



American International University-Bangladesh (AIUB)
Department of Computer Science
Faculty of Science & Technology (FST)
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CSC2210 Object-Oriented Analysis and Design (OOAD)

Section: B
Group No: 7

Online Shopping System

An Object-Oriented Analysis and Design (OOAD) project submitted by

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The project will be evaluated for the following Course Outcomes.

Project Marks Distribution		Total Marks
Use Case Diagram and Class Diagram	[5Marks]	
Activity Diagram and Sequence Diagram	[5Marks]	
State Diagram	[5Marks]	
Submission, Completeness, Spelling, Grammar, and Organization [5Marks]		

Background Analysis

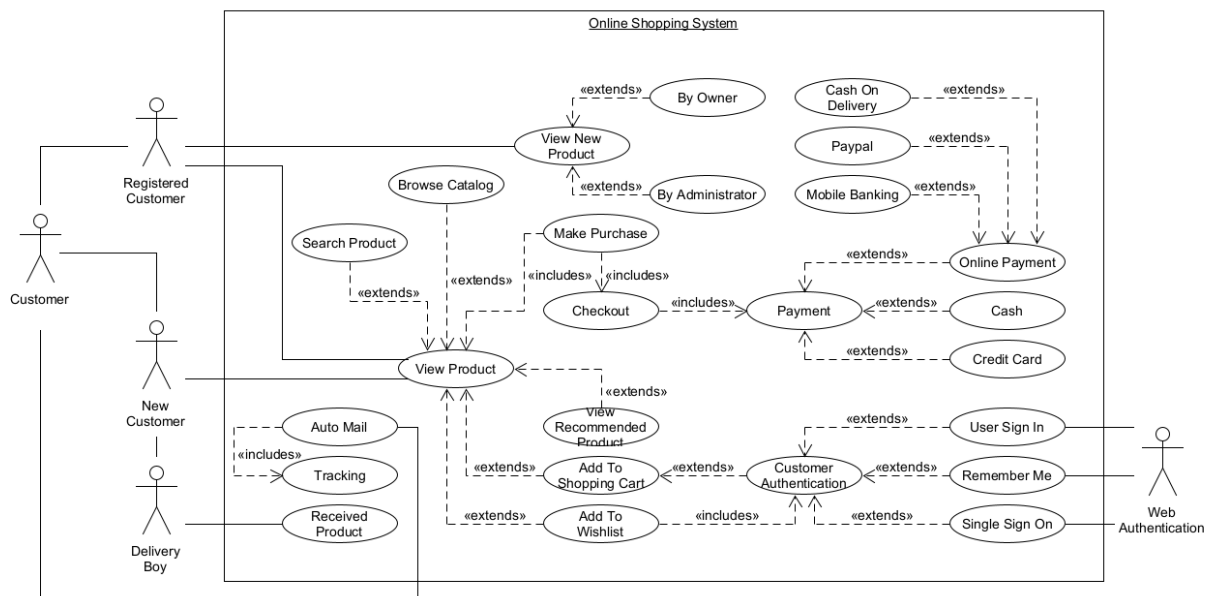
We all are living in an age of science and technology. Everything is now online. We have to buy a lot of goods or supplies online every day. This can be dietary products, machine products, kitchen products, etc. Nowadays, we all lead busy lives, and it's tough to go out shopping for our daily products. We may purchase those necessary products or items from online shopping platforms by visiting the related websites. Though it does have some drawbacks, it takes time to deliver any products you buy. At the same time, many positive points also go towards online shopping, such as low cost and same products of different varieties, because there are no physical shops and low employee cost for business. A customer can buy these products at a lower price rather than a physical shop. We are trying to make this kind of online shopping platform named 'Khan LTD' to help customers buy their required product easily at a lower loss. This platform will help customers choose their goods and services in the simplest and easiest ways possible, giving them a better experience and saving their valuable time from visiting physical shops, and we are providing free delivery.

Solution and Feasibility Analysis

There have been many problems that will appear during this ongoing project. Sometimes we need to update the system. That's why we have to shut down the system for a while, and we will try to solve it as soon as possible because there are no other options. There will be different kinds of users in our system, and the users may encounter some technical problems. Then we need to remove or modify any user permissions or accessibility. There will be an administrator for this platform. He can access anything in the system. If he wants, he can create any user category such as "VIP member," "Premium user," etc. There is a good chance our system is hacked. Then we will shut down the whole system and try to add a better security system for our system. Initially, we may have bugs in the design, and we will try to solve those bugs one by one as soon as possible. The major problem will be Product distribution. There may be some misunderstandings between the customers and the seller. Then the administrator will handle the situation. If the customer wants, the customer can order directly from the store by calling our service center. Customers can process the transaction online through banking, PayPal, and cash on delivery. And we will make sure the delivery went well.

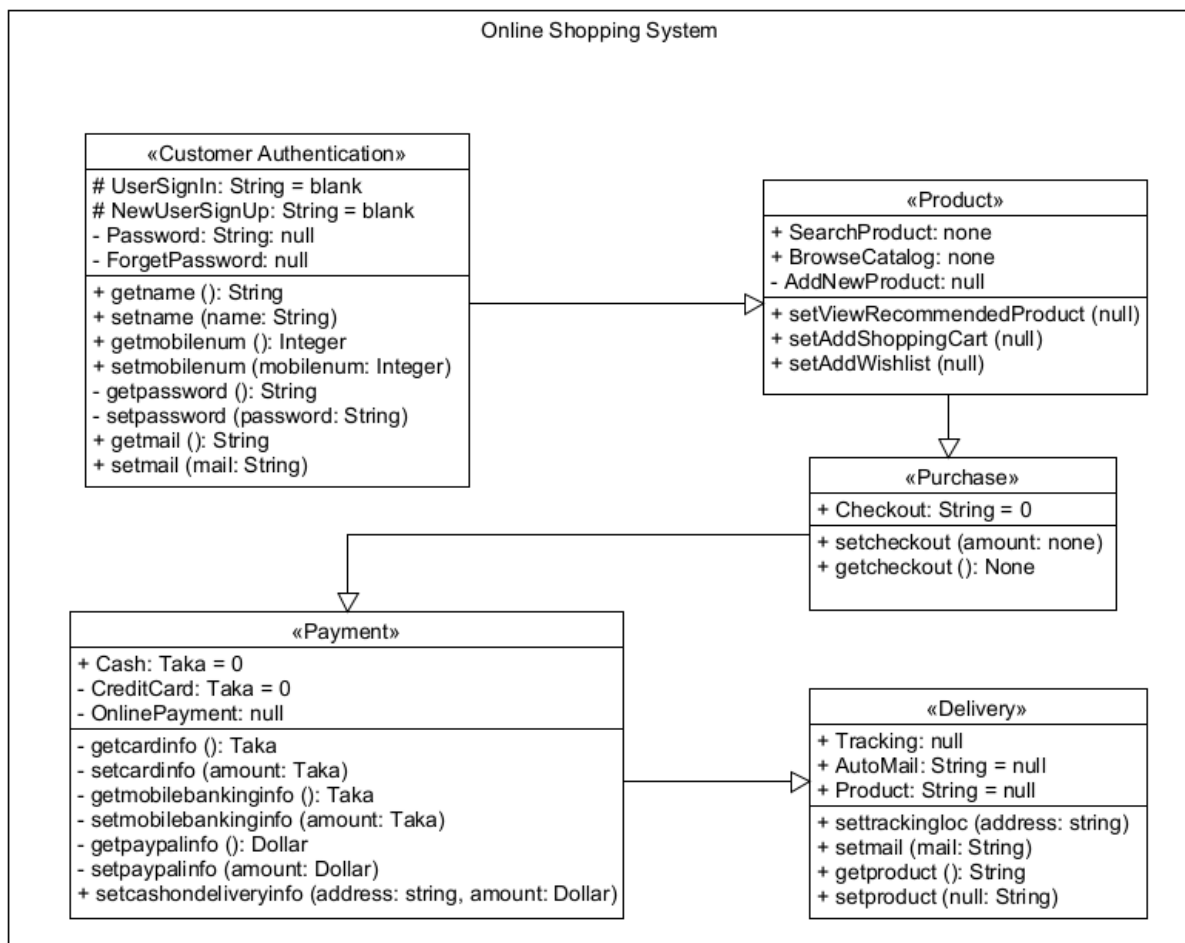
Use Case Diagram

Customers could be registered and new customers. Registered customers can view the product in the shop. Registered customers may search for the product, browse the catalog, view products recommended for them, add the product to the shopping cart or wish list. To view recommended products and to add to the wish list both require a customer to be authenticated. At the same time, the outcome could be added to the shopping cart without user authentication. Registered customers can purchase if they checkout. For the checkout process, customers should be authenticated. It could be done through the user login page, user authentication cookie ('remember me'), or single sign-on. Web authentication service is used in all the use cases that require authentication as an external actor, while sign-on also involves the participation of an external identity provider. For checkout, the customer should finalize the payment process. The payment use case could be done either by using a credit card, cash, or online payment. Online payment app such as - PayPal, mobile banking, cash on delivery. Customers will be able to see the new product recently updated by the administrator or by the owner of the website. When the delivery boy receives the product from the shop, the customer will get an auto-email through the website. Then the customer will be able to track the delivery boy and their development through the website using Google Maps.



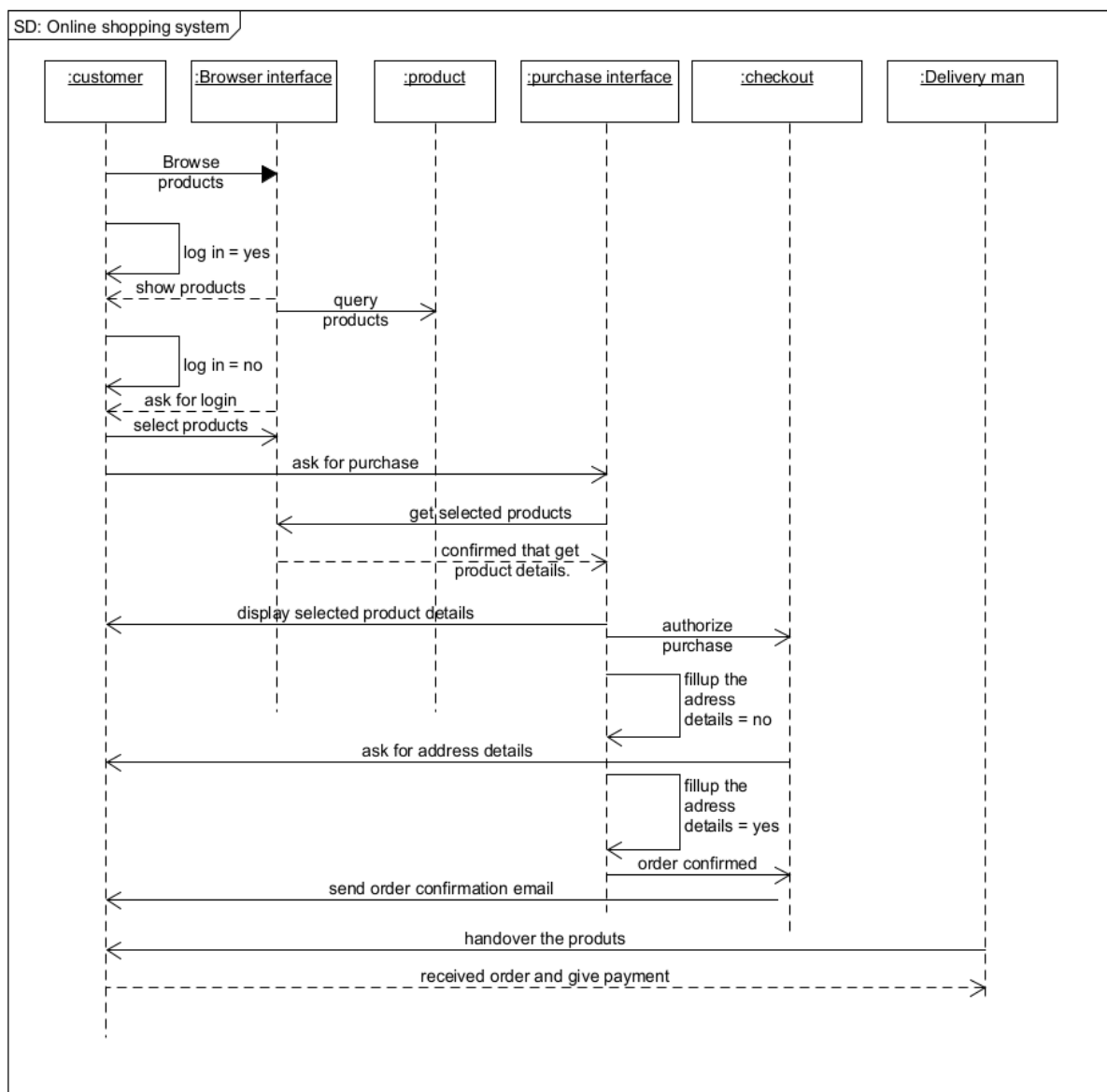
Class Diagram

The first step is, the user must log in to the system. If the user is new, he must give his name, mobile number, email, and password. Registered users will enter their names and password. Even if the user forgets the password, the user can recover it via email with the forgotten password. Then the user will be able to see the products, search their desired products and add them to the cart if they wish. The system will list chosen products and create a browsing catalog accordingly. If the user wants to buy something, he can see his item in the checkout option. The user has to pay to purchase the product of his choice. In payment class, he can pay cash if he wants. There are some more methods for that, such as Mobile Banking, PayPal, and Cash & Delivery. If the user chooses to pay the product's price, the product's delivery process will start. As soon as the product is delivered, the user will receive an email. If the user wants, he can also know where his product is now. Every class here has a one-to-one relationship with each other.



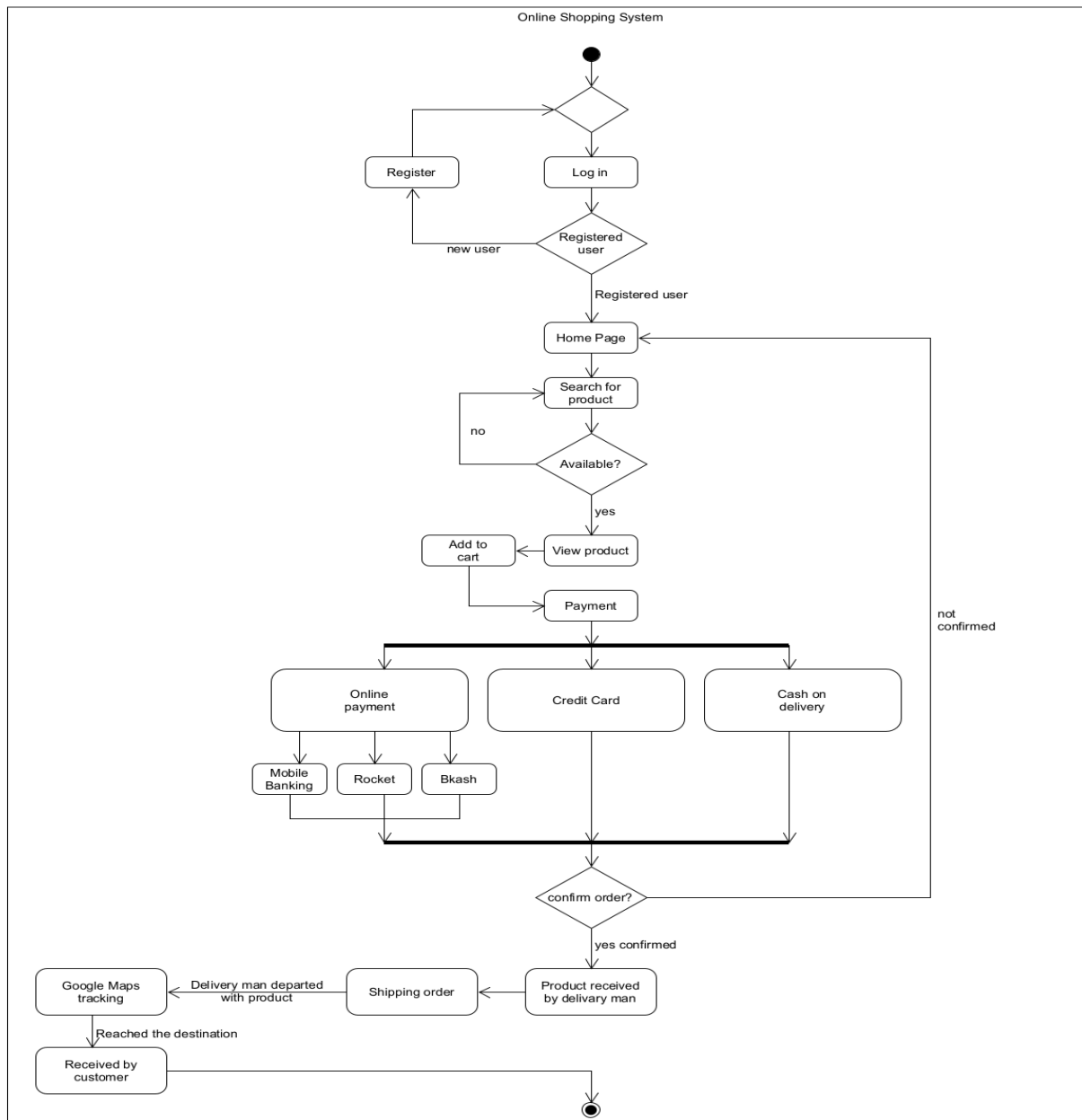
Sequence Diagram

Customers browse the products. If the customer is already registered, the customer can see the items, and the system will send query products from browser interface to product interface. If the customer does not log in, the system will ask for a login. The customer will choose the product. When the customer selects the product, they could add it to the shopping cart and purchase it. The browser interface gets the desired item and confirms that to get the product details. The purchase interface ensures that customers can see the selected product and product details, and at the same time, the system will send a message for authorizing. If the customer does not fill in the address information, the system will ask for it. If the address info is submitted, then a confirmation mail is sent to the customer. The delivery man shipped the product and handed it to the customer. The customer will receive the product and give payment.



Activity Diagram

An online shopping system is when a customer visits a website, the system asks for a login. Registered customers log in, view, and search products. New customers will register first, then view and search products from the home page. If the product is not available, the system will ask for a search again. If the product is available, customers can view the product and add it to the shopping cart. After adding into the cart, a payment section will appear. Customers can select Online payment, Credit card, Cash on delivery simultaneously, and Mobile – banking, Bkash, Rocket under online payment. After confirming the order, the selected product will be hand over to the delivery man. Customers also can dismiss the plan and search again for better outcomes. The delivery man will depart the order to the customer using the Google Maps tracking system. After reaching the destination, the customer will receive the product.



State Diagram

Customers visit the website. The system will ask to log in or register (for new users). The customers search for products from the home page. If the product isn't found, then the customer can repeat the process. When the product is found, the customer can view the product and search again. If the customer liked the product customer can add it to the shopping cart and search again, but can't edit the cart. Once everything is added, customers can view the shopping cart. Final confirmation will appear that customers can discard the process and remove the product from the cart if the customers want. If the customer agrees to discard and remove the product, the system will automatically bring the customer to the home page or log out. Customers can view the shopping cart from the home page.

