

# Pick it

## Mobile shopping application

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## **Acknowledgement:**

It is a matter of great pleasure to present this project proposal on development of the graduation project “Pick it (mobile commerce application)”. We are grateful to faculty of computer science for providing us this great opportunity to develop a mobile application for this project.

We are also grateful to our project supervisor **Dr.Reham Adel** for her valuable advice and suggestions. In addition we would like to convey our thanks to the teaching and non-teaching staff of the department of CS, for their invaluable help and support throughout the period of the project hours.

We will not miss to express our gratitude to all our friends and everyone who has been part of this project by providing their comments.

# Chapter 1: Introduction

## 1.1 Overview

E-commerce flourish in the modern business, it involves buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, mainly the Internet. In our e-commerce application we provide an immersive and unique experience that makes online shopping a much simpler and seamless process and help the customer to easily order from his home with new features which are not used in any other e-commerce applications which makes our app unique (Lutkevich).

## 1.2 Motivation

That nowadays people get busy or lazy when they shop out especially when the products are few, people love to shop online because some supermarkets or electronics shop are far from their homes and sometimes products are not available there, so we make it easier to the customer to know and find his desires, we noticed that most electronic shops in reality lack trustiness whenever a client want to recover or exchange his product by an excuse that he can not do anything without the receipt and once the customer buy a cable which he thought it is the original one he notice later that the cable is fake.

## 1.3 Objective

The goals in this application that we created are several:

1. With the click of a button, the user can shop online, saving time for them.
2. Aim to reach the largest number of customers faster and at an affordable cost.
3. Save money by not moving to buy a specific thing and not going to a certain market.
4. Help re-trade in Egypt and transform it into a digital system which increases efficiency in the entire supply process using modern technology to provide fast, high quality and easy to use service.
5. Showing and practising our skills in programming and testing

## **1.4 Aim**

Pickit introduces a new concept to the Egyptian market in commerce .Help people spend a short time searching for products, comparing a product chosen by the customer on several sites, comparing the price and percentage of demand for the product.

## **1.5 Scope**

Our project targets people of all ages over 12 years old, as all products suitable for these ages are marketed. Also, all segments of society can benefit from our website and shop through it, whether they are from the middle or high class.

- The user has the right to create a personal account as well as the ability to pay cash on delivery.
- The user can modify the order (add a product or delete the product).
- The user can return the product and refund his money back (using cash back)
- Allow businesses to create a business account and sell whatever they want.
- Allow companies to modify or delete the prices of their products.
- Allow users to purchase through the app, and upon purchase, payment be upon delivery

## **1.6 General Constraints**

Development tools and language constraint:

One of the biggest constraints facing us is lack of knowledge of the software tools used to build the software. Moreover, dart is a new language which we know little about so we need to increase our knowledge in this language during this term by taking courses and solving problems.

## **1.7 Organisation of the dissertation**

Chapter 1 :

In chapter one presents the overview and explains the main idea and scope, aim of the project and the motivation behind it and What is Objective the project.

Chapter 2 :

In chapter two we talk a bit about the background of many different aspects of the project and share some of the previous work that was done in that project.

Chapter 3 :

In chapter Three, we delve into the basic aspects of the project and talk more about smart contracts, some of their requirements, and the distinctive aspects of the system.

Chapter 4 :

In chapter four we talk about design, and the problems that we have with this project and design in the database.

Chapter 5 :

In chapter five we talk about execution of user interface and make plans for tasks to do and discuss it.

Chapter 6 :

In Chapter Six we talk about testing, we make a test of the entire program and test combined items together.

## **Chapter 2: Background & Previous works**

### **2.1 Background**

With prosperity and progress in the world of technology, everyone can do the business that they were doing traditionally. They can do their business in a modern way through the Internet and from home. This is known as E-commerce, is a platform of communication through the internet that takes place between companies and their customers, providing various services.

Reason why consumer prefer online shopping is usually available 24 hours a day, and many consumers have Internet access both at work and at home,so should not leave his work or make an effort to go shopping, and sometimes products are not available there, so we make it easier to the customer to know and find his desires.

The current problems that are found in other similar Applications will be solved by adding more features, and you will improve the process or facilitate a new process, such as Allow businesses to create a business account and sell whatever they want,

And Adding video for the product can help them make a decision on which brand or product to purchase.

The user can return the product and refund his money back (using cash back).

Finally, one of the things that makes our Application different is to help people spend a short time searching for products, comparing a product chosen by the customer on several sites, comparing the price and percentage of demand for the product.

## **2.2 Previous works**

### **1) Amazon**

Amazon is an American multinational technology company focusing on e-commerce, cloud computing, online advertising, digital streaming, and artificial intelligence. It has been referred to as "one of the most influential economic and cultural forces in the world". Its website is one of the most popular online marketplaces used by both individuals as well as businesses, and the site is available in many different countries and languages. Lastly, Amazon offers software and infrastructure solutions for business and individuals.

Some of the greatest features of Amazon are Free delivery above \$, additional offers, free Amazon Music, add to cart, use your camera to search for products, prime features, list of previous orders, cancellation of an order, customer services.

(Pepper Content, 12 July 2022)

### **2) SHEIN**

SHEIN is a global fashion and lifestyle e-retailer committed to making the beauty of fashion accessible to all. We use on-demand manufacturing technology to connect suppliers to our agile supply chain, reducing inventory waste and enabling us to deliver a variety of affordable products to customers around the world. From our global offices, we reach customers in more than 150 countries.

Some of the best features of SHEIN are User Login & Search Products, Online Customer Support & Push Notifications, Payment Gateway Integration, Checkout & Shipping, Coupons page, changing currency while in a different currency, features for specific details, and changing the language of the application. (Sara Khan, 2 March 2022)

### **3) Noon**

Noon is a leading local online shopping platform that provides a variety of products to shop easily and safely, in addition to fast delivery and offers multiple payment options with the possibility of free returns, Noon provides customer service around the clock, seven days a week, and we have a quality guarantee and product categories that ensure that you have every what you like and wish.

Features of Noon are the financial transaction is done securely by protecting all customer data, customer service works around the clock and is directed to all countries of the Arab world, free deliveries in all countries of the Arab world through the Noon.com, discount code, provide returns and exchanges on all products, provided that they are in delivery condition, the site is easy to use and supports both Arabic and English, you can find all sections and categories at Noon at your fingertips. (Noon.com, 17 January 2022)

### **4) Alibaba.com**

It is a homegrown company with the most dominant presence in China's e-commerce industry. Alibaba operates diverse and complementary platforms under its umbrella, giving it an advantage over other companies specialising in online shopping and payment or only one platform.

Features of Alibaba.com

The site is characterised by the presence of a lot of wholesale products at low prices, which leaves you with a large profit margin, You can deal with suppliers and manufacturers directly with the payment guarantee through Alibaba and this reduces your purchase risk, There are many premium payment methods like Alipay and others depending on your needs and Ensure the quality of products before their arrival by requesting samples or samples from sellers and Usually you can negotiate the price. (Alibaba Seller, 10 December 2020)

## **Chapter 3: Planning and analysis**

### **3.1 Planning**

#### **3.1.1 Feasibility study and estimated cost**

To make the study clear we need to answers these questions:



1. Is there a demand for the product?
2. Who else is producing similar products?
3. What is needed to make the product?
4. What is the cost of producing a product?
5. The estimated cost

### **1. Is there a demand for the product?**

Yes, there is a demand in the case of successful marketing and being able to compete in the market through good marketing to target age groups and segments in society, and through the success of the work team, the returns will be good.

### **2. Who else is producing similar products?**

Amazon.com, eBay, Best Buy, market.com, jumia, big commerce, shopify, noon, jarir, and Weebly.

### **3. What is needed to make the product?**

We need these things at least to make our project ready to perform well.

1. Learn the dart language and flutter framework
2. Equipment
3. Investors
4. Good Internet and bundles
5. Customer service needs
6. Delivery men salaries

### **4. What is the cost of producing a product?**

1. Learning dart and flutter:

A mobile application needs a specific language to work with so we decided to buy a course from udemy to learn flutter and dart which cost each of us a 350 EGP this means 2100 EGP in total.

## 2.Equipment cost:

To begin the developing of our app we need some new components for our personal computers to work faster especially when working in android studio, as an estimate we may need 2000 EGP for some RAMs and SSD and a table cost 1750 EGP, and of course the hosting servers that may cost us a lot to ensure the work of the application, so the equipment will cost 7750 EGP.

## 3.Investors:

The only hope for this app to continue are investors who can support and help this project to be one of the leading mobile commerce apps.

## 4.Fast Internet and big bundles:

The most important thing to consider is the network because if the internet speed is slow or it finishes then we may face troubles in communicating and learning from google and other courses, such a good bundle to buy is the 250 GB for each of us according to their use so in total we may pay 1500 EGP per month.

## 5.The need for a Customer service:

When the app launches at the stores we must have a call centre to help the customer in case of questions or undelivered products. which leads us to rent an office for 8500 EGP per month and new computers for 150,000 EGP this means 158,500 in total.

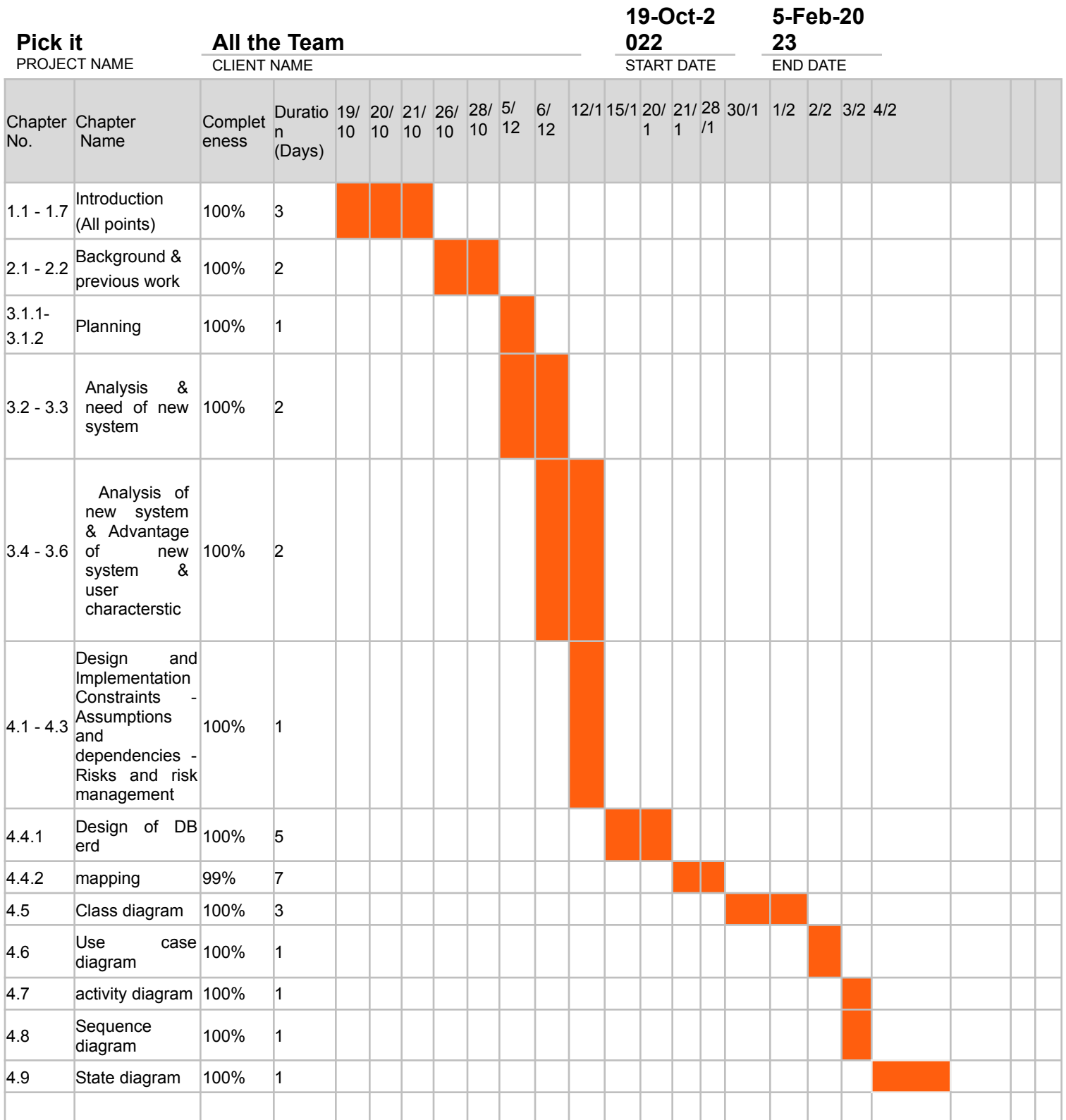
## 6. Delivery men salaries:

As we heard that some Companies who have pickup vehicles can deal with us as a deliverer to deliver the ordered products. As this is a new thing for us we estimate one's salary for 3500 EGP.

## **5.The estimated cost:**

As we summed up, the approximate cost is 200000 EGP as a start.

### 3.1.2 Gantt chart:



## **3.2 Analysis and limitation of existing system**

One of the common scenarios is that consumers are dissatisfied with a specific product and want to retrieve it immediately as a result of they took the purchase step based on a simplified description of the product and the presence of some pictures of the product or it may not exist, One of the drawbacks of this existing method is that consumers may decline their desire to purchase a particular product because they cannot fully see the product with all its details.

Also one of the things that matters to the consumer is the quality of the product with the lowest possible cost, the consumer in more than one store may have to look for the lowest possible price and highest review for a particular product which may waste more time.

## **3.3 Need for new system:**

This system provides opportunities for customers all over the world to solve the problem of insufficient product description, a short video clip, pictures and phrases detailing the products being searched for are put before purchasing.

This application also solves a problem that the consumer may have to search for the lowest possible price and the highest review in more than one site for a specific product, and thus this system offers a compilation of product comparisons, some of which are from various sites such as Noon, Amazon, etc., and thus saves the customer time and effort instead of searching for the product on each site, and This application also solves the problem of not having categories of used products before selling them at discounted prices.

## **3.4 Analysis of new system**

### **3.4.1 User Requirements**

User Requirements should describe functional and nonfunctional requirements in such a way that they are understandable by system users who don't have detailed technical knowledge. (Sommerville, 2016).

The e-commerce application system allows interaction between customers and the application immediately and provides them with services for personal use through a work team that manages the application and customers browse the application and buy what they like from the products

### 3.4.2 System Requirements

Is a document focused on what the software needs to do and how it must perform. It lays the important groundwork so that every person involved with the project understands the most crucial details. (Sommerville, 2016).

1. The existence of a system to protect users ' data
2. Send an email to the customer to get his order data
3. The presence of a box for monthly offers
4. Show pictures of the product
5. Add items to a cart
6. Compare a product's price in different stores
7. Add items to wishlist to return back to it
8. Search by the name of the item
9. Update account information

### 3.4.3 Domain Requirements

Describe system characteristics and features that reflect the domain, May be new functional requirements, constraints on existing requirements, If domain requirements are not satisfied, the system may be unwork. (Sommerville, 2016).

The E-Commerce domain has its own specific constraints, for example Security/ Privacy – It is important to ensure the security or privacy of online transactions.

Internet connection status and its impact on order completion.

### 3.4.4 Functional Requirements

Functional requirement describes what functionality should exist in the system to support an activity (task) that the user would like to achieve. (Sommerville, 2016).

- 1) Create Account:  
Description: if user is new and doesn't have an account in the app  
Input: request for full name, email, address, phone number, and password  
Output: display created account
- 2) Log in:  
description: user login anytime everywhere  
input: username and password  
output: successful login
- 3) Log out:  
description: user can log out also anytime everywhere

input: session users and state users  
output: safety log out

- 4) Add to cart:  
description: User can add product to the shopping cart  
input: find a product and click the add cart icon  
output: product is added to the cart
- 5) Searching a product:  
Description: user searches for a product to add it in the cart  
input: click on search bar, enter name of product  
output: the product displays
- 6) Add to Wishlist:  
description: User likes of product and add it to his wishlist  
Input: find a product and click the wishlist(heart) icon  
output: product is added to the wishlist
- 7) Pay upon delivery:  
Description: user can choose to pay by cash upon delivery  
input: After finish shopping choose to pay buy cash  
output: display the bill and the payment method
- 8) Rating a product:  
description: user can rate the product he already bought  
input: give a rating out of 5 Stars of the ordered product  
output: rating is added to the whole ratings
- 9) Comparing prices:  
Description: compare a product price with other E-commerce apps  
input: click the compare button  
output: show prices of the other companies
- 10) Update account info:  
Description: change the information of the account  
input: click the edit button in the account page and change  
output: update fields of the personal account in both app and database

### **3.4.5 Non-Functional Requirements**

Define system properties and constraints e.g. reliability, response time and storage requirements. (Sommerville, 2016)

- 1) Security :

Description: Security is of paramount importance if your application handles financial transactions and users' financial and sensitive data. Using an SSL certificate and data privacy policy will create trust among your app users and convert customers into brand advocates. It has also been considered for different administrator roles with which you can control who can create, see, copy, change or delete information. Depending on your business location, security also refers to compliance with customer data protection rules such as the General Data Protection Regulation (GDPR) in Europe.

## 2) Ease of use and speed of response :

Description: The application should respond to the user in less than 1 second, no matter the size of your business, the application for your business should be easy to use even for non-technical users. Did you know that general user takes 0.05 seconds , The usability of the application is also determined by:

- How easy is it for the user to achieve their goal of visiting a single page.
- How quickly they can perform tasks in the store. Unforgettable intuitive design.
- The number and types of errors made by users.

## 3) Availability:

Description: The system must be available at all times, which means that the user can access it using the Play Store, restricted only in the event of a hardware failure or damage to the database, a replacement page will be displayed, also, in the event of hardware failure or damage to the database, it must Database backups are retrieved from the server and saved by the administrator. Then the service will be restarted.

## 4) Maintainability:

Description: A commercial database is used to maintain the database and the application server handles it. In case of failure, the program will be reinitialized. Also, the software is designed with modules in mind so that maintenance can be done efficiently.

## 5) Appearance.:

Description: When we start selling online, one of the first and most important steps should be to ensure that the visual side of the store's website is pleasing to the eye, thoughtful and intuitive. This is your chance to make a good impression on new users and turn some of them into customers.

### 3.5 Advantages of new system

There are important and essential features of e-commerce that you must know in order to save you many questions when you decide to create a website that works on mobile app, which are:

- 1- The main advantage of e-commerce is its ability to reach the global market without the need for large financial investment through the Internet.
- 2- Obtaining the information you need and necessary for each product, and you can also compare it with another product from any other sites.
- 3- E-commerce allows suppliers to be closer to their customers, which leads to increased productivity and corporate competitiveness.
- 4- More efficient support before and after sales with these new and diverse types of e-commerce.
- 5- Saving effort and time for consumers, and making it easy to buy and sell in a successful electronic way.

### 3.6 User characteristics

Standard users are thought to be from any age, gender and from any nationality who have past knowledge of mobile commerce applications like noon or jumia, on the other hand administrators and potential developers need a high level of expertise to understand web technologies.

An example for a perfect user is

age: 12 - 50

gender: male or female

education: simple one

job: any job that gives him time to order

language: arabic or english

mobile knowledge: simple one



## CHAPTER 4: Design-

### 4.1 Design and Implementation Constraints

The system shall be developed using flutter framework in an emulator or chrome from android studio.

The system shall be developed using open source tools and some plugins.

Some of the constraints of mobile commerce app:

- Security
- Employee cost
- Huge advertising cost
- Marketing cost
- Cost of packaging
- Warehousing storage
- Sales flow

### 4.2 Assumptions and dependencies

#### **Assumptions:**

- 1) The coding should be error free.
- 2) The system should be user friendly so that it is easy to use for the users.
- 3) The system should have more capacity and provide fast access to the database.
- 4) The robotshop system is running twenty four hours a day.
- 5) Users may access from any mobile that has an internet connection.
- 6) Users must have their correct usernames and passwords to enter into their online accounts and do actions.

#### **Dependencies:**

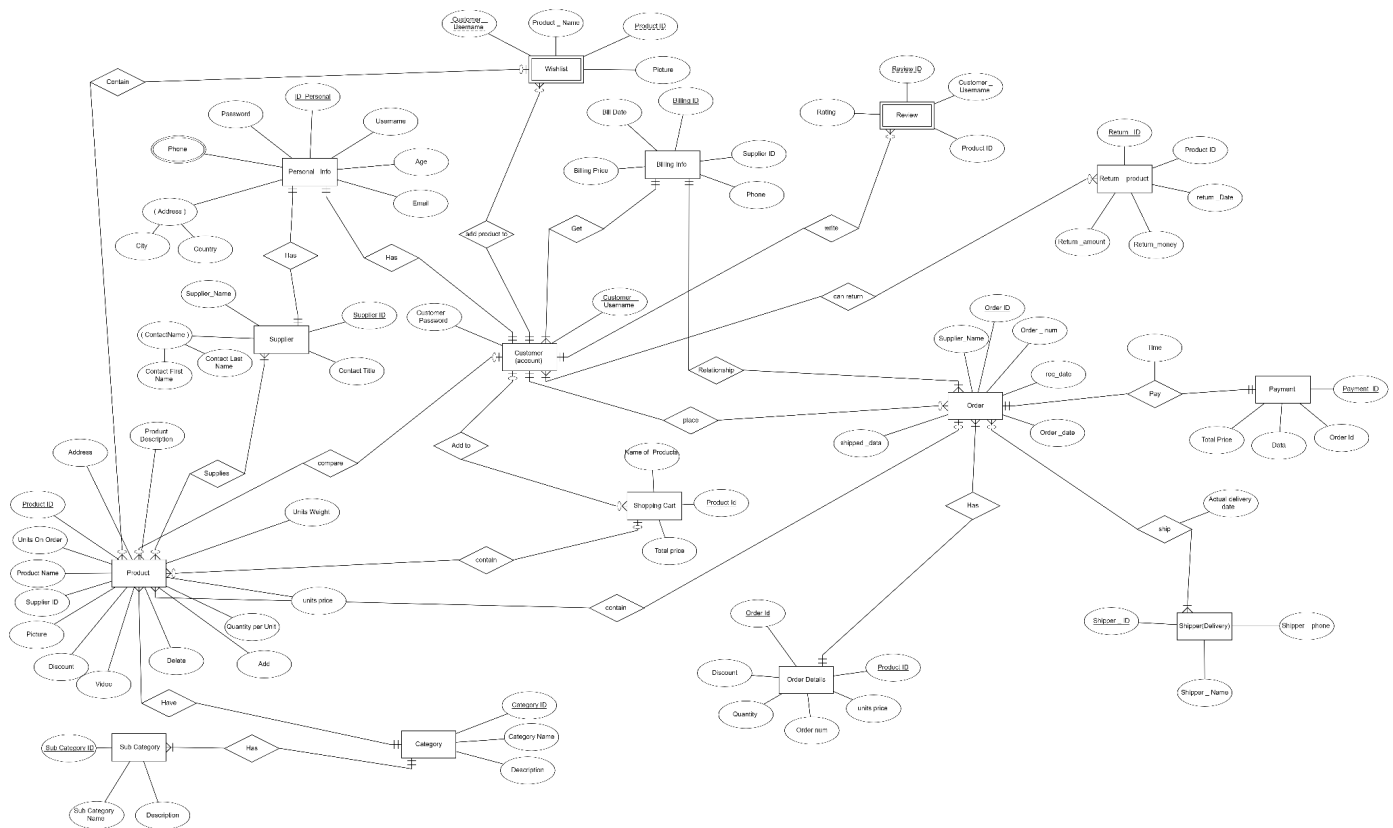
- 1) The specific hardware and software due to which the product will be run.
- 2) On the basis of listing requirements and specification the project will be developed and run.
- 3) The end users (admin) should have proper understanding of the product.
- 4) The system should have the general report store.
- 5) The information of all users must be stored in a database that is accessible by the robotshop system.

## 4.3 Risk and Risk management

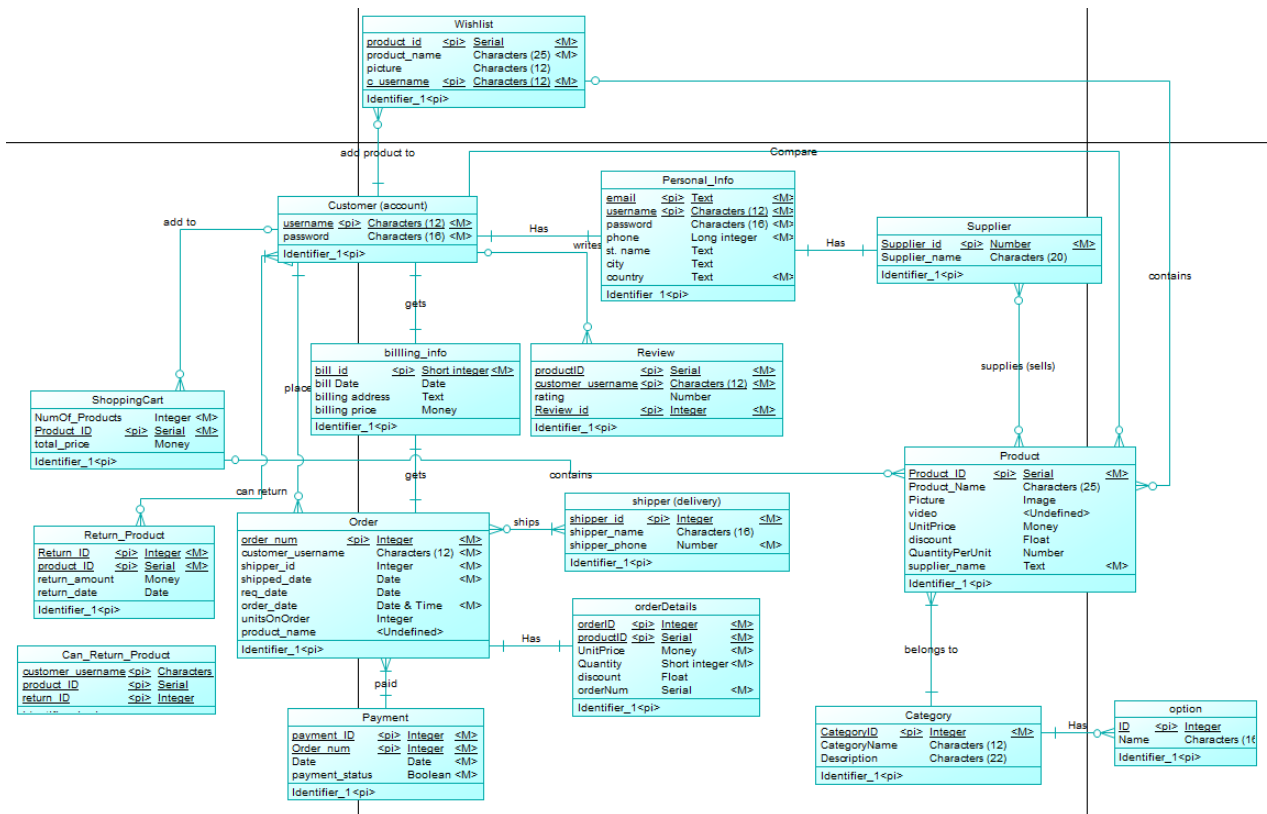
A software project can be concerned with a large variety of risks. Some of the risks we thought about is making a visa payment method while our experience in security and language is still simple so we change it by making the user may by cash upon delivery, the other risk is that some unmannered customers may create fake emails and names to order products to fake address where no one is there so we manage this issue by sending a verification code to the customers phone number to check that this number is for him and so the delivery man contacts him by his number, Another risk must be concerned is the storage because when the storage of the application increases then the performance decreases and this is not preferable so we managed this problem by balancing the storage in the database and taking care of performance in the inspector of flutter in the android studio. Last risk is business risk. This type of risk contains the risk of building a perfect product that no one needs, losing budgetary or personal commitments.

## 4.4 Design of database ERD

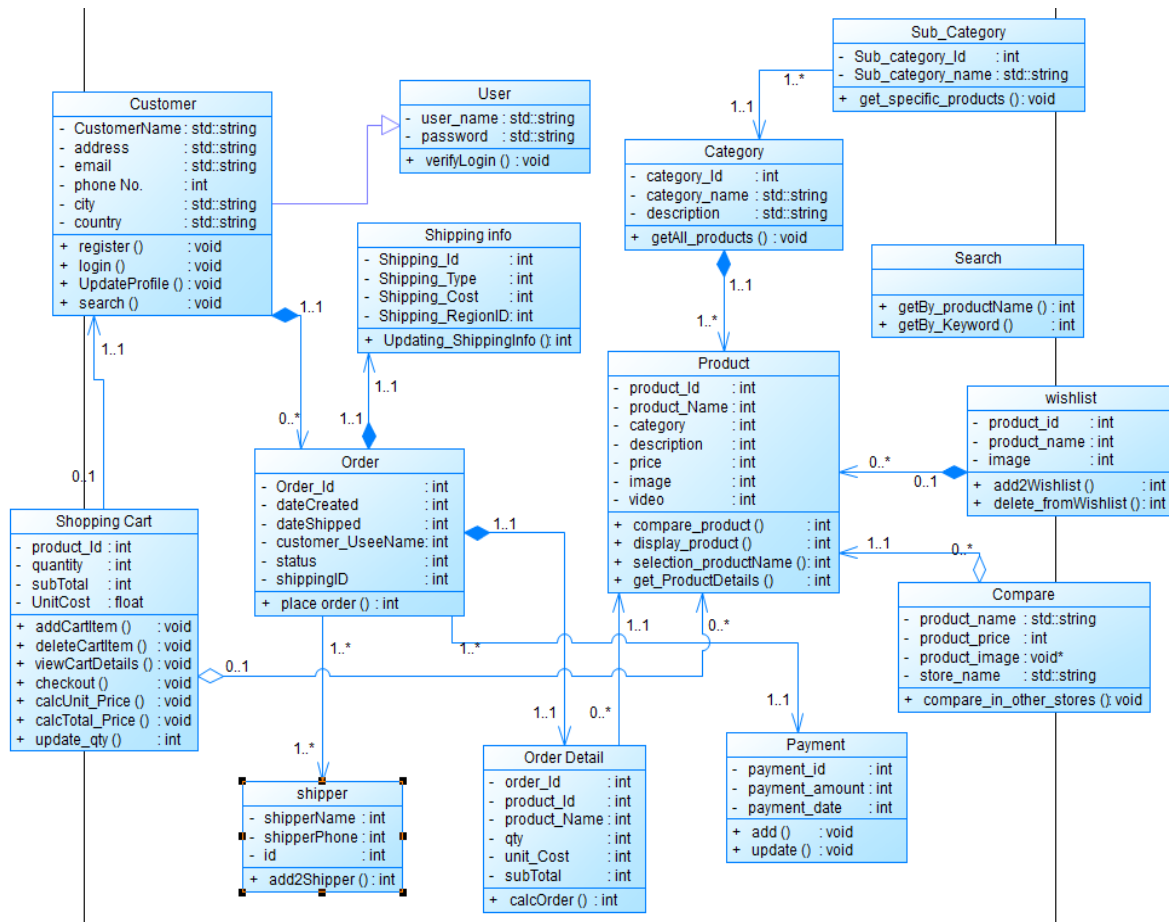
### 4.4.1 Entity Relationship Diagram



#### 4.4.2 Mapping of ERD



## 4.5 Class diagram

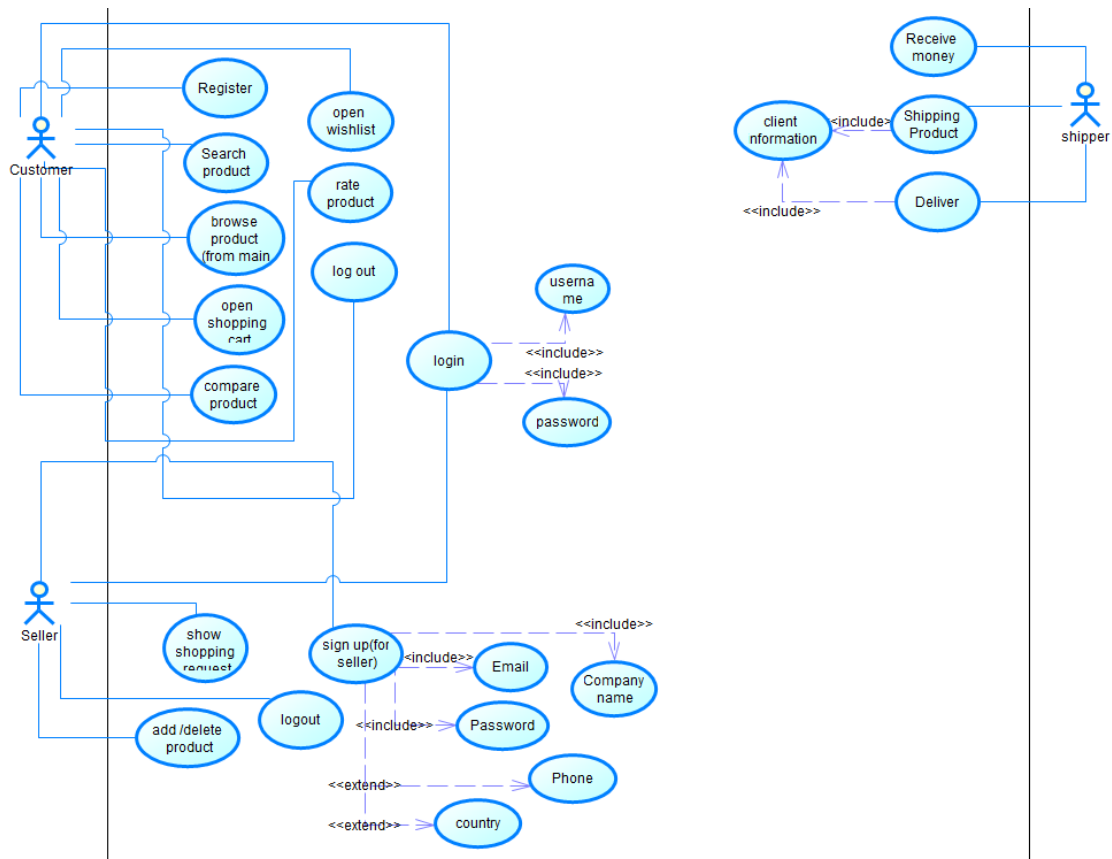


## 4.6.1 Use case scenario

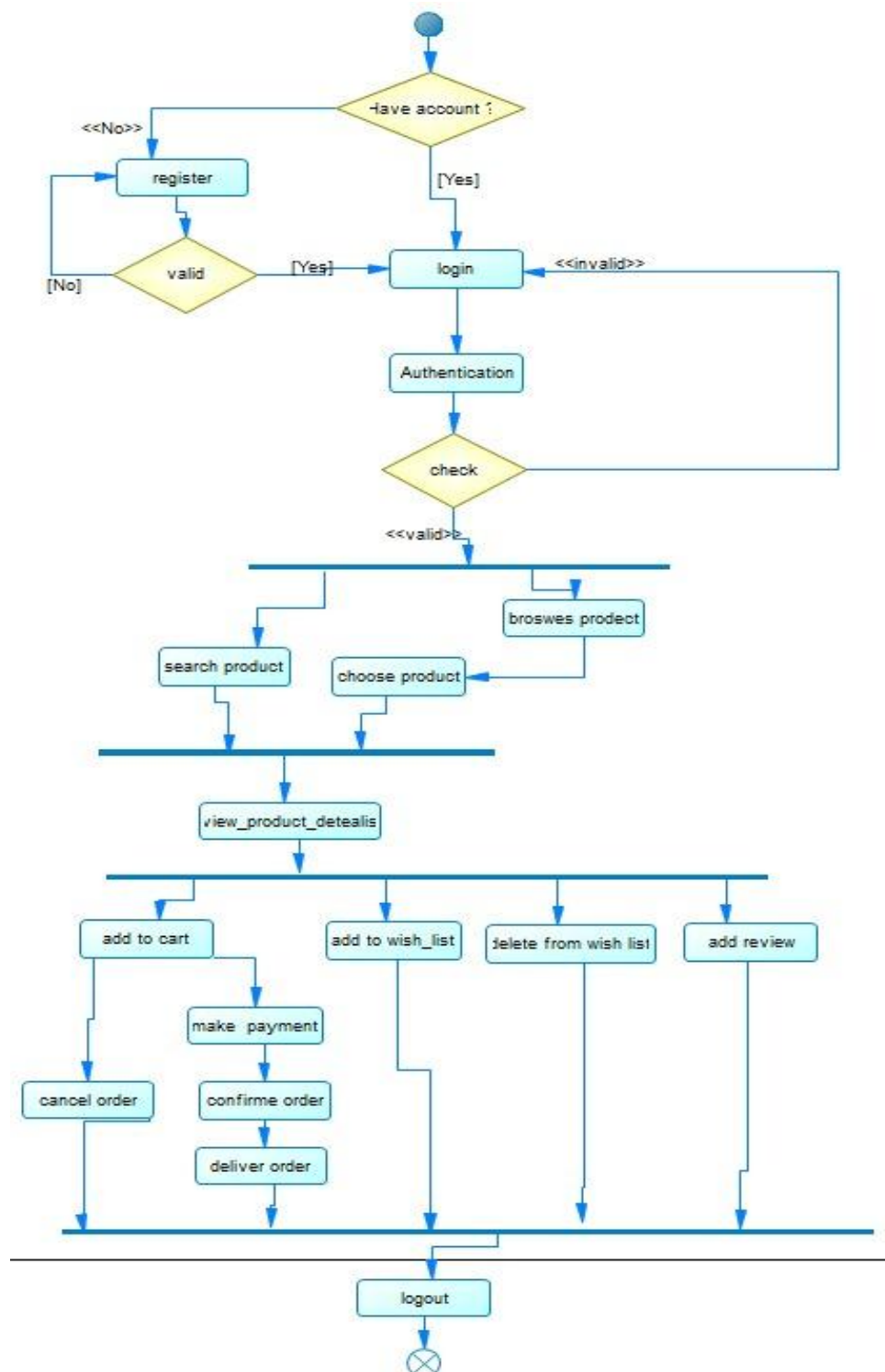
### Pick It

<b>ID:</b>	01
<b>Title:</b>	Buy the preferable product without any difficulty.
<b>Description:</b>	This use case describe how the customer uses the application system to register then log in and search for the product to buy it in ease.
<b>Primary Actor:</b>	Customer & seller
<b>Secondary Actor:</b>	Shipper
<b>Preconditions:</b>	1- System must be online. (availability) 2- Products must be overstocks. 3- User is logged in to the system with authorized access to customer and technician data. 4- Customer's location is in the system.
<b>Postconditions:</b>	1- System is still available. 2- System sends an approval for the customer and notification for the shipper. 3- The product's quantity is decreased by the customer order.
<b>Main Success Scenario:</b>	The process of the customer's order is successful from selecting the product to preparing his order from the company.
<b>Extensions:</b>	1- If the customer entered invalid data in log in, the system must show invalid message to reenter. 2- If the one of the data in registration is invalid, the system must show invalid message and let the customer reenter them in a right way. 3- If the product is out of stock, the system must decline the order and show a message of out of stock. 4- If the system is dropped while purchasing the product, order must be declined.
<b>Frequency of Use:</b>	On every successful order
<b>Status:</b>	Under review
<b>Owner:</b>	Team leader
<b>Priority:</b>	High

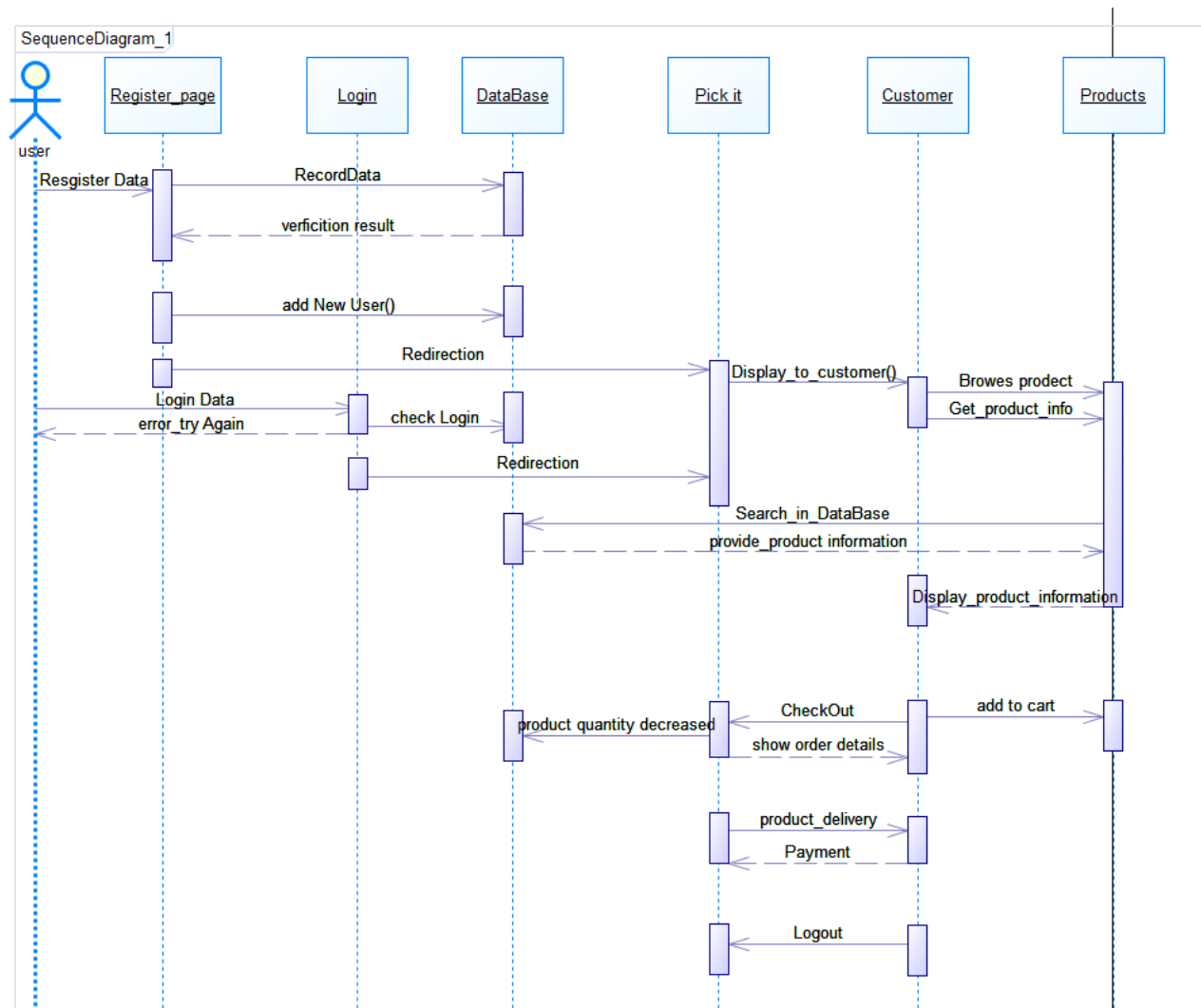
## 4.6.2 Use case diagram



## 4.7 Activity diagram

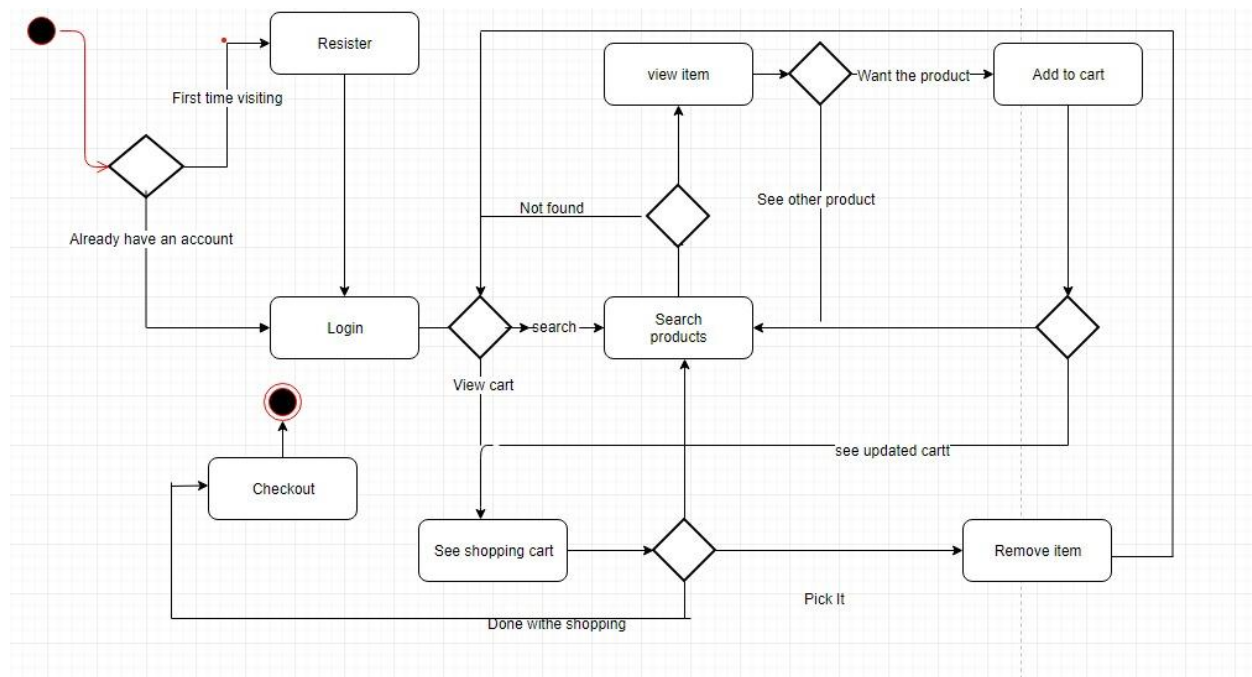


## 4.8 Sequence diagram





## 4.9 State diagram



## Chapter 5: Implementation

### 5.1 Software Architecture

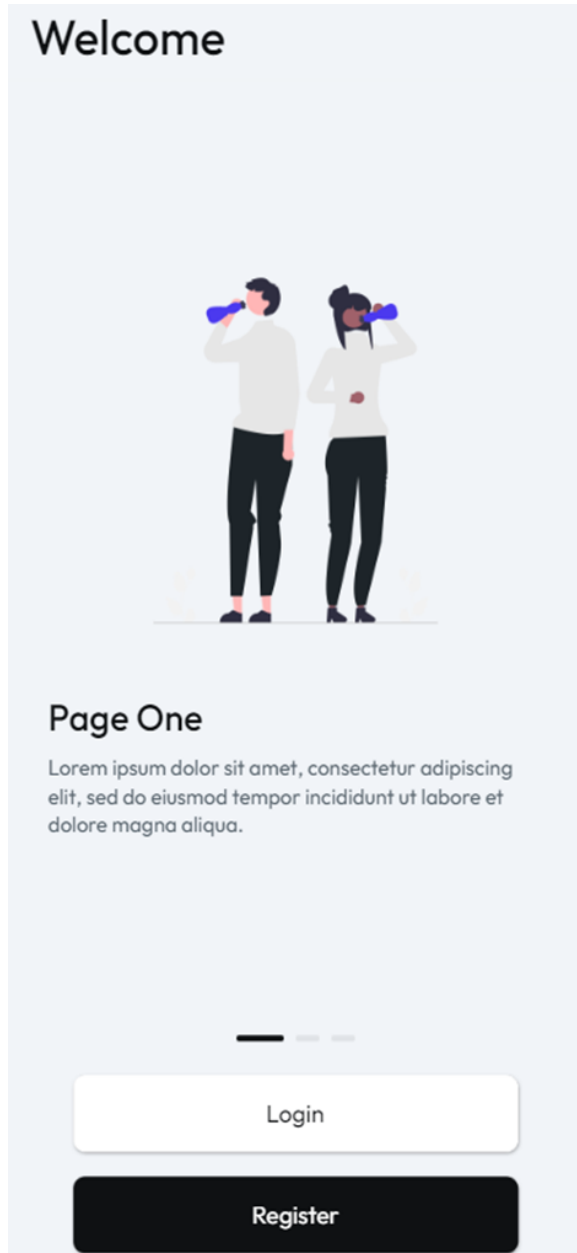
We have decided to use the Monolithic (layered) architecture. The monolithic architecture we have used in our software is a traditional approach to building software applications. It is a single-tiered architecture where all the components of the application are tightly coupled and run on a single server. In this architecture, the entire application is built as a single unit, which means that any changes or updates to one component will require the entire application to be redeployed. This can be time-consuming and can cause downtime for the application.

Despite its limitations, we chose to use monolithic architecture for our e-commerce mobile application because it offers several advantages. Firstly, it is easy to develop and deploy since all components are in one place. Secondly, it is easier to test since all components are integrated into one system. Thirdly, it provides better performance since there is no overhead of communication between different components. Lastly, it is easier to maintain since there is only one codebase to manage and update. Overall, we believe that monolithic architecture was the fittable and best choice for our e-commerce application given its simplicity and ease of use.

## 5.2 User Interface

### Onboarding


Welcome page contain simple picture with 3 slider, and 2 button one for login and another for create new user.




## login & registration page

In login page there is icon of pickit and 2 field one for email and another for password with login button and text button if the customer forget the password, And also there text link If the customer does not have an account

Registration page you can add photo and there 4 field for full name and email and password and phone number also you can choose your city and the last there button for complete the registration





Sign In

Email address


Password

Login

Forgot Password?

Don't have an account? [Create now](#)

Buyer



Enter your full name

Enter your email...

Enter your password...

+20

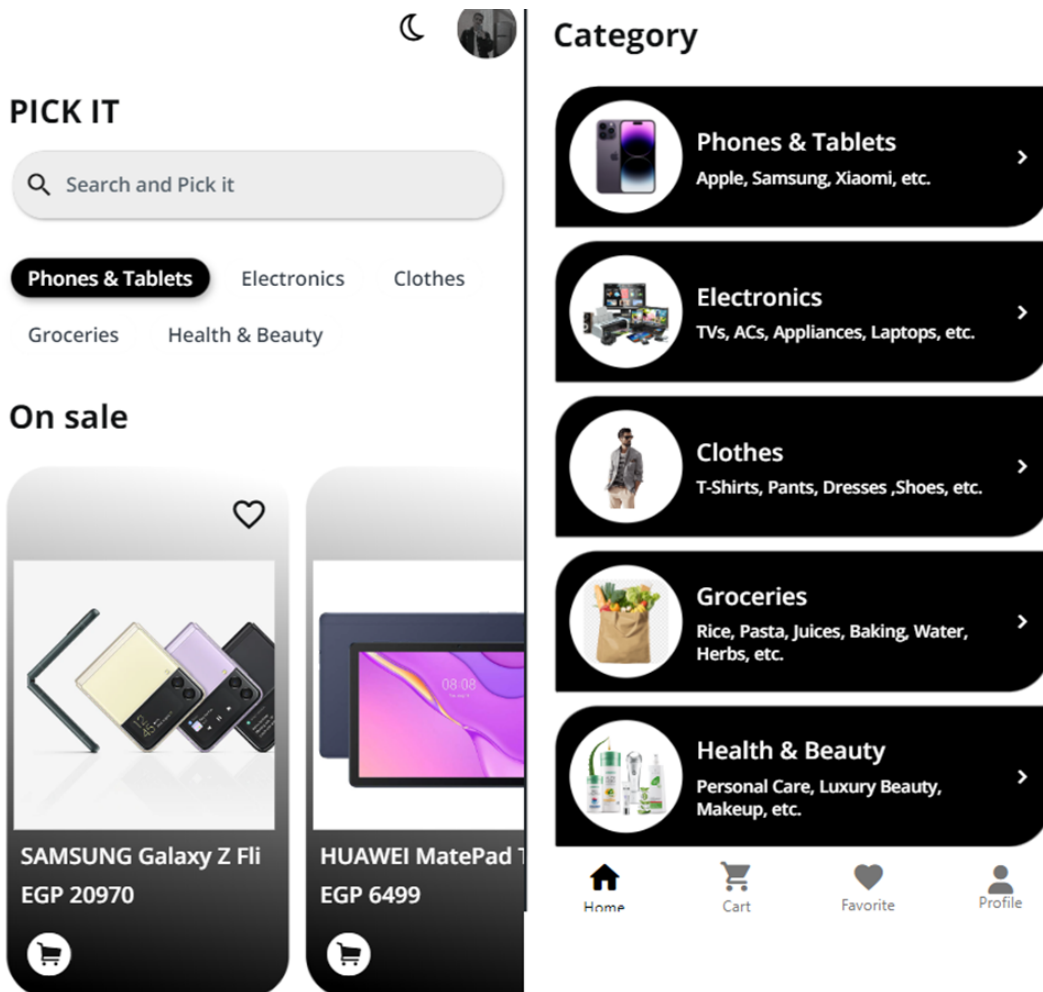
Which city?

Register

## Home page(main page)

In this page there is two section in the top we found the photo of the customer and icon for the dark mode, with search and also there top sales of each categories and you can add like to any product from there.

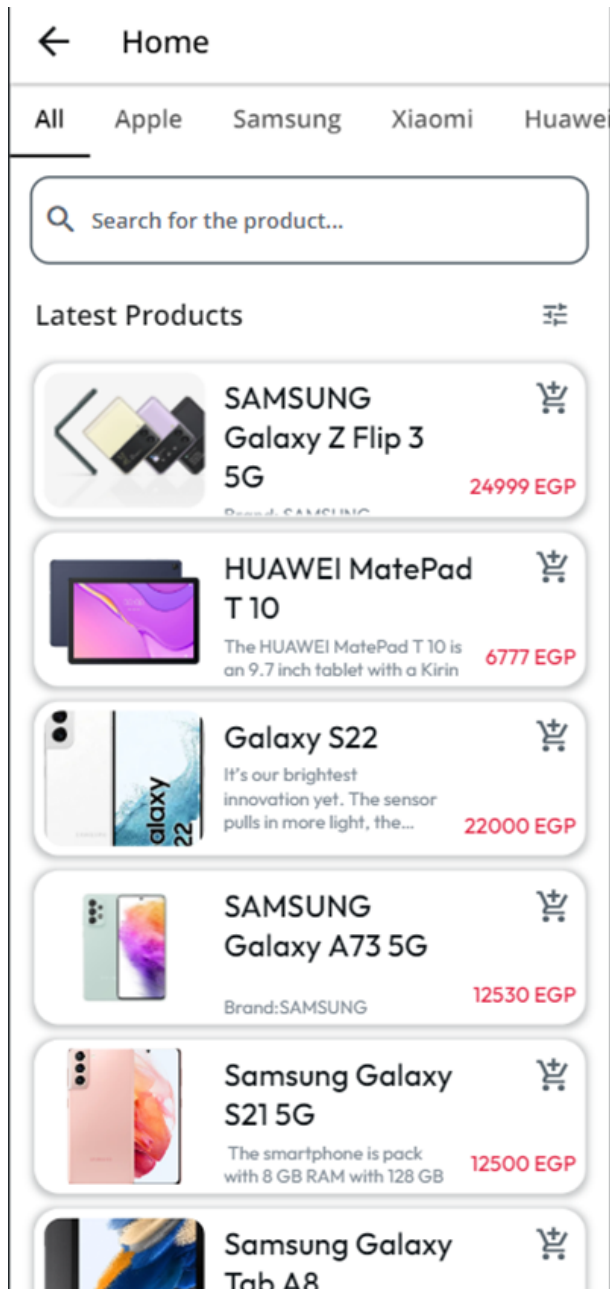
The next section in home page is the categories we have 5 categories you can see it in the next pic.



## Product list


inside each categories there many products and there sub categories


And search field if you want fast access to your products




## Product info


There is a description about product and also photo and video to help the customer the look at the product , like button if they want add product to the Favourite also can add the quantity for each product and then can add the product to the your cart.







### SAMSUNG Galaxy Z Flip 3 5G



Brand: SAMSUNG  
Model Name: Galaxy Z Flip 3 5G  
Wireless Carrier: Unlocked  
Operating System: Android 11.0  
Cellular Technology: 5G  
Memory Storage Capacity: 128 GB  
Connectivity Technology: Bluetooth, Wi-Fi, USB, NFC  
Color Cream  
Screen Size: 6.7 Inches  
Wireless network technology: LTE

Quantitv:    —    1    +

**EGP 20970**

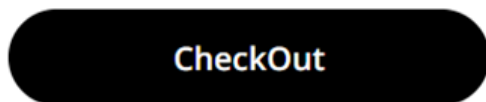
**Add to cart**

## Inside the cart

You will find all the product added to cart and total price with checkout button

To add some shipping information

**In Cart : EGP 20970**



## Select pay method and place order

In this page you select payment and fill shipping information, like street and building and apartment no and we will see the total price with Delivery fees and if press place order button A picture will appear that you have completed the order process.

← Select payment and address

Payment method:

Cash on delivery (COD) ✓

Other methods are coming soon...

Deliver to:

St. Name

nasr

Building No.

2

Apartment No.

21

Giza

▼

Price Breakdown

Base Price

20970 EGP

Delivery fees

25 EGP

Total ⓘ

20995

Place Order

← Select payment and address

Payment method:

✓

Done!

Total ⓘ

20995

⌂

31



## Likes page

You see all favourite products and if click the like button again you will remove it from like page

### Favorite items: 3



**SAMSUNG Galaxy Z Flip 3**  
5G  
EGP 20970



**ess lash princess false**  
lash efect mascara  
EGP 129

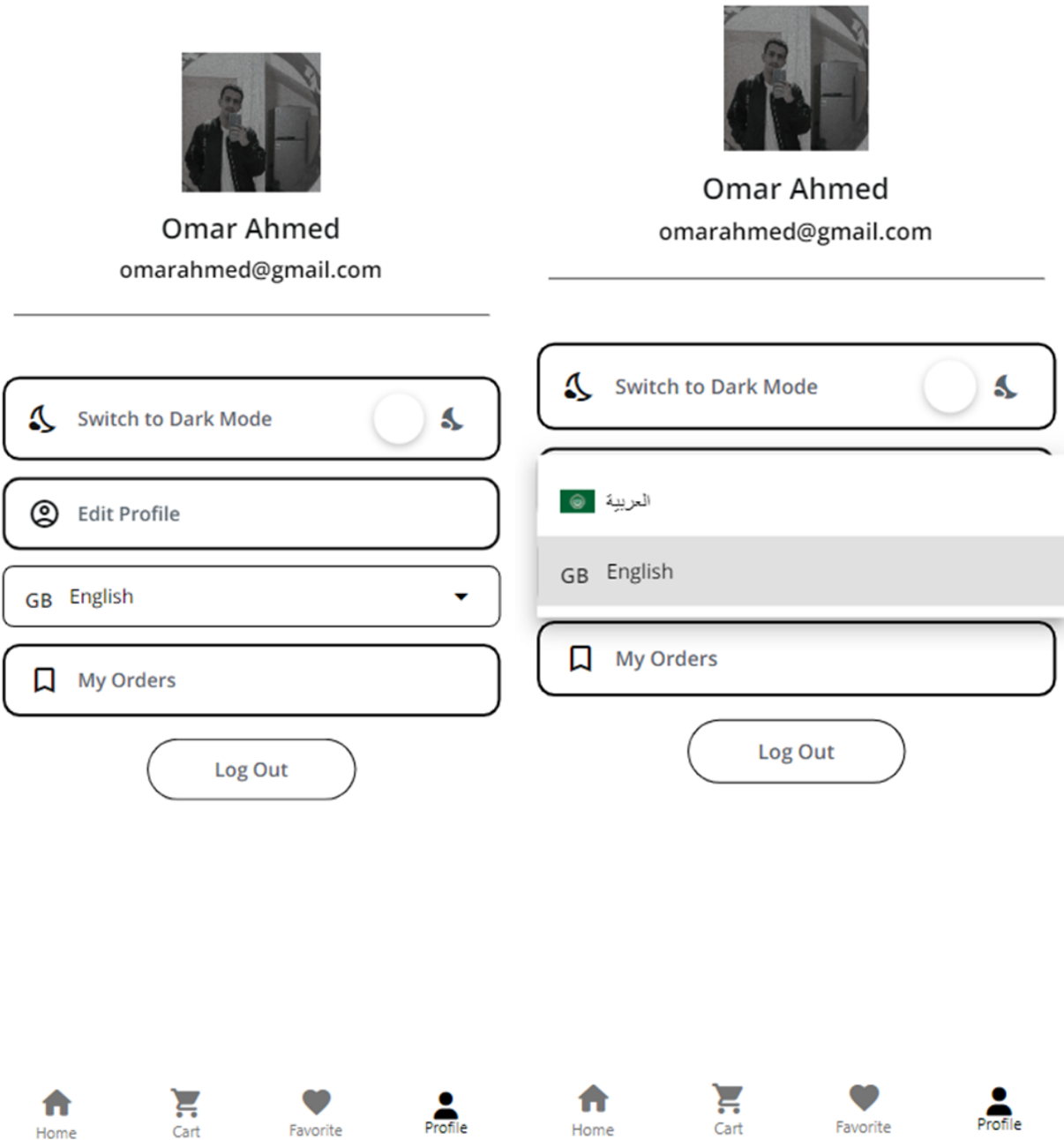


**Fluidub Shoes**  
EGP 800



## Inside profile page

In this page you can change from to the dark mode and can update your personal information and choose the language and see the history of your orders finally logout from your account.



## ← Order History

All orders

Order No.85POCH3ikteLfx3ZAUth  
Jun 20, 2023 **EGP 20,995**

Order No.rrJeeK35kdEpoJj3ABZZ  
Jun 20, 2023 **EGP 5,225**

Order No.c93T2haWhGT2AvvJurmE  
Jun 20, 2023 **EGP 0**

Order No.KjLxg7jfcThW2ovCjPhY  
Jun 20, 2023 **EGP 0**

Order No.S2OfZTFXh2XOtolI5R1u  
Jun 19, 2023 **EGP 0**

## Edit Profile



Full Name

Omar Ahmed

Email

omarahmed@gmail.com

Password

\*\*\*\*\*



Phone No.

+20-105-4321

Giza



Save

## 5.3 Results and Discussion

\*Report: Pick It - E-commerce Application

**Executive Summary:** This report provides a detailed analysis of the Pick It application, an e-commerce platform designed for seamless online shopping experiences. The report focuses on the application's features, functionality, user experience, and its field of application in the e-commerce industry. The report aims to evaluate the strengths, weaknesses, opportunities, and potential areas for improvement of the Pick It application within the e-commerce landscape.

**1. Introduction:** Pick It is an e-commerce application that caters to the needs of online shoppers, offering a diverse range of products and a user-friendly interface. The application aims to provide customers with a convenient and efficient platform for browsing, selecting, and purchasing items across various categories within the e-commerce field.

**2. Field of Application:** The Pick It application operates within the e-commerce industry, which encompasses the buying and selling of products and services online. This field has experienced significant growth and transformation in recent years, with consumers increasingly turning to online platforms for their shopping needs. The Pick It application aligns with the e-commerce field by providing users with a digital marketplace where they can explore, select, and purchase products.

### 3. Key Features and Functionality:

- a. **Product Catalog:** Pick It offers a vast product catalog, spanning multiple categories, allowing users to find and purchase a wide range of items conveniently.
- b. **Search and Filtering Options:** Users can search for specific products and utilize filters to refine their search results based on criteria such as price range, brand, or category.
- c. **User Accounts and Profiles:** The application enables users to create personal accounts, where they can save preferences, track order history, and receive personalized recommendations.
- d. **Secure Payment Processing:** Pick It incorporates secure payment gateways, ensuring safe and reliable transactions for customers.
- e. **Wishlist and Cart:** Users can create wishlists and add items to their cart for future reference or purchase.
- f. **Order Tracking:** Pick It provides order tracking functionality, allowing users to monitor the status of their orders and receive real-time updates on shipping and delivery.

### 4. User Experience:

- a. **Intuitive Interface:** Pick It features a user-friendly interface with clear navigation and well-organized product categories, enhancing the overall user experience.

- b. Responsive Design: The application is optimized for various devices, ensuring a seamless and consistent user experience across smartphones, tablets, and desktops.
- c. Personalization: Pick It leverages user data to offer personalized product recommendations, enhancing user engagement and satisfaction.

### **5. Strengths:**

- a. Extensive Product Selection: Pick It offers a wide range of products, catering to diverse customer preferences and increasing the chances of finding desired items.
- b. User-Friendly Interface: The application's intuitive interface simplifies the browsing and purchasing process, providing a positive user experience.
- c. Secure Payment Processing: By incorporating secure payment gateways, Pick It ensures that users can complete transactions safely and confidently.

### **6. Weaknesses:**

- a. Limited Customer Support: The application currently lacks comprehensive customer support options, such as live chat or a dedicated helpline, which could hinder customer satisfaction.
- b. Performance Issues: Occasionally, the application experiences slow load times, particularly during peak usage periods, potentially impacting user experience.

### **7. Opportunities and Areas for Improvement:**

- a. Enhanced Customer Support: Implementing additional customer support features, such as live chat or a 24/7 helpline, would provide users with immediate assistance and improve overall satisfaction.
- b. Performance Optimization: Addressing the occasional slow load times and optimizing the application's performance during peak usage periods would enhance user experience and prevent potential frustration.
- c. Expansion of Product Range: Continuously expanding the product catalog to include

## CHAPTER 6: Testing

### 6.1 Unit Testing

testing the heart icon functionality

```
20 testHeart_icon('ToggleIcon updates favorite list correctly', () async {
21   // Create a mock product record
22   final productRecord = ProductsRowPostProductRecord(reference: '123');
23
24   // Create a mock app state with an empty favorite list
25   final appState = FFAppState(favorite: []);
26
27   // Create a ToggleIcon widget with the mock product record and app state
28   final toggleIcon = ToggleIcon(
29     onPressed: () async {
30       setState(() {
31         if (appState.favorite.contains(productRecord.reference)) {
32           appState.removeFromFavorite(productRecord.reference);
33         } else {
34           appState.addToFavorite(productRecord.reference);
35         }
36       });
37     },
38     value: appState.favorite.contains(productRecord.reference),
39     onIcon: Icon(
40       Icons.favorite,
41       color: FlutterFlowTheme.of(context).error,
42       size: 27,
43     ),
44     offIcon: Icon(
45       Icons.favorite_border,
46       color: FlutterFlowTheme.of(context).primaryText,
47       size: 27,
48     ),
49   );
50
51   // Simulate pressing the toggle icon button
52   await tester.tap(find.byWidget(toggleIcon));
53
54   // Check that the favorite list has been updated correctly
55   expect(appState.favorite.contains(productRecord.reference), true);
56 });
```

3 unit tests one to verify that the widget is created with the correct profile picture, the other to verify that the widget state is created correctly, and the final to verify that the widget state updates correctly when a new profile picture is provided

```
58
59 //Verify that the widget is created with the correct profile picture.
60 test_CorrectPic('HomePageWidget should display profile picture', () {
61   final profilePic = 'https://example.com/profile.png';
62   final widget = HomePageWidget(profilePic: profilePic);
63
64   expect(widget.profilePic, equals(profilePic));
65 });
66
67
68 //Verify that the widget state is created correctly.
69 test_WidgetState('HomePageWidgetState should be created', (tester) async {
70   await tester.pumpWidget(HomePageWidget());
71
72   expect(find.byType(HomePageWidgetState), findsOneWidget);
73 });
74
75
76 //Verify that the widget state updates correctly when a new profile picture is provided.
77 test_WidgetPic('HomePageWidgetState should update when new profile picture is provided', (tester) async {
78   final initialProfilePic = 'https://example.com/profile.png';
79   final updatedProfilePic = 'https://example.com/new-profile.png';
80
81   await tester.pumpWidget(HomePageWidget(profilePic: initialProfilePic));
82
83   expect(find.byType(CircularAvatar), findsOneWidget);
84   expect(find.byWidgetPredicate((widget) => widget is Image && widget.image!.url == initialProfilePic), findsOneWidget);
85
86   await tester.pumpWidget(HomePageWidget(profilePic: updatedProfilePic));
87
88   expect(find.byType(CircularAvatar), findsOneWidget);
89   expect(find.byWidgetPredicate((widget) => widget is Image && widget.image!.url == updatedProfilePic), findsOneWidget);
90 });
91
```

testing the language selector container and functionality

```
92
93 test_lang('Language selector widget should render correctly', (WidgetTester tester) async {
94   await tester.pumpWidget(
95     MaterialApp(
96       home: MyWidget(),
97     ),
98   );
99
100 // Verify that the language selector widget is rendered with the correct properties
101 final languageSelectorFinder = find.byType(FlutterFlowLanguageSelector);
102 expect(languageSelectorFinder, findsOneWidget);
103
104 final languageSelector = tester.widget(languageSelectorFinder) as FlutterFlowLanguageSelector;
105 expect(languageSelector.width, double.infinity);
106 expect(languageSelector.backgroundColor, Colors.white);
107 expect(languageSelector.borderColor, Colors.black);
108 expect(languageSelector.dropdownIconColor, Colors.black);
109 expect(languageSelector.textStyle.color, Colors.black);
110 expect(languageSelector.textStyle.fontWeight, FontWeight.normal);
111 expect(languageSelector.textStyle.fontSize, 14);
112 });
113
```

2 unit testing in this picture one for the sum function that is used for the cart and the other is for the cancelation button next to the search bar.

```

114 |
115 | //verify funtion sum
116 | test_fun('sum function should return correct value', () {
117 |   expect(sum(10.0, 2), equals(20.0));
118 |   expect(sum(5.0, 3), equals(15.0));
119 | });
120 |
121 |
122 | //verify cancel btn
123 | group('CancelButton', () {
124 |   test_cancelBtn('should clear search field and deactivate search mode when pressed', (WidgetTester tester) async {
125 |     // Arrange
126 |     final searchFieldController = TextEditingController();
127 |     final widget = CancelButton(searchFieldController: searchFieldController);
128 |
129 |     // Act
130 |     await tester.pumpWidget(MaterialApp(home: Scaffold(body: widget)));
131 |     await tester.tap(find.byType(IconButton));
132 |     await tester.pump();
133 |
134 |     // Assert
135 |     expect(searchFieldController.text, '');
136 |     expect(FFAppState().searchActive, false);
137 |   });
138 | });

```

## 6.2 Integration Testing

Registering a new user account:

	Test Case	Parameters	Expected Output	Actual Output	Pass
<b><u>1</u></b>	<b>Registering</b>				
<b><u>1.1</u></b>	<b>Registration-missing data</b>	<b>No-fullName, Email, password, Phone, city</b>	<b>Registration failure&amp;error message</b>	<b>Registration failure&amp;error message</b>	<b>Yes</b>



<b><u>1.2</u></b>	<b>Registration-invalid data</b>	<b>Invalid-full name,Email, password, Phone, city</b>	<b>Registration failure&amp;error message</b>	<b>Registration failed</b>	<b>Yes</b>
<b><u>1.3</u></b>	<b>Registration with valid&amp;complete data</b>	<b>Valid&amp;complete registration data</b>	<b>Registration success</b>	<b>Registration success</b>	<b>Yes</b>

**User login:**

	<b>Test Case</b>	<b>Parameters</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>pass</b>
<b>2</b>	<b>User login</b>				
<b>2.1</b>	<b>Users enter the correct login</b>	<b>Email="om arahmed@gmail.com"  password="123456789"</b>	<b>Home Page Display</b>	<b>Home Page Display</b>	<b>yes</b>
<b>2.2</b>	<b>User does not enter a Data</b>	<b>Email = "" Password = ""</b>	<b>Message "Error given string empty or Null"</b>	<b>Message "Error given string empty or Null"</b>	<b>Yes</b>

2.3	User Enter incorrect Email.  And incorrect password	Email="om assrahmed @gmail.co m"  password= "123945678 9"	Message" Error there is no user record correspondin g to this identifier, the user may have been deleted	Message "Error there is no user record corresponding to this identifier, the user may have been deleted	yes
2.4	Correct email & empty password	Email="om arahmed@ gmail.com"  password= ""	Message "given String Error or null"	Message "given String Error or null"	yes
2.5	Correct email & incorrect password	Email="om arahmed@ gmail.com"  password= "914945"	Message "the Password is invalid"	Message "the Password is invalid"	yes

	Test Case	Parameters	Expected Output	Actual Output	pass
2.6	Incorrect email & correct password	Email="omarsss ahmed@gmail.c om"  password="1234 56789"	Message" Error there is no user record correspondi ng to this identifier"	Message" Error there is no user record correspondi ng to this identifier"	yes

2.7	empty email & correct password	Email="" password="123456789"	Message "Error given string empty or Null"	Message "Error given string empty or Null"	yes
-----	--------------------------------	----------------------------------	--	--	-----

#### Home page:

	Test Case	Parameters	Expected Output	Actual Output	pass
<u>3</u>	homepage				
3.1	Search about product found	Search filed="Samsung Galaxy A13"	view Samsung Galaxy A13	view Samsung Galaxy A13	yes
3.2	Search about product not found	Search filed="Samsung Galaxy A55"	Not view Samsung Galaxy A13	Not view Samsung Galaxy A13	yes
3.3	Press dark mode	Light or dark mode	View dark mode	View dark mode	yes

#### Cart:

	Test Case	Parameters	Expected Output	Actual Output	pass
4	Cart				

4.1	Valid_Press order	St.Name="Hassan", building No="1119", Apartment No="9", city="Giza"	Done order	Done order	yes
4.2	Invalid_Press order	St. Name=" ", buildingNo="", ,Apartment,No="", city=""	Message "please fill all fields to continue "	Message "please fill all fields to continue "	yes

#### Edit Profile page:

	Test Case	Parameters	Expected Output	Actual Output	pass
<u>5</u>	Edit Profile				
<u>5.1</u>	Update profile with data	FullName="omar", Email=Omarahmed@gmail.com Password ="123456789" Phone="01090397496" City="Giza"	Done update	Done update	yes
<u>5.2</u>	Update profile with invalid data	FullName="", Email="" Password ="" Phone=""	Not update because invalid data	Done update	No

		City=""			
--	--	---------	--	--	--

## CONCLUSIONS:

In this project, we are building an e-commerce application in order to help shopping easier and also help save customers time by adding features that make shopping simpler in our daily life. The application supports both Arabic and English languages. It also supports night mode, in order to ensure the safety of the customer's eyesight, and we make sure that the delivery of orders is faster.

## Future work

In the future, we'll look at improving this project based on what we've accomplished so far with:

1. Developing the research process through a brief search.
2. Introducing the advantage of comparing products through multiple sites such as (Jumia - Noon).
3. Creating an artificial intelligence department within the project to predict product prices in case of increase or decrease.
4. Add online payment features such as (Apple Pay - Visa - MasterCard).
5. Add technical support features to improve application performance.

## References

- **Sommerville, I. (2016). Software Engineering, 10ed.**  
[https://mycourses.aalto.fi/pluginfile.php/1177979/mod\\_resource/content/1/Sommerville-Software-Engineering-10ed.pdf](https://mycourses.aalto.fi/pluginfile.php/1177979/mod_resource/content/1/Sommerville-Software-Engineering-10ed.pdf)
- team, pepper. "7 Key Features of the Amazon App and How to Use Them." *Pepper Content*, 12 July 2022, <https://www.peppercontent.io/blog/key-features-of-the-amazon-mobile-app/>. Accessed 11 February 2023.
- Khan, Sara. "Create An App Like Shein: Its Cost, Features, and Tips." *JavaScript in Plain English*, 2 March 2022, <https://javascript.plainenglish.io/create-an-app-like-shein-its-cost-features-and-tips-dfcca8439613>. Accessed 11 February 2023.

- baba, Ali. "Alibaba vs AliExpress: What's the Difference for Buyer & Seller(2022)." *Alibaba Seller*, 10 December 2020, <https://seller.alibaba.com/businessblogs/px53308i-alibabacom-vs-aliexpress-what-are-the-differences>. Accessed 11 February 2023.
- Noon. "feature of noon." *Noon.com*, 17 January 2022, [https://www.noon.com/egypt-en/?utm\\_source=C1000088L&utm\\_medium=cpc&utm\\_campaign=C1000151355N\\_eg\\_en\\_web\\_searchxxexactandphrasexxbrandpurexx08082022\\_noon\\_web\\_c1000088l\\_acquisition\\_sembranded\\_&gclid=CjwKCAiAlp2fBhBPEiwA2Q10D2xMaarF\\_eCAKvxcAH3vku4enEEjNgxDFHiF](https://www.noon.com/egypt-en/?utm_source=C1000088L&utm_medium=cpc&utm_campaign=C1000151355N_eg_en_web_searchxxexactandphrasexxbrandpurexx08082022_noon_web_c1000088l_acquisition_sembranded_&gclid=CjwKCAiAlp2fBhBPEiwA2Q10D2xMaarF_eCAKvxcAH3vku4enEEjNgxDFHiF). Accessed 11 February 2023.
- Lutkevich, Ben. "What is E-Commerce? Definition and Meaning." *TechTarget*, <https://www.techtarget.com/searchcio/definition/e-commerce>. Accessed 11 February 2023.
- <https://www.youtube.com/watch?v=R1T3jH8b9r4&list=PL-7EgTNRNHKYe2PulhORLN13xcfqIP8FK>
- <https://www.udemy.com/course/learn-flutter-dart-to-build-ios-android-apps/>