 Cairo University  
Faculty of Computers and Information



**CS251**

**Software Engineering I**

Mercado

Software Design

Ahmed Menaim Ezzat

Abanoub Magdy Zahy

Amir Samy Saad   
Youmn Hussien Sayed

November 2017

Contents

[Instructions [To be removed] 3](#_Toc468575260)

[Team 3](#_Toc468575261)

[Document Purpose and Audience 3](#_Toc468575262)

[System Models 3](#_Toc468575263)

[I. Class diagrams 3](#_Toc468575264)

[Important Algorithm 5](#_Toc468575265)

[II. Sequence diagrams 5](#_Toc468575266)

[Class - Sequence Usage Table 7](#_Toc468575267)

[Ownership Report 8](#_Toc468575268)

[Policy Regarding Plagiarism: 8](#_Toc468575269)

[References 8](#_Toc468575270)

[Authors 8](#_Toc468575271)

# Team

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Name** | **Email** | **Mobile** |
| 20150041 | Ahmed Menaim Ezzat | [ahmedmenaim8@gmail.com](mailto:ahmedmenaim8@gmail.com) | 01119876394 |
| 20150002 | Abanoub Magdy Zahy Saleh | [bibumagdi@gmail.com](mailto:bibumagdi@gmail.com) | 01284262770 |
| 20150063 | Amir Samy Saad Farag | [Amirsamy57@gmail.com](mailto:Amirsamy57@gmail.com) | 01273440171 |
| 20150299 | Youmn Hussien Sayed | [Youmn.hussien97@gmail.com](mailto:Youmn.hussien97@gmail.com) | 01026208080 |

# Document Purpose, Scope and Audience

* **This project main purpose to release more products for customers and to help the unknown bands and stores to be known for many customers and to facilitate the service for anyone (Customer or Store owner).**
* **This Software system will be an Online Shopping app for many people all over Egypt for the people who like to buy most of their needs online. It will have many famous stores and brands and will contain the brands and stores that are released from short time and still unknown. Also it help the store owner or the buyer to contact with any administrator by Email for complains or for suggestions for a better way about the app or any product and it will be for anyone to use and manage his shopping and orders.**
* **It will facilitate browsing all products and show you the most ordered products and the best rating from the customers and it will recommend for you some products from the information you entered in your registration. Be sure that all your info and Emails will be secured and only the administrators can see them.**
* **And here we target the TAs and the doctor**
* **The phase purpose is to show the class content, the sequence diagram of each function and to facilitate the implementation of each class and its functions.**

# System Models

## I. Class diagrams

| **Class ID** | **Class Name** | **Description & Responsibility** |
| --- | --- | --- |
| 1 | User | The main class and have 3 children classes inherits the attributes and functionalities from him and each user must have First name, last name, username, password, age and Email |
| 2 | Admin | It’s a child from class User and have all of his attributes and have functions like he can add voucher cards, add product and add brand |
| 3 | Customer | It’s a child from class User and have all of his attributes and have functions like he can explore and pay for product |
| 4 | Store Owner | It’s a child from class User and have all of his attributes and have functions like he can market for product, suggest product, add store, remove store, update store and view store |
| 5 | Store | A class which can be added by a store owner and it’s mandatory to be a store owner to create a store |
| 6 | Product | A class which can be added by an admin or store owner and the store owner should have a store to add product  -Customer can buy many products |
| 7 | Brand | A class which can be added by an admin into a store or individually |
| 8 | User Control | Class which works as a father for some other classes to control the functions of them and interact with them and it has 3 children classes Admin Control ,Customer Control and Store Owner Control |
| 9 | Customer Control | Child class for User Control Class and we use it to interact with the functionalities for customer |
| 10 | Admin Control | Child class for User Control Class and we use it to interact with the functionalities for Admin |
| 11 | Store Owner Control | Child class for User Control Class and we use it to interact with the functionalities for Store Owner |
| 12 | Stat | Class is used to do some statistics for the other classes to calculate the best customer, store owner, product, store ,brand and total visits for the app |
| 13 | Cart | A class which all customers can use to see what products will be delivered to them or if they want to increase the amount of each product or decrease it and to ensure the order |
| 14 | Data Base | Class which contain the databases of the classes like vectors of data. |

## 

## II. Sequence diagrams

|  |  |  |  |
| --- | --- | --- | --- |
| **Sequence Diagram ID** | **Sequence Diagram Name** | **Sequence Diagram ID** | **Sequence Diagram Name** |
| 1 | Register | 2 | SignIn |
| 3 | SignOut | 4 | AddStore |
| 5 | RemoveStore | 6 | UpdateStore |
| 7 | AddProduct | 8 | RemoveProduct |
| 9 | UpdateProduct | 10 | AddBrand |
| 11 | RemoveBrand | 12 | UpdateBrand |
| 13 | SuggestProduct | 14 | MarketForProduct |
| 15 | Explore | 16 | BestProduct |
| 17 | Pay | 18 | UpdateData |
| 19 | AddVoucherCard | 19 | ViewStore |
| 20 | ViewProduct | 21 | MakeAdmin |
| 22 | calcvisits | 23 | BestBrand |
| 24 | BestStore | 25 | Mostviwedproduct |
| 26 | beststoreowner | 27 | bestcustomer |
| 28 | Make admin |  |  |

### Class - Sequence Usage Table

| **Class Name** | **Sequence Diagrams** | **Overall used methods** |
| --- | --- | --- |
| User | 1,2,3,18 | Register, UpdateData ,Sign in/out |
| Admin | 1,2,3,7,10,14,18,19,28 | Register, UpdateData ,Sign in/out, Add Product, Add Brand , Market for Prodcut and Add Voucher Cards, make admin |
| Customer | 1,2,3,15,17,18 | Register, UpdateData ,Sign in/out , Pay , Explore |
| Store Owner | 1,2,3,4,5,6,7,8,9,18 | Register, UpdateData ,Sign in/out, Add Store, Remove Store, Update Store, Market for Product , Suggest Product |
| Store | 4,5,6,19 | Add Store, Remove Store, Update Store, View Store |
| Product | 7,8,9,16,20 | Add Product , Remove Product , Update Product , View Product |
| Brand | 10,11,12 | Add Brand , Update Brand , Remove Brand |
| Stat | 16,22,23,24,25,26,27 | Best product, calcvisits, Best brand, best store, most viewed product, best store owner, best customer |

Github link-> <https://github.com/CryptoOo/Mercado>

For java implementation on github -> <https://github.com/CryptoOo/Mercado/tree/master/SW%20Class%20and%20Sequance%20Diagrams/Project/Mercado%20Project>