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Abstract

BestPurchase is entering to the design phase. This assignment will focus on creating sequence diagram and class diagram, as well as define business class

UML Design for BestPurchase

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# Introduction

BestPurchase is an app which is focusing on retail with automation and recommendation capabilities. BestPurchase helps customer to order their groceries online and get them delivery to home. It helps customer to save time and feel more connivence. BestPurchase is a secured app which make customer feel comfortable when shopping online.

In this assignment will focus mainly 2 parts which are creating sequence diagram and class diagram from previous assignment use case. A sequence diagram illustrates the interactions between customer and BestPurchase app and class model will be constructed as well in this assignment.

Application, icon

Description automatically generated

*Figure 1: Example of Mobile retail app*

Last Updated 4/25/2

# Selected Use Case, Revised

The use case number 1 in the assignment 3 is selected for this assignment. Because this use case was described very clearly. Therefore, there no updates for this use case.

There are some notes about visualization the potential classes (yellow color), attribute (blue color) and methods in the red color.

|  |  |  |
| --- | --- | --- |
| Use case Name | Online shopping and payment. | |
| Actor: | Customer | |
| Description: | The customer using BestPurchase to shop online across stores and make payment for all products from different store on BestPurchase | |
| Pre-condition: | The customer has downloaded and installed BestPurchase app. The customer also created an account with all of input information such as name, address, payment methods etc. and logged into their account on BestPurchase. The customer is in delivery service area. | |
| Step # | Actor | System |
| 1 | The customer navigates to the homepage. | BestPurchase shows all the stores which are available. |
| 2 | The customer chooses the store. | BestPurchase displays all the available shopping options such as shop in general, categories, deals, and buy it again. It also shows delivery window time for that store. |
| 3 | The customer chooses “shop in general” option. | BestPurchase displays all of products which are available in that store. |
| 4 | The customer selects the products. | BestPurchase acknowledges the products and add selected products to the cart. |
| 5 | The customer clicks on “cart”. | BestPurchase navigates to cart. All the selected products and its quantity and its price are displayed. |
| 6 | The customer clicks to “Checkout”. | BestPurchase shows all delivery information such as address, delivery time, contact, total amount, and payment method for customer to review. |
| 7 | The customer selects a delivery time slot. | BestPurchase confirms the delivery time slot. |
| 8 | The customer chooses payment method such as pay online now or pay in person later. | BestPurchase confirm the payment. |
| 9 | The customer places order. | BestPurchase processes the payment and confirms the payments and notify to the customer. |
| Alternate Courses: | If there is no delivery time slot now. BestPurchase app will show the message” Delivery is not available. Please come back later ”. | |

# Sequence Diagram

A picture containing timeline

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*Figure 2: Sequence Diagram*

# Class Model

Diagram

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*Figure 2: Class model*

# Documenting Classes and Relationships

## 4.4.1 First Business Class Selected: Customer Class

**Importance for the Design**: The Customer class is important for the design because this illustrates how the user interact with the BestPurchase system. The system store all of data of this class such as name, contact and address. It will allow user login into the system securely by the login method.

**Relationship with other classes**: This class has dependency relationship with stereotype class BestPurchase which is shown in the sequence diagram and class diagram.

## 4.4.2 Second Business Class Selected: Store class

**Importance for the Design**: The Store class is importance for design because it shows all available stores in the area where the customer can order online via BestPurchase app and get delivery to house. This class has several attributes such as store name and address and those are all stored in the system.

**Relationship with other classes**: The Store class has dependency relationship with stereotype BestPurchase class and aggregation relationship with ShopOption class. The reason of having aggregation relationship between Store class and ShopOption class is ShopOption object is part of Store, and it can exist without Store. The aggregation relationship is a relationship between the object of class. So, when we delete one object of Store class, The ShopOption class still belong to another class.The Store class has dependency relationship with stereotype BestPurchase because the sterotype BestPurchase uses Store to look for products.

## 4.4.3 Third Business Class Selected: Product Class

**Importance for the Design**: The Product class is important for design because it is the main purpose and reason why customers use BestPurchase. It shows the variety products from different stores which are available for customers to order. It has some attributes such as name, price, and availability status.

**Relationship with other classes**: Product class has an aggregation relationship with Categories, Deals and Cart classes because product is a part of Categories, Deals and Cart classes. And when we delete one of those classes (Categories, Deals, Cart), The Product class still exist, and it still has relationship with other 2 classes.

## 4.4.4 Non-Business Class Selected: Delivery Class

**Importance for the Design**: The Delivery class is important for design because it is a part of system operation when the customer want to order and complete order. This class also oversee coordinating the delivery of the products to customers. This class has some attributes such as address, phone number and delivery time. All those attribute helps BestPurchase to manage delivery service to customer.

**Relationship with other classes**: The Delivery class has composition relationship with CheckOut class because Delivery is a part of Checkout (one of the process) and it can not be exist when we delete CheckOut class. It also has an aggregation relationship with Driver class because Driver is a part of Delivery Class, and it can be existed without Delivery class in the system.

# Conclusion

This assignment has defined sequence diagram and class model base on the use case from the assignment 3. This also identify three business class and one nonbusiness class with the explanation why these are importance for design as well as its relationship with the other classes.

# References

Show that you used a wide variety of resources by listing them below and clearly indicating in the body above where you used. Make sure to use proper referencing in your paper. We suggest using APA format, but other formats are fine as long as it clearly distinguishes your work from work of others in your response—be mindful of plagiarism rules.

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