ELECTRO-MART

Mohamed Hesham Sayed
Computer Engineering Department
College of Engineering and Petroleum
Kuwait University, Kuwait
Mohamed.sayed@eng.ku.edu.kw

Yessin Nader Serrid
Computer Engineering Department
College of Engineering and Petroleum
Kuwait University, Kuwait
Yassine.serrid@eng.ku.edu.kw

Abstract*— The primary purpose of this paper is to introduce you to our application (Electro-Mart) which allows users to order different kinds of electronic devices. High end programming skills were used to implement this application. The app is available on both IOS and Android. Various UML diagrams were used to explain the functionality of the application.

Keywords—Class diagram, NoSQL, Firebase, App devolvement, JavaScript, Cross platform, PNG.

I. INTRODUCTION

Electro-Mart is an app that provides you with the experience of ordering all the electronic devices you desire. The interface of the app is designed in a way that will make it easy for the users to register and use, the app is also available for IOS and Android users. We provide a special set of services and features that will satisfy the customers. Our software allows the user to register information using email and phone number, it also allows the user to save their default location so that they do not have to register their location each time they make an order. Our app accepts different kinds of payment methods either by cash, credit card or by E-points that the user can earn by shopping from the app, the customer could also benefit from it and get new offers and discounts. The Electro-mart support team is working 24/7 and they respond as fast as they could to help customers with any difficulties they might face.

II. PROJECT DESCRIPTION IN ENGLISH

[1] The customer login/signup in the application.
[2] The customer will choose the category and the product.
[3] The customer will add the chosen product to the cart.
[4] The customer will confirm the order.
[5] the store must confirm that the product is valid.
[6] the application will request payment.
[7] The customer will choose a payment method (Cash – Credit card – E-Points: Coins provided by the store).
[8] If the payment method chosen was credit card, thew customer will be asked to fill in the credit card details.
[9] The store the credit card details with the bank, if the credit card is valid, payment process will be confirmed.
[10] The store will send the order details to the driver.
[11] After the driver receive the order details, he will send the estimated time of arrival to the customer.
[12] The driver will deliver the product to the customer. APP AND PRODUCTS FEATURES

A. APP AND PRODUCTS FEATURES

The app provides a lot of features as the following:(i) Usability: The app will be very smooth to use which will give the customer a great experience while browsing. (ii) Delivery: Our delivery system is operational 24 hours a day,7 days a week due to that customer could receive their products as fast as possible. (iii) Quality: We provide the best electronic devices. (iv) Prices: We provide prices that could be affordable for most customers. (v) Security: We care about our customer's data, and it is of a high priority to us. (vi) Updates: Our software is frequently updated.

B. APP DESIGN

We are going to design the app by using JavaScript as it is one of the easiest languages out there and it is also suitable for a lot of platforms such as IOS and Android. JavaScript can also be used to create dynamic animations. We are going to use the jQuery framework library with JavaScript [2].

C. DATA TRANSMISSION

We are going to be using Firebase, a NoSQL database which is a good database as it syncs data across all clients and stays accessible even if the app is offline [1].

D. DATA FORMAT

We are going to use PNG (portable network graphic) in the web design of our app which is better than using JPEG because in the PNG there is no loss in quality [3].

Figure 1. Electro-Mart Logo.

III. UML DIAGRAMS

"UML, short for Unified Modeling Language, is a standardized modeling language consisting of an integrated set of diagrams, developed to help system and software developers for specifying, visualizing, constructing, and documenting the artifacts of software systems" [4].

IV. UML DIAGRAMS

A. CLASS DIAGRAM

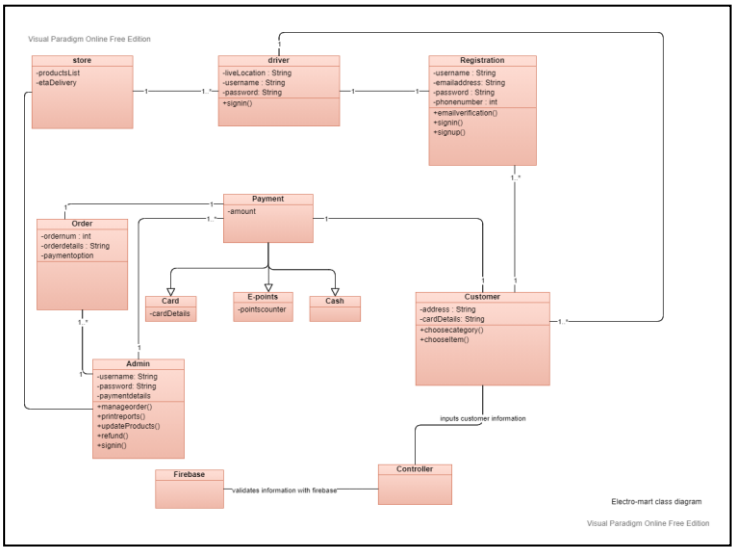

Figure 2. Electro-Mart Class Diagram.

Table 1. Class Diagram Description.

Electro-Mart Class Diagram Description	
Classes	***Class Description***
Store	Provides the products list and estimated time of delivery to the admin (ETA) and driver
Driver	Takes the username and password from the driver to **sign in**. provide the customer with the driver's live location.
Registration	Takes username, password, email address, and phone number to allow customers and divers to **sign up** and then to **sign in** after **the email verification process**.
Customer	Allows the customer to **choose a category** and then **chooses an item**. Takes the address and the card details from the customer to purchase a product
Order	Provides order number, order details, and payment option.
Admin	Takes the username and password from the admin so he can **sign in**. Takes the customer's payment details. **Manage orders**, **print purchases reports**, **update product prices**, and **refund payments** if needed.
Payment	Displays to the customer the amount required to be paid.
Card	The payment method requires the insertion of credit card details.
E-points	A payment method where E-points are points that customers earn from the app and there is a point counter to keep track of the customer points.
Cash	Payment method.
Controller	Takes the customer information.
Firebase	Stores the customer information after taking them from the controller.

B. SEQUENCE DIAGRAM

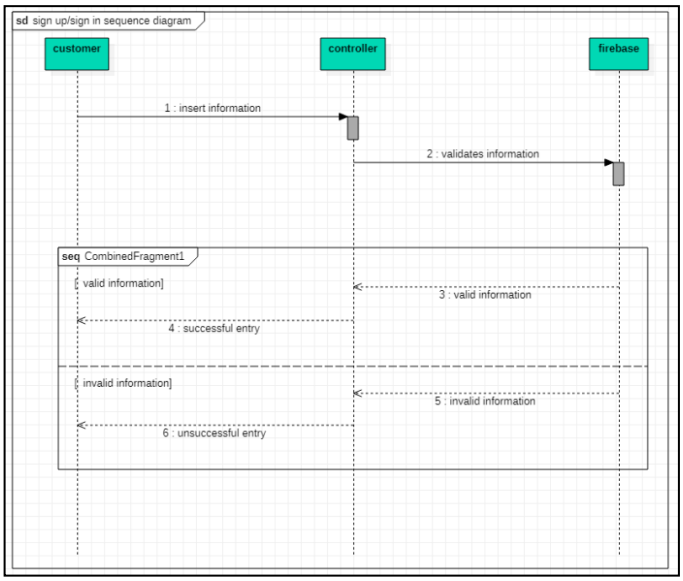

Figure 3. Electro-Mart Sequence Diagram for sign in and sign up.

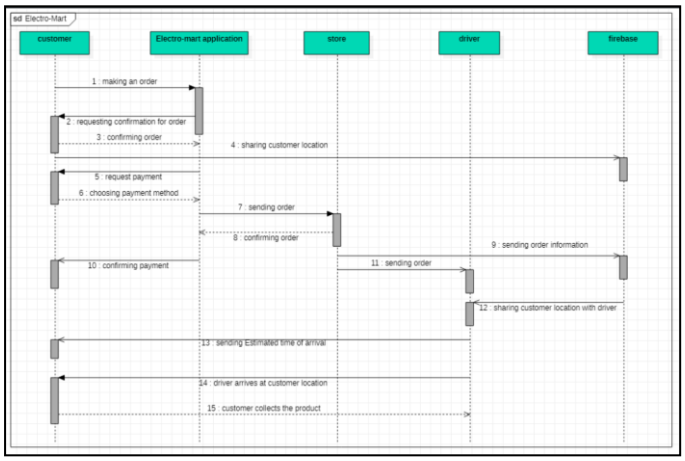

Figure 4. Electro-Mart Sequence Diagram.

C. USE CASE DIAGRAM

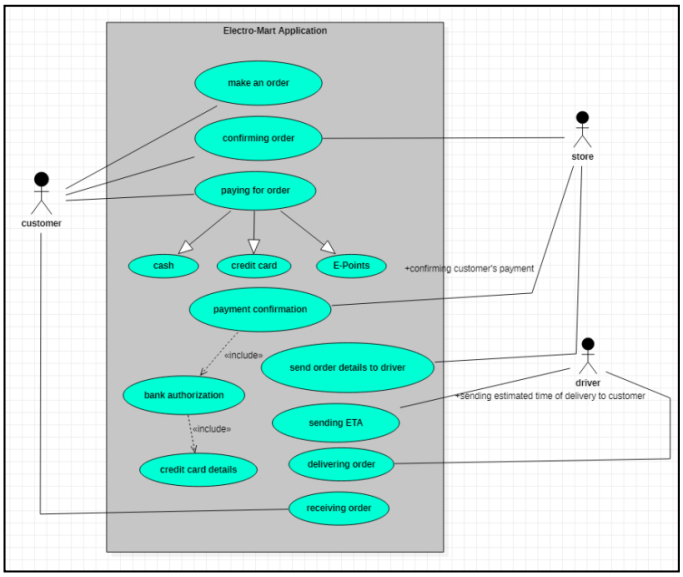

Figure 6. Electro-Mart Use Case Diagram.

D. ACTIVITY DIAGRAM

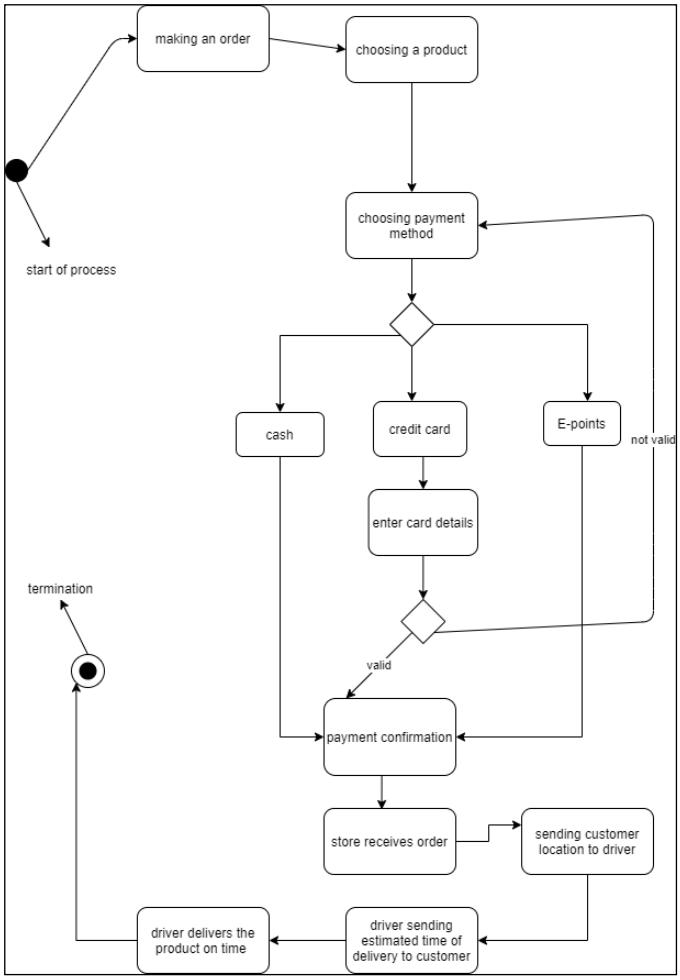

Figure 5. Electro-Mart Activity Diagram.

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