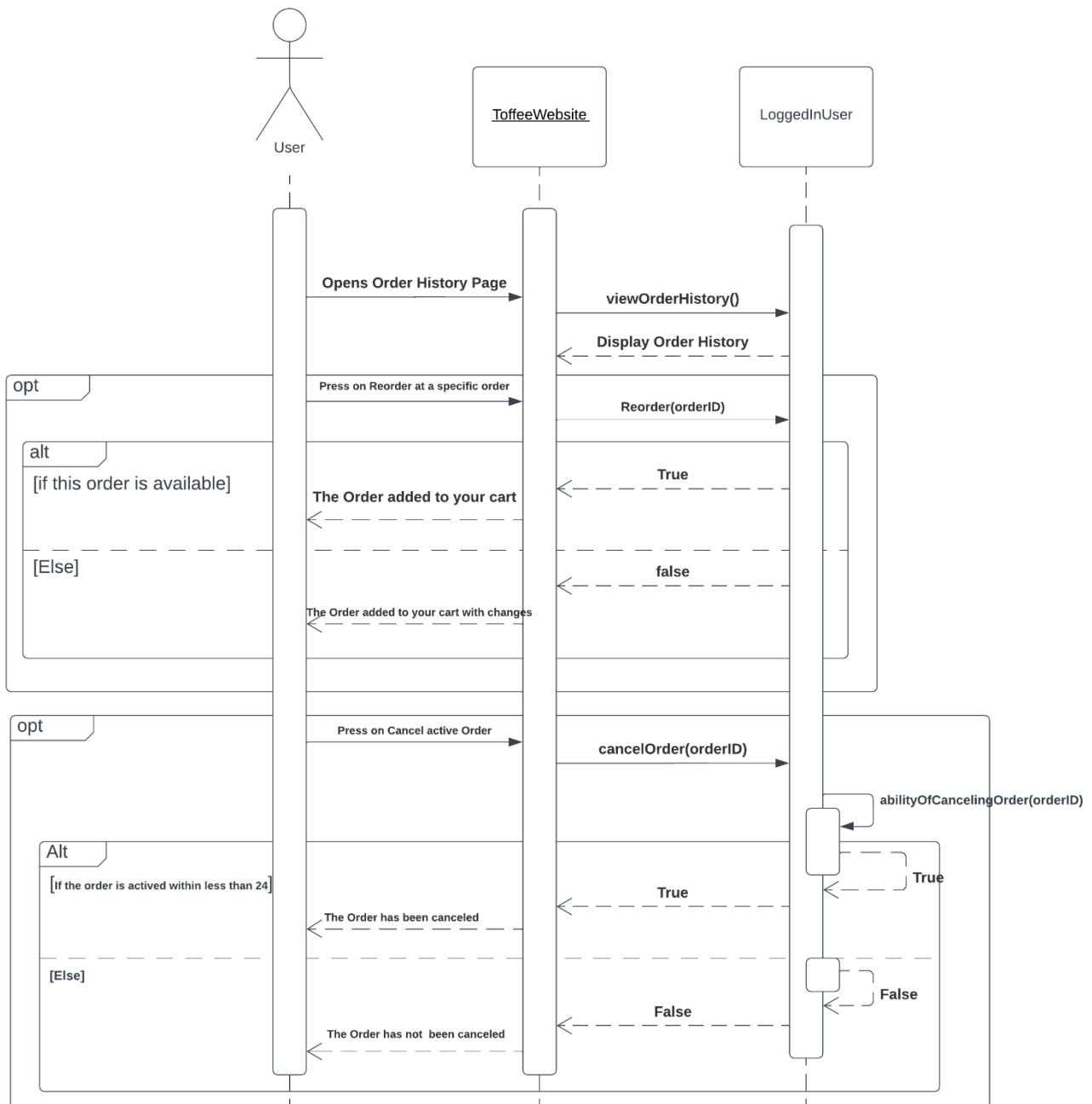


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View order and reorder sequence:



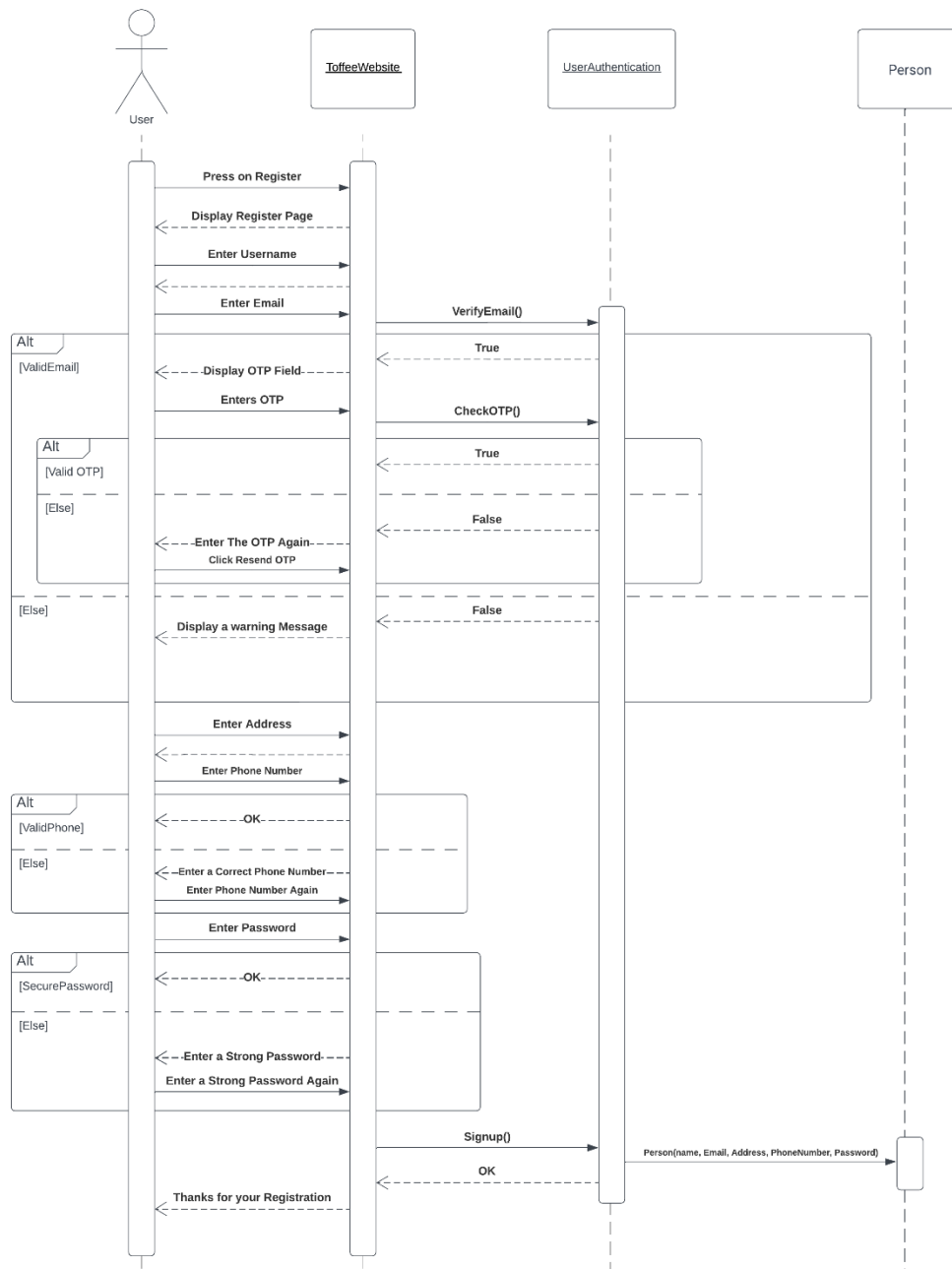


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Register Sequence



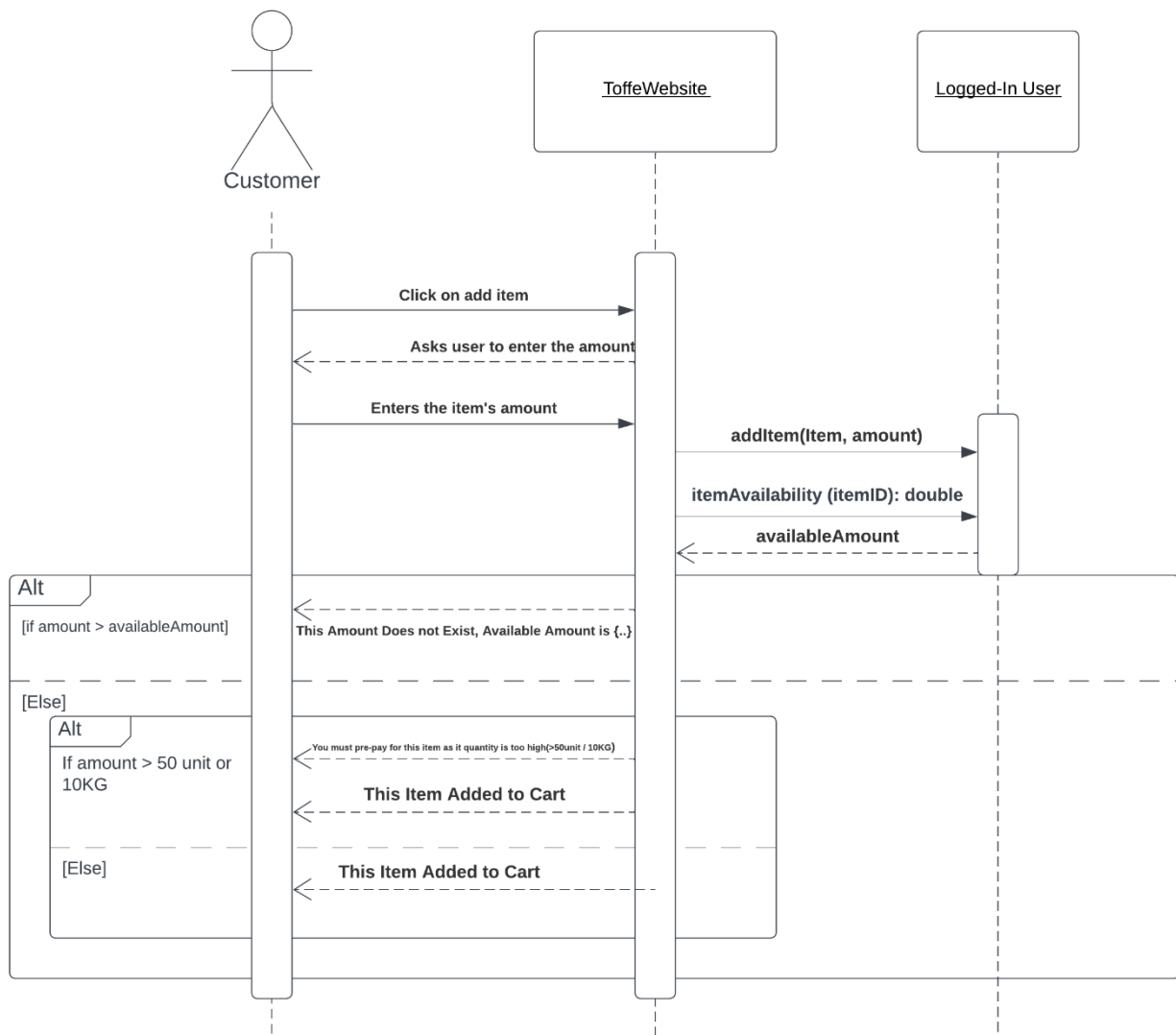


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Add to Cart Sequence:



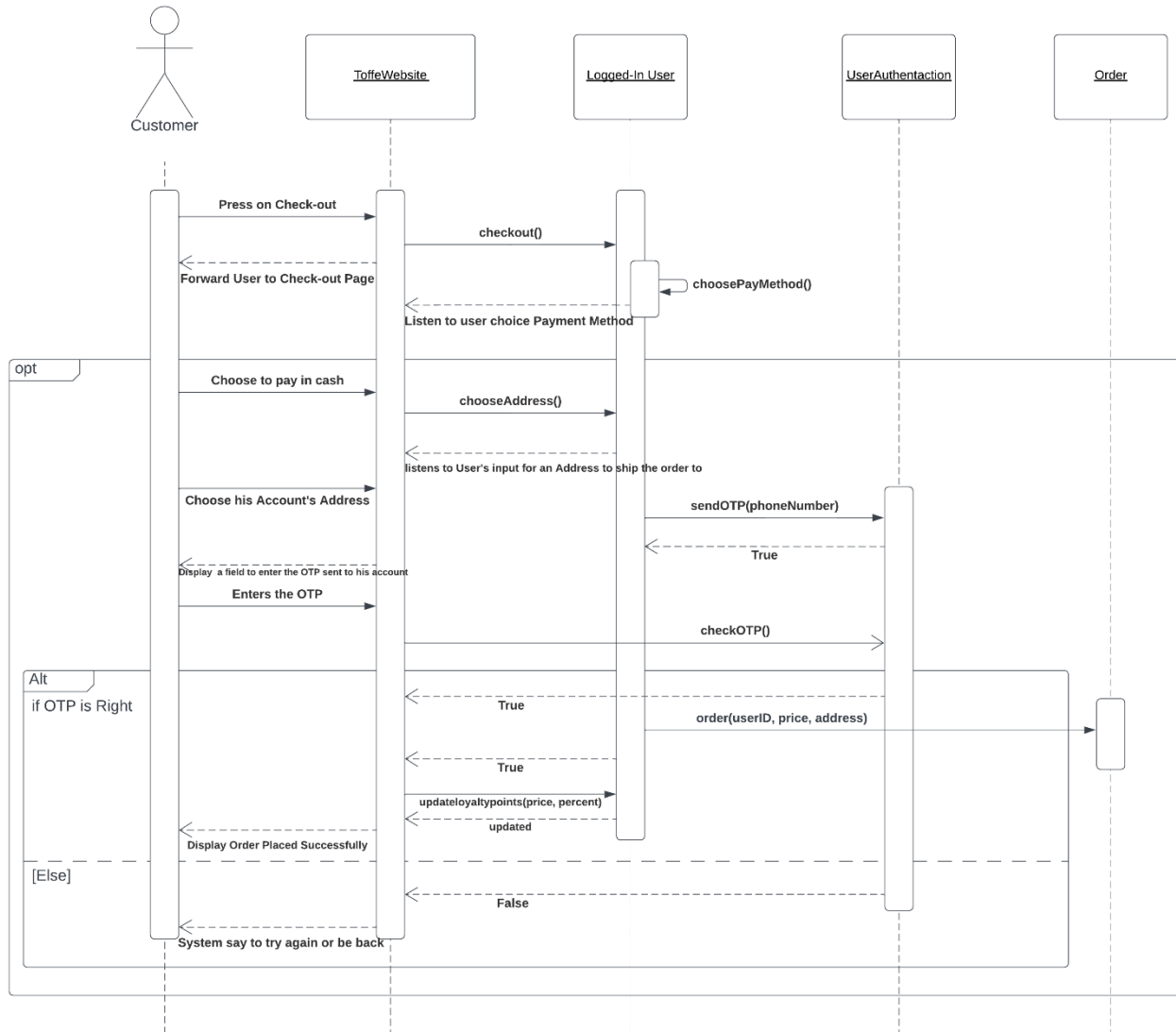


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Pay in Cash Sequence:



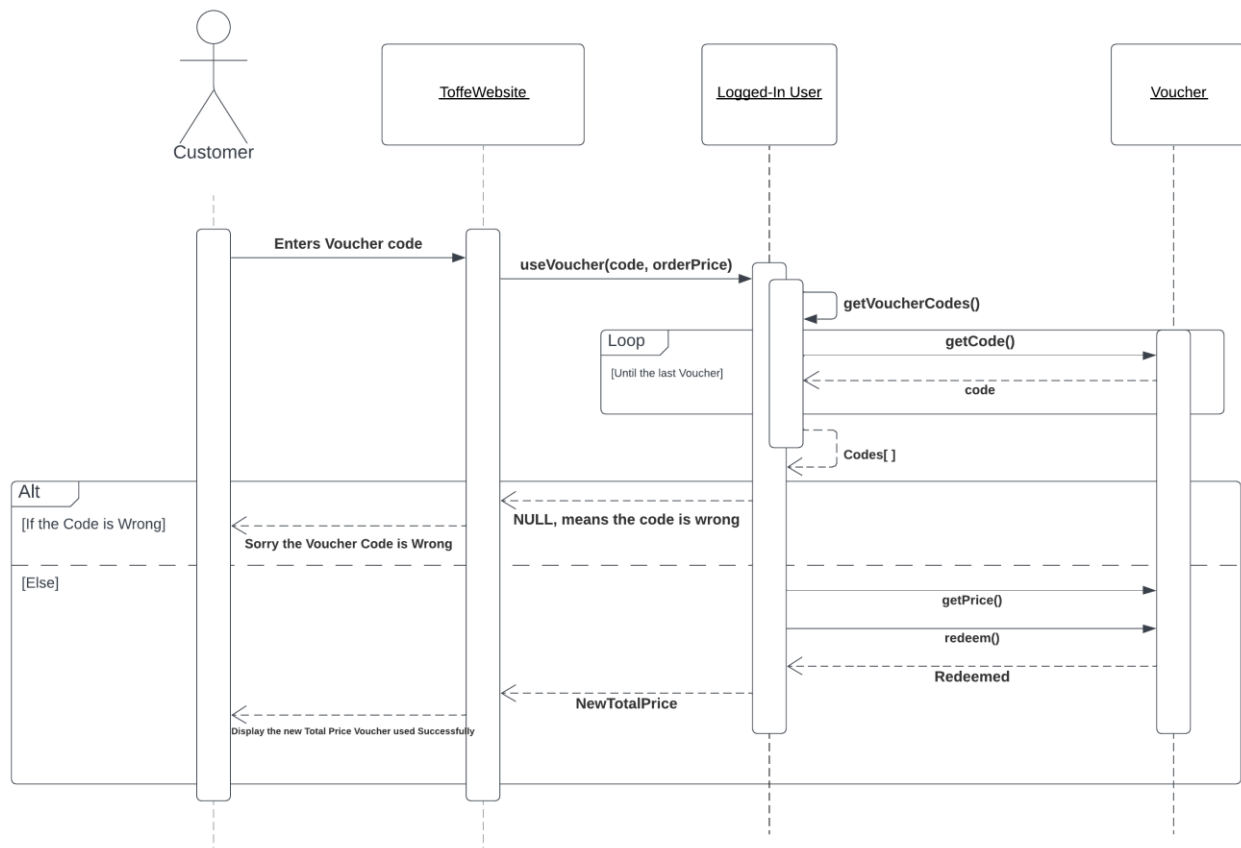


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Pay with Voucher Sequence:





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Class - Sequence Usage Table

Sequence Diagram	Classes Used	All Methods Used
1-login	Class UserAuthentication Class Person	bool login(string username, string password) void forgetPass() bool verifyEmail() bool sendOTP(string email): bool checkOTP(string OTP):
2-viewOrderAndReorder	Class LoggedInUser	bool reorder (int orderID) void viewOrderHistory() bool cancelOrder(int orderID) bool abilityOfCancelingOrder (int orderID)
3- Register	Class UserAuthentication Class Person	verifyEmail() checkOTP() signup() Person(string name, string Email, Int PhoneNumber, Password)
4- Add to Cart	Class LoggedInUser	addItem(Item item, double amount) itemAvailability(int itemID)
5- Pay in Cash	Class LoggedInUser Class UserAuthentication Class Order	checkout() choosePayMethod() chooseAddress() sendOTP(phoneNumber) checkOTP() Order(int userID, double price, string address) updateLotaltyPoints(double price, double percent)
6- Pay with Voucher	Class LoggedInUser Class Voucher	useVoucher(string code, double orderPrice) getVoucherCodes() getCode() getPrice() redeem()

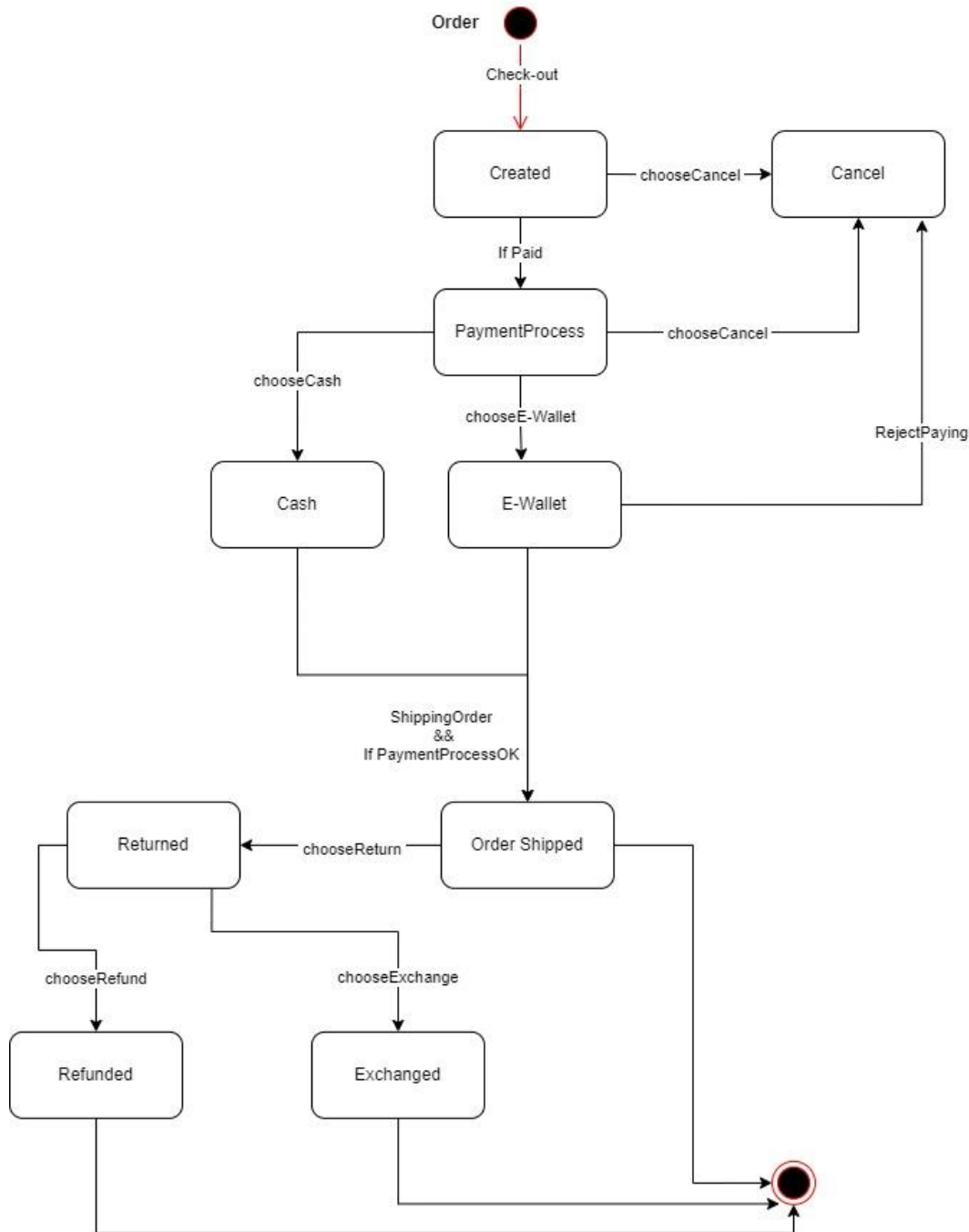


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State Diagram:





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Tools

1-Lucid chart

2-Draw.io

Ownership Report

Owners	Item
Abdallah Hussein Ibrahim	Architecture diagram, Class diagram and sequence diagrams, part of Implementation, state diagram
Ahmad Reda Bayoumy (Leader)	Architecture diagram, Class diagram and sequence diagrams, part of Implementation
Abdelrhman Sayed Ali	Architecture diagram, Class diagram and sequence diagrams, part of Implementation