Kingdom of Saudi Arabia
Ministry of Education
Taibah University
Applied College

Graduate Project Website for Productive Families

WEB PROJECT (1)

FWD291

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Abstract

The Productive Families Project is a project that aims to support families and enable them to achieve sustainable income by producing handmade products or services. Training and support are provided to families to develop their skills and market their products. This project contributes to strengthening the local economy and improving the lives of many families. Creating this website helps them display their products with ease.

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Chapter 1: Introduction

1.1 Introduction

A productive family comprises individuals who craft handmade products in their homes, exhibiting diligence and innovation to yield distinctive, high-quality items. Additionally, their homemade cuisine stands out for its affordability, healthiness, and appeal to diverse demographics. Arabic cuisine, renowned for its varied flavors encompassing grills, appetizers, soups, seafood, and delectable desserts, epitomizes our rich heritage and ancient lineage. Consequently, productive families catering to this demand experience significant popularity among Arab communities.

1.2 Problem Definition

The productive family finds it challenging to market their products, particularly with the proliferation of websites and applications. Consequently, some families resort to traditional avenues, selling their products through commercial centers. Alternatively, others opt to utilize Instagram pages to showcase their products, although these methods often lack modern marketing mechanisms. Instagram merely facilitates direct purchases through phone orders, which may not sufficiently meet the evolving preferences of today's customers. Nowadays, customers tend to favor electronic purchasing platforms due to their convenience in payment, delivery, and enhanced security.

In addition to facing weak marketing mechanisms, productive families are often compelled to pay exorbitant fees for displaying their products in stores, resulting in minimal profits, especially if their products are placed in a single location where foot traffic isn't guaranteed. Consequently, the revenue generated by families remains somewhat limited in comparison to online platforms and electronic purchase.

1.3 Project Objectives

The project aims to create a website for productive families with the following objectives:

- Assisting them in showcasing their products on the platform.
- Streamlining the purchasing process for customers.
- Simplifying product marketing efforts.
- Facilitating coordination and supply logistics with clients and customers.

- Fostering the development of families towards self-sufficiency.
- Supporting beneficiary families' projects through marketing channels

1.4 Project Scope

On our website, we will specify available payment methods, delivery areas, return policies, and any additional services, such as offering special meals or express delivery. Operational hours will also be detailed, with customers given the option to customize their orders. Special promotions or discounts will be provided to enhance the site's appeal, along with a food advisory service. Furthermore, we will feature customer favorites or healthy meal options, and incorporate customer ratings and reviews to instill confidence in the site. Additionally, we will offer seasonal meal services, such as Ramadan or holiday meals, to enhance the site's appeal during specific times of the year.

1.5 Project Timeline

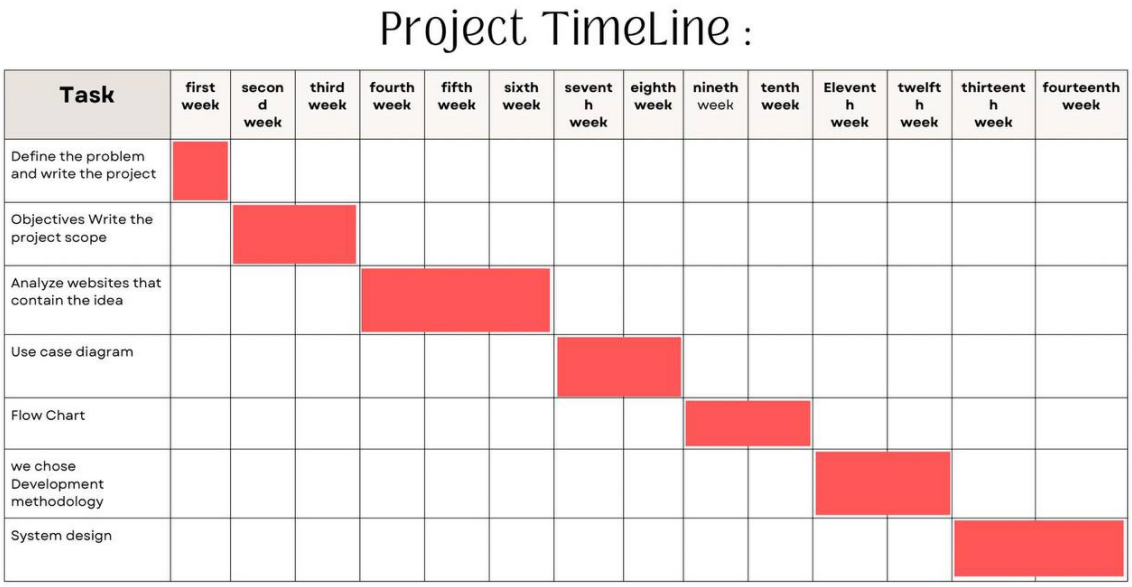

Figure 1. 1: Project Timeline

1.6 Document Organization

The remainder of this document is organized as follows: Chapter 2 will analyze the existing websites of productive families. In chapter 3, we will present the system analysis process, which aids in studying the site and defining its goals using uses case and flowchart diagrams. In Chapter 4, we will proceed to design our system using class and sequence diagrams.

2 Chapter 2: Literature Review

2.1 Introduction

In this chapter, we will examine the accounts of productive families comprehensively, describing their strengths to leverage and weaknesses to mitigate in the development of our system.

2.2 Related work and Similar Systems

2.2.1 Pages on social media

There are numerous pages on social media platforms dedicated to selling food, including Instagram (Figure 2.1), Facebook (Figure 2.2), and Snapchat (Figure 2.3).

Figure 2. 1 :page on Instagram to selling food

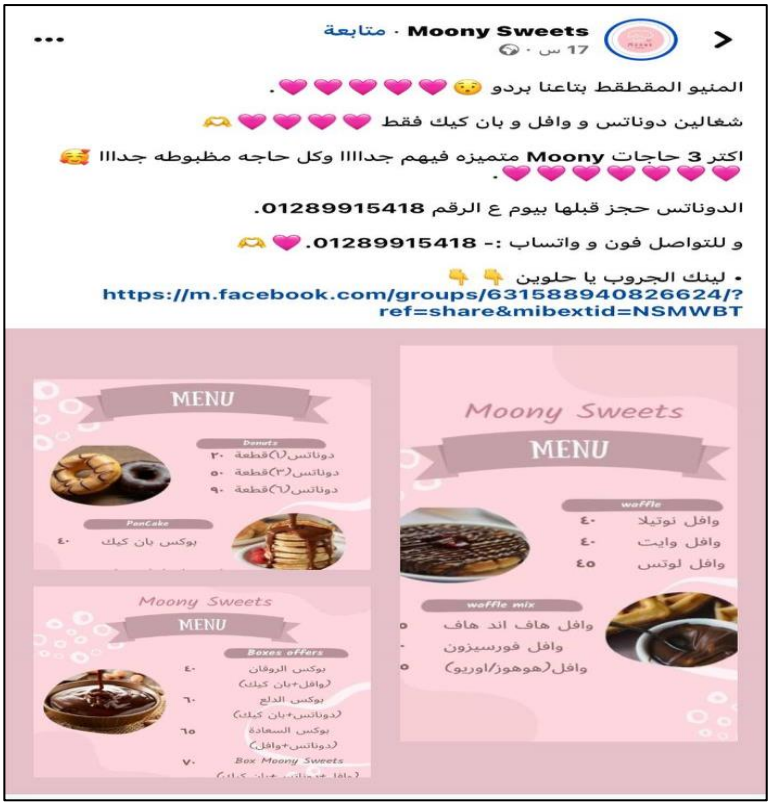

Figure 2. 2: Page on Facebook to selling food

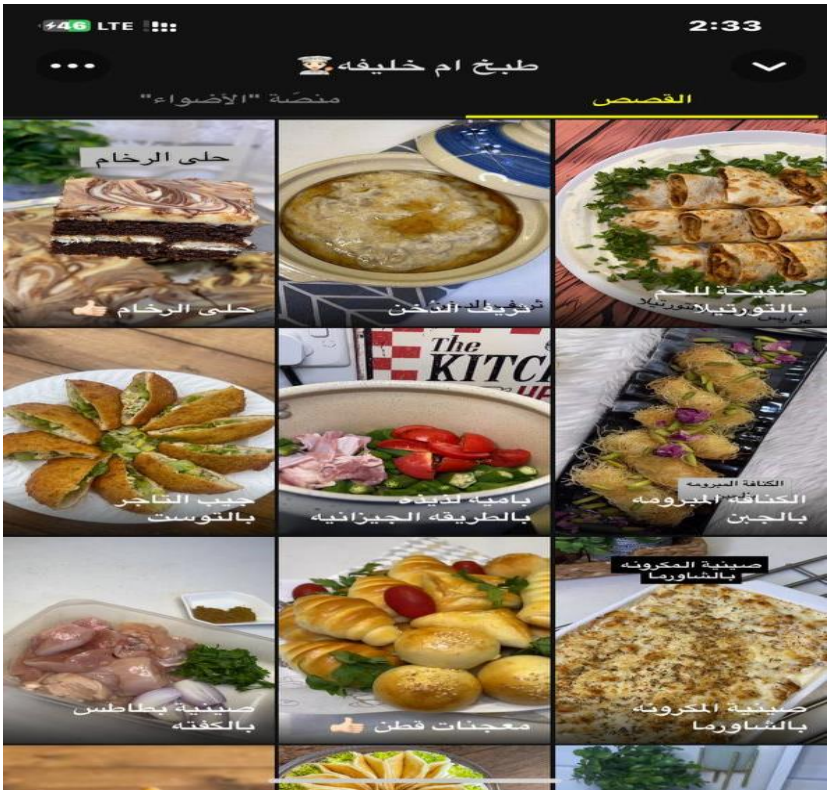

Figure 2. 3: page on snapchat to selling food

- **Advantages**

The primary advantages of selling through social media include:

- Ease of showcasing products.
- Swift dissemination of offers and product availability announcements.
- Simple account setup process.
- Ability to reach a broader audience.
- Direct and rapid interaction with customers.
- Provision of a convenient and direct shopping experience for customers.
- Low operating costs.

- **Disadvantages**

Potential disadvantages of selling via social media include:

- Challenges in maintaining customer privacy and security.
- Need to address negative comments effectively.
- Difficulty in accurately measuring the success of marketing campaigns.

2.2.2 Tajjarbooths

The Dealers Booth [1] is a service aimed at supporting productive families and entrepreneurs. It facilitates and empowers productive families by providing them access to a broader customer base through the display and sale of their products in designated locations (kiosks) within the premises of large facilities, including those of government agencies and major corporations**.**

- **Advantages**

- A secure government initiative.
- No subscription fees; it's free.

- **Disadvantages**

- The prices for booking and installing the kiosk.
- Kiosk reservation options include monthly or annual plans.

2.2.3 Akalni website

Akilini [2] is an application for ordering and delivering food from various restaurants and supermarkets in Egypt. It has been present in the Egyptian market since May 2017, offering its services 24 hours a day, 7 days a week, across more than 11 governorates and from over 1,800 restaurants and supermarkets**.**

- **Advantages**

One of the important benefits of selling through this website is :

- Delivery is available 24 hours a day.
- They operate in 11 governorates.
- They work 7 days a week.

- **Disadvantages:**

- The user interface of the site lacks clarity regarding the items being sold.
- Slow loading times.
- Difficulty in navigation and use.
- The website lacks an electronic payment feature.
- Items on the website's meals are randomly classified.

2.3 Synthesis and discussion

Based on Table 2.1, we can conclude that some characteristics were taken into account, such as the availability of the Arabic language on all sites and classification according to categories in a site such as Reef, Traders Kiosk, Akelni, and other characteristics were not taken into account such as quick search and description of food on the site.

Table 2. 1: Comparative table of websites

There is no distinction between main meals and appetizers.	Reef	al media	Tojjarbooths	Akalni
Features				
Classified by categories			✓	✓
Delivery provided		✓		✓
Arabic language		✓	✓	
Simple to use		✓		
Multiple Payment services			✓	
Variety of products		✓		
Communication with customer			✓	
Evaluation of food				✓
Description of food			✓	
Quick search of food				✓

2.4 Summary

In this chapter, we introduced several websites designed to facilitate the work of productive families. We categorized and analyzed each site's features to leverage their advantages and mitigate their disadvantages in the development of our system.

Chapter 3: Project Requirements and System Analysis

3.1 Introduction

In this chapter, the proposed system is analyzed by a comprehensive discussion of feasibility study and functional and non-functional requirements. Further, it discusses the high-level architecture and the development methodology to be followed to achieve the project.

3.2 Requirements

This section summarizes the functional and non-functional requirements of the projects' deliverables. Depending on the nature of the requirements, they will be categorised in to two categories, functional and non-functional.

3.2.1 Functional Requirements

Functional requirements describe the behavior of the system concerning its functions, which will be detailed as follows. In our system, we have two types of users: productive families and clients, each with their respective processes, which will be described as follows:

- **Client:**

✓ Client registration and authentication: Allow users and sellers to register and create accounts.

✓ Reservation or pre-order:

- Allow Client to reserve available items.
- Advance reservation if the required quantity is not available.
- Allow the user to exclude some additional add-ons or add-ons.

✓ paying off:

- Electronic payment with several options.
- Installments.
- Provide users with an overview of the history of outstanding payments.

✓ Communication and support:

- Create multiple means of communication via phone, email, or through the site's chat.
- Enabling administrators to receive, track and manage these requests efficiently.
  - ✓ Delivery:
    - We have set an actual delivery date and are sticking to it.
    - Allowing the customer to track the order until it reaches him.
  - ✓ Display food properly:
    - Main foods in their own packaging.
    - Appetizers in their own box.

- **Productive families:**
  - add products
  - Read reviews
  - classify foods on the site by category.
  - communicate with the customer.

3.2.1 Non-Functional Requirements

Non-functional requirements describe the performance characteristics of the system. We can identify the non-functional requirements of our system through the following points.

1. **Performance:**
   A website must be able to handle a large amount of data efficiently, including multiple site sections.
2. **Scalability:**
   The system must be designed to accommodate future growth and the increasing number of users and data without significant degradation in performance.
3. **Security:**
   The website must implement strong security measures to ensure data confidentiality integrity and availability.
4. **Reliability:**
   The system must be highly reliable and available to users at all times, with minimal downtime for maintenance or upgrades.
5. **Ease of use:**

The website should have a user-friendly interface with easy navigation and clear instructions to reduce user confusion.

6. **Maintainability:**

   The system should be designed with standardized, well-documented code to facilitate future updates, improvements, and bug fixes.

7. **Integration:**

   It must support data exchange and synchronization with other systems to ensure consistency and accuracy of information.

8. **Compliance:**

   It must comply with the Ministry of Commerce's policies and guidelines on the use of information technology and data management in buying and selling.

9. **Performance monitoring and reporting:**

   Reports must be created, and an analysis of site visitor numbers provided to assist in decision making and system improvement.

3.5 System Design

This section highlights the design of the proposed system by illustrating the application flow via flowchart and use case diagram.

3.5.1 Use Case Diagram

The figure below (Figure 3.1) shows the use case diagram for admin. Site administrative access to the website allows for efficient management of user account management , product management, and productive families account.

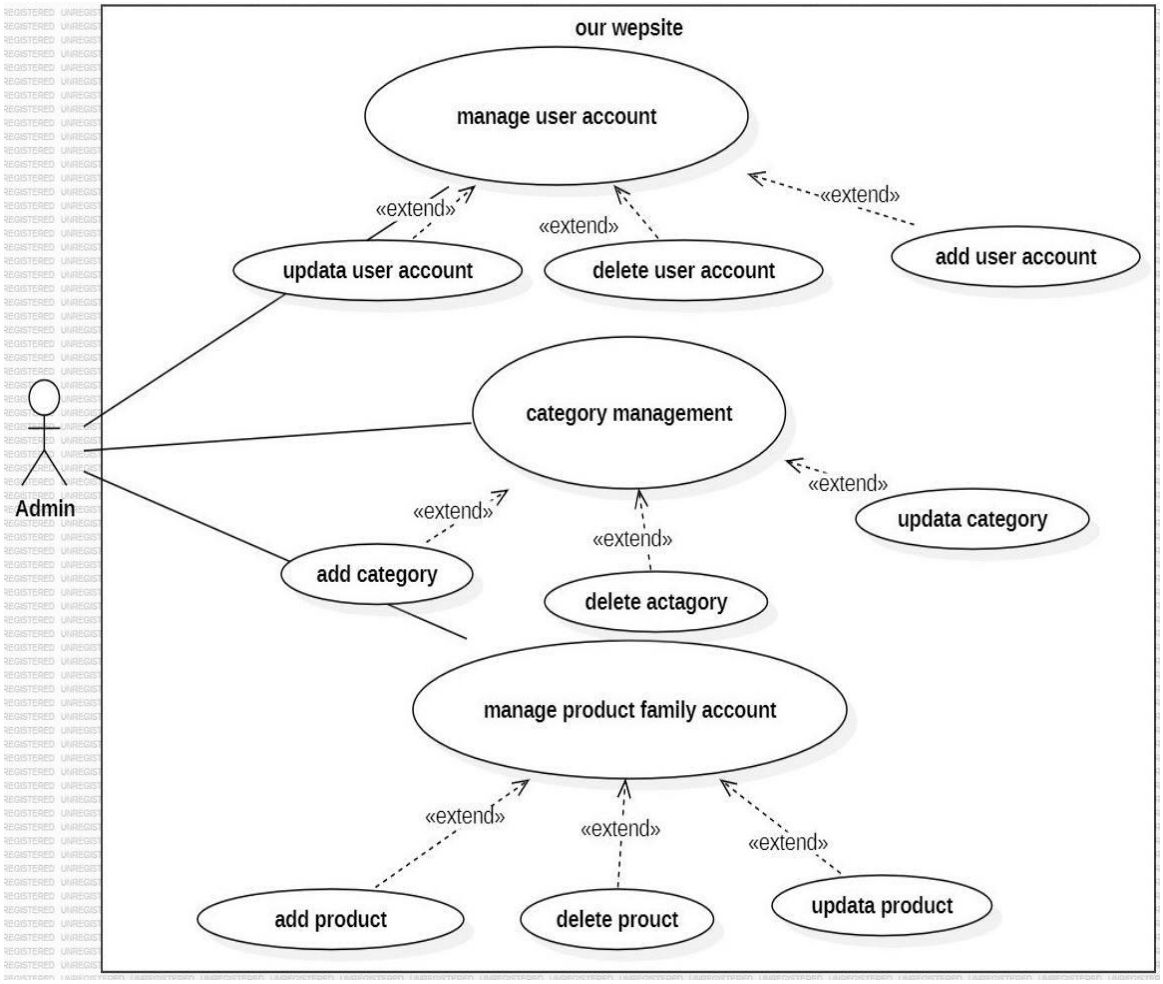

Figure 3. 1: Uses case Diagram for Admin

User actor uses some web site to buy product online. Top level use cases are View products, Buy product and create account. View products use case could be used by customer as top-level use case if customer only wants to find and see some products. This use case could also be used as a part of Buy Products use case. Create account use case allows customer to register on the web site (Figure 3.2)

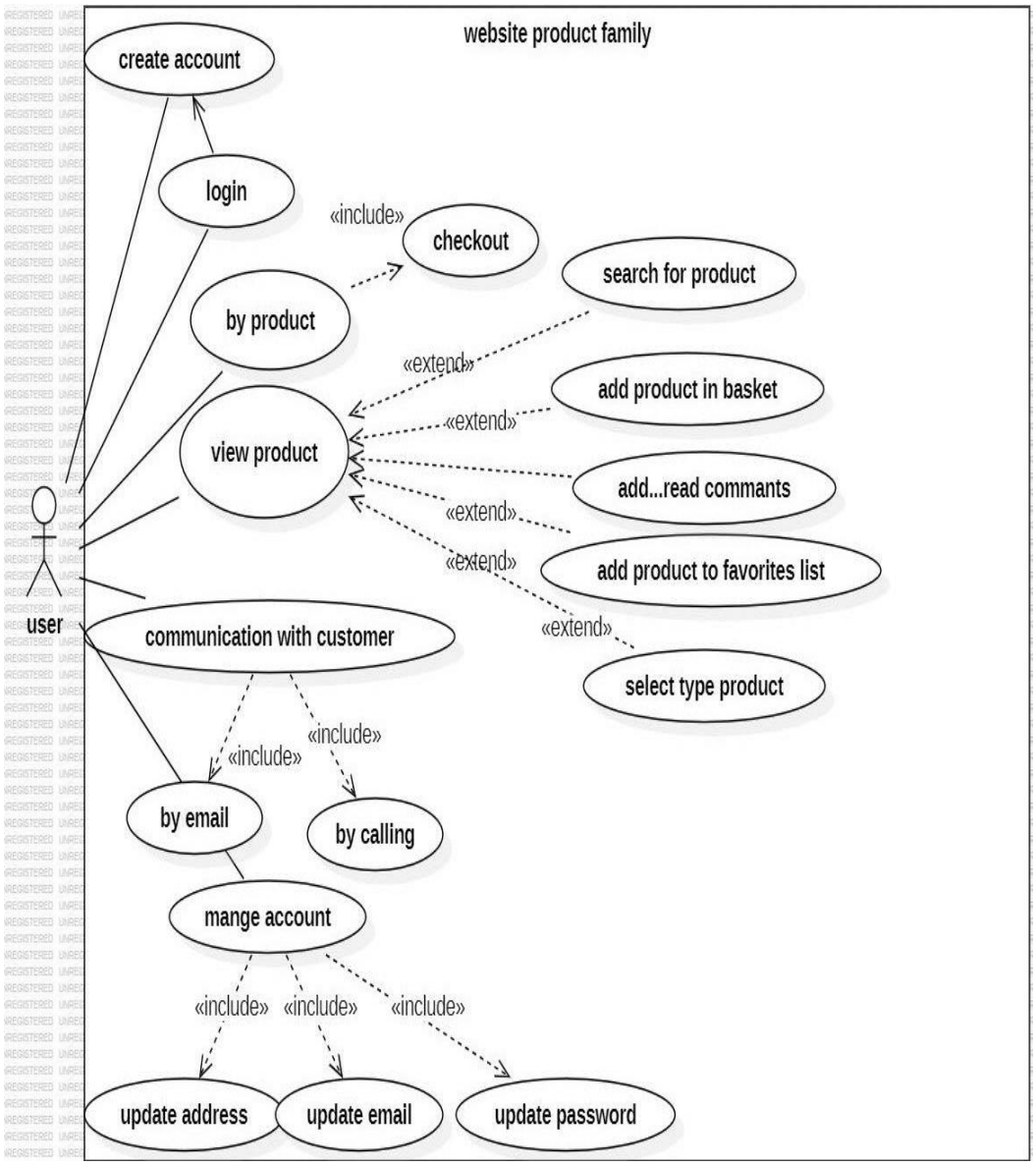

Figure 3. 2: Use case diagram for user.

Figure 3.3 shows the use cases for Productive Family. Our website allows productive family to create and log in to an account, control and manage products, and communicate with customers.

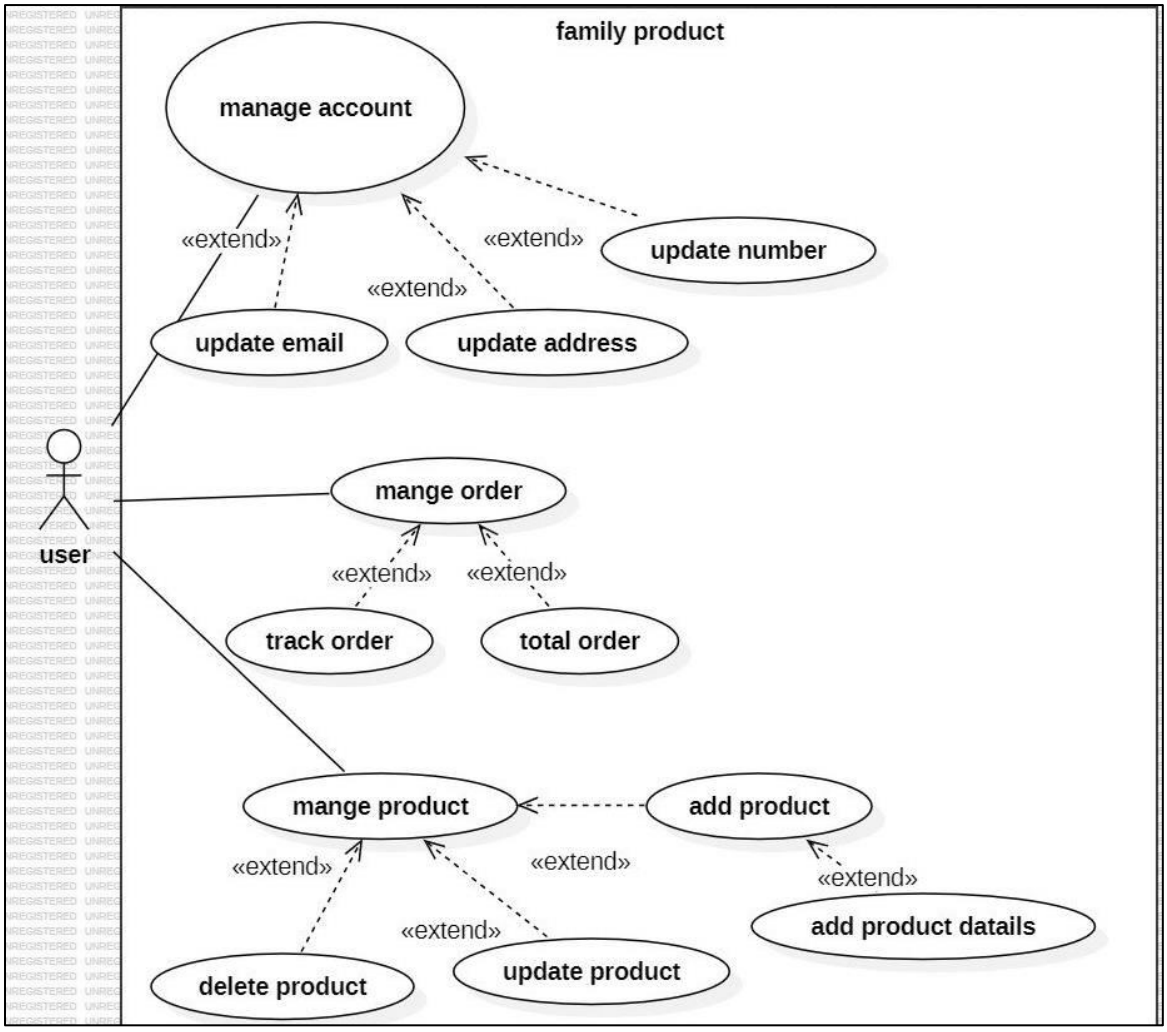

Figure 3. 3:Use case diagram for family products.

3.5.2 Flow Chart

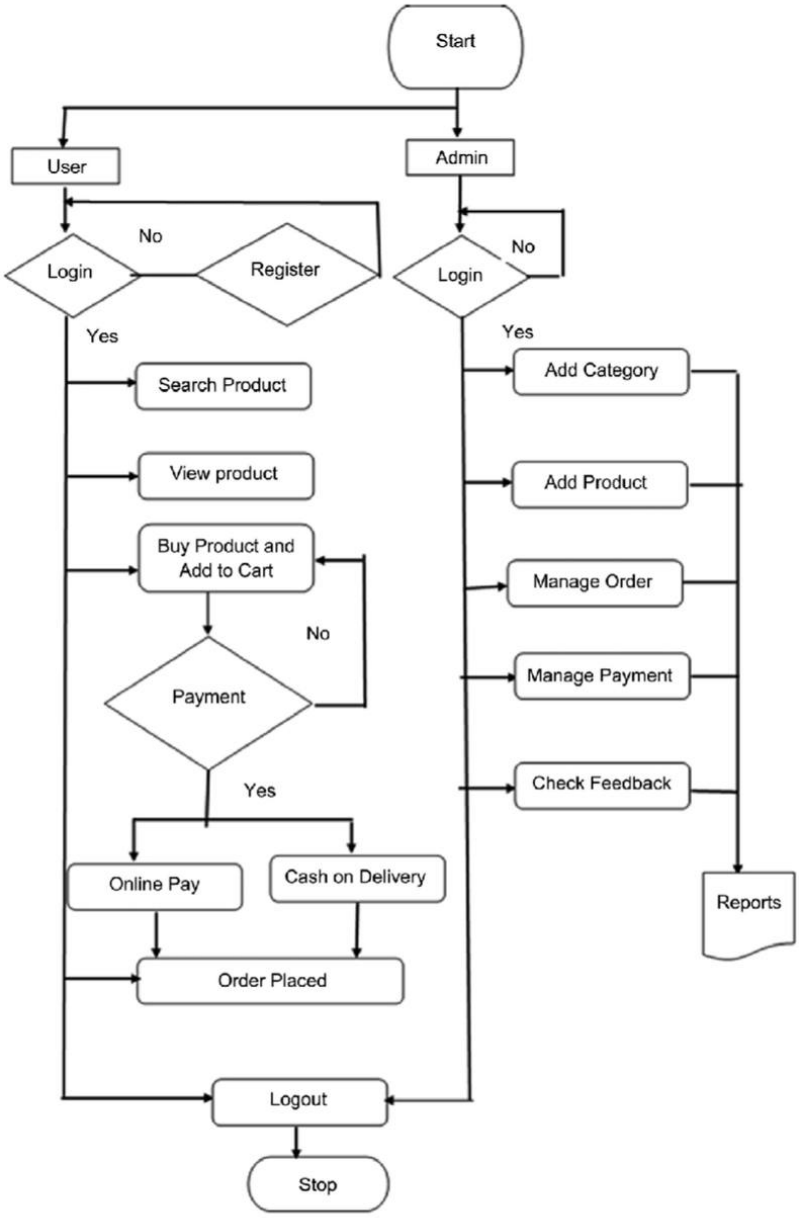

Figure 3. 4 Admin and Customer Flowchart for a Family Product Selling Website

3.6 Development Methodology

A number of different SDLC methodologies are used today to guide professionals through their project-based work. Here are the six of the most common SDLC methodologies.

-Waterfall Model,

- V-Shaped Model,
- Iterative Model,
- Spiral Model,
- Big Bang Model,
- Agile Model.

In our work we adopt the iterative waterfall model as a development methodology because:

- It advanced version of waterfall that supports us to return to a previous phase,

to perform an update and return to continue without any problem,

- This methodology is suitable for smaller projects such as our project,
- This methodology is easy and simple to use specially for the teammembers who have not high experience in developing projects.

The figure (Figure 3.5) below describes the phases of the iterative waterfall

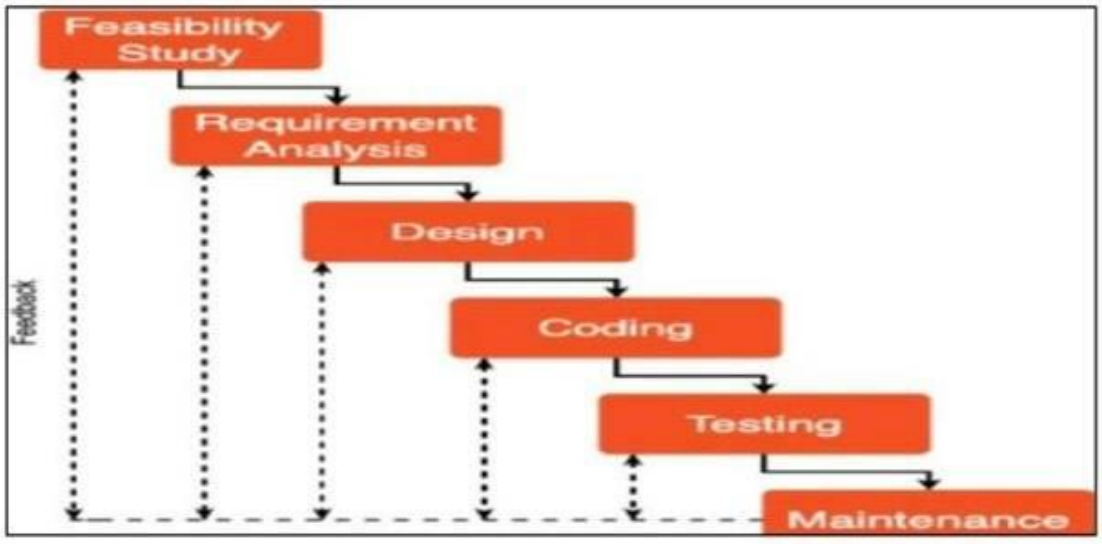

Figure 3. 5: The phases of iterative model

3.7 Summary

In this chapter we studied and determined the analysis of this system by specifying the functional and non-functional requirements.

Chapter 4: System Design

4.1 Introduction

This chapter presents the system design considering the main dimensions of our proposed system. Further, it discusses the various aspects of system design, including architectural, object-oriented, Database design, and user interface design.

4.2 Object Oriented Design

4.2.1 Class Diagram

Class diagrams illustrate the classes, attributes, and relationships among objects within the system. The figure below(Figure 4.1) show our class diagram

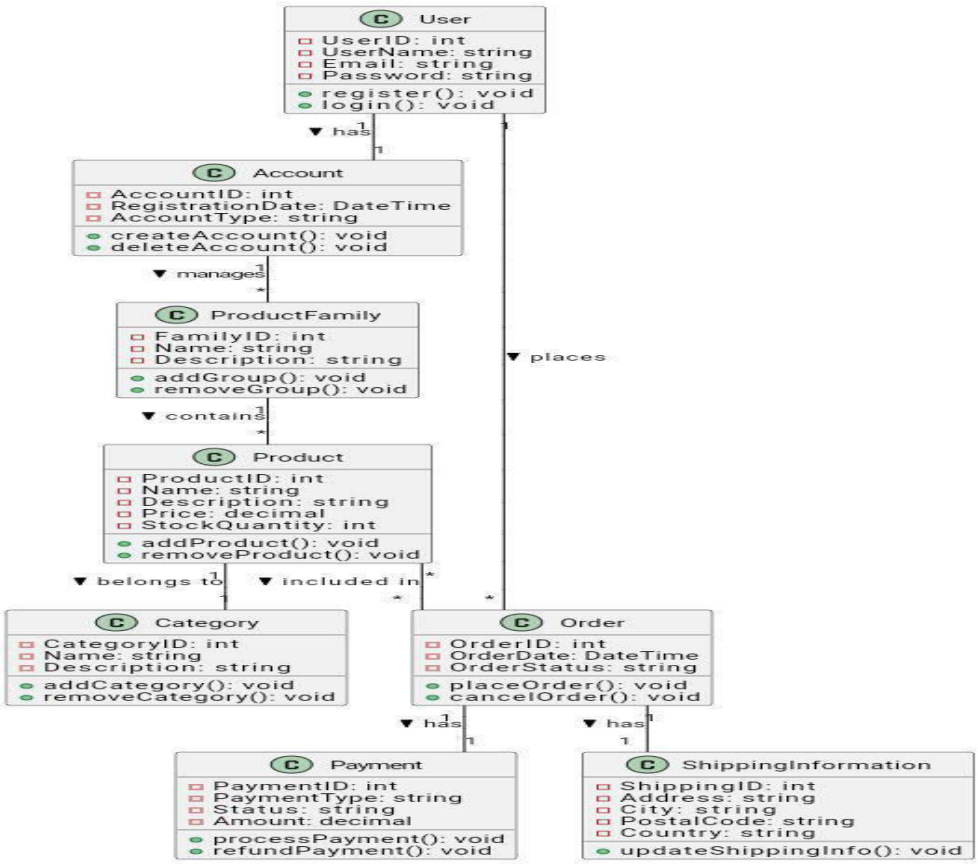

Figure 4. 1 Class Diagram

4.2.2 Sequence Diagram

Sequence diagrams visualize the dynamic interactions between objects over time, depicting the flow of messages and method invocations among objects. In sequence diagrams we can see the processes related with time that mean. Figure 4.2 show the Sequence diagram for buy product uses case.

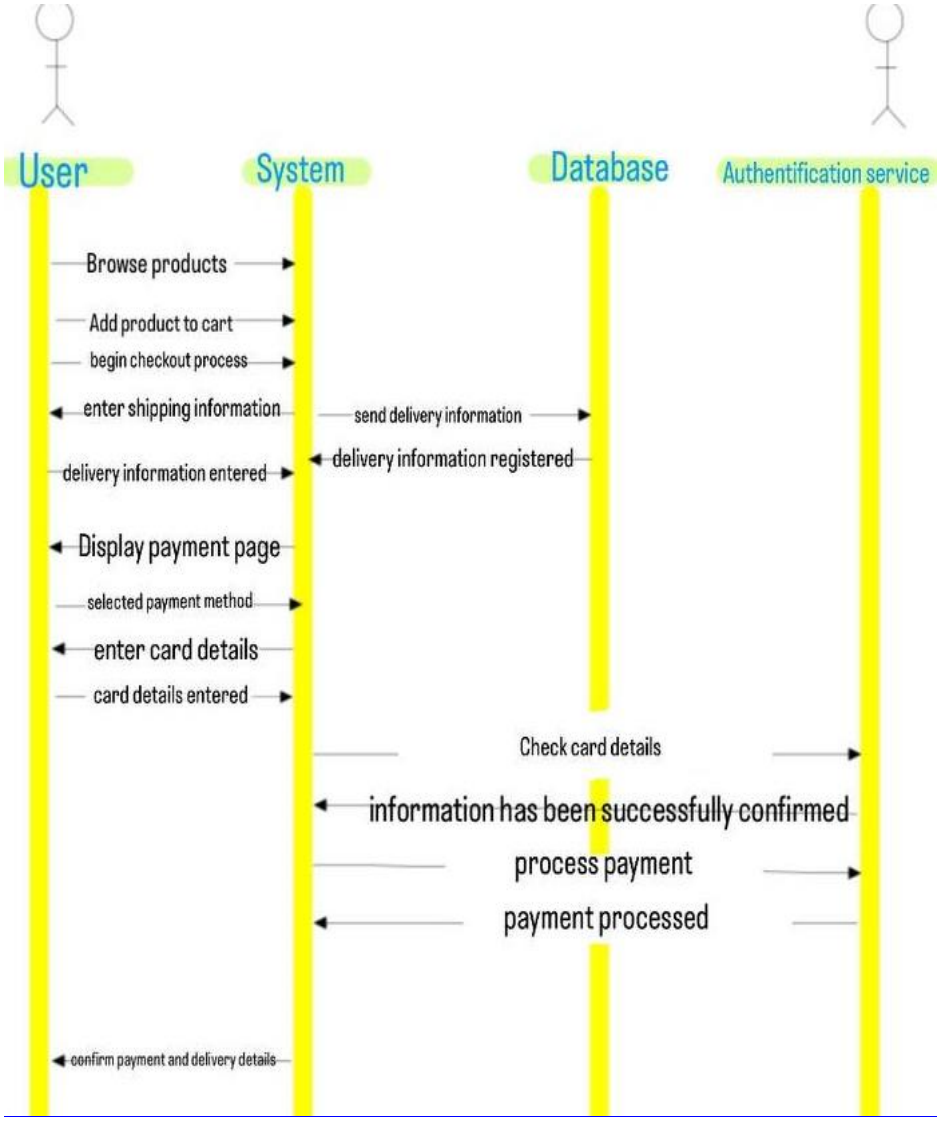

Figure 4. 2 Sequence diagram for buy product uses case.

Figure 4.3 show the for create account uses case

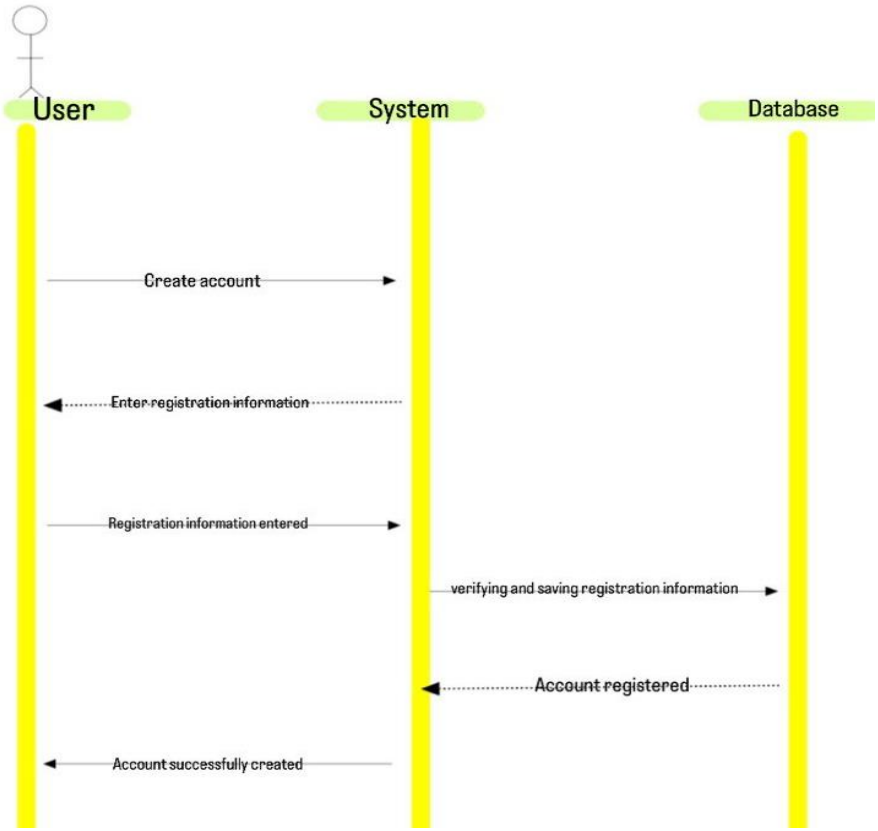

Figure 4. 3 sequence diagram for create account uses case.

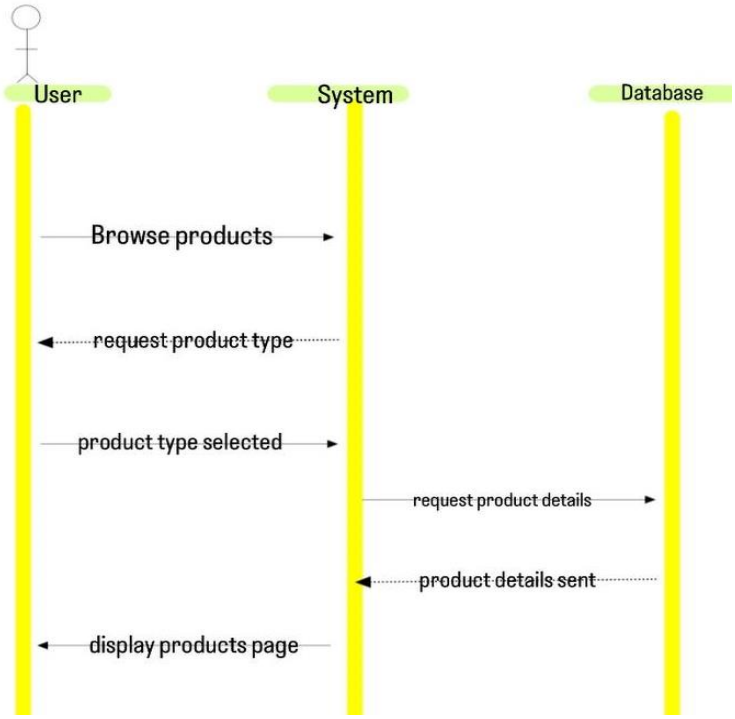

Figure 4. 4 sequence diagram for browse product uses case.

4.2.3 Activity Diagram

Activity diagrams represent the workflow or procedural logic of a system, capturing the sequence of activities and decision points involved in a process. Figure below show the activity diagram for our website.

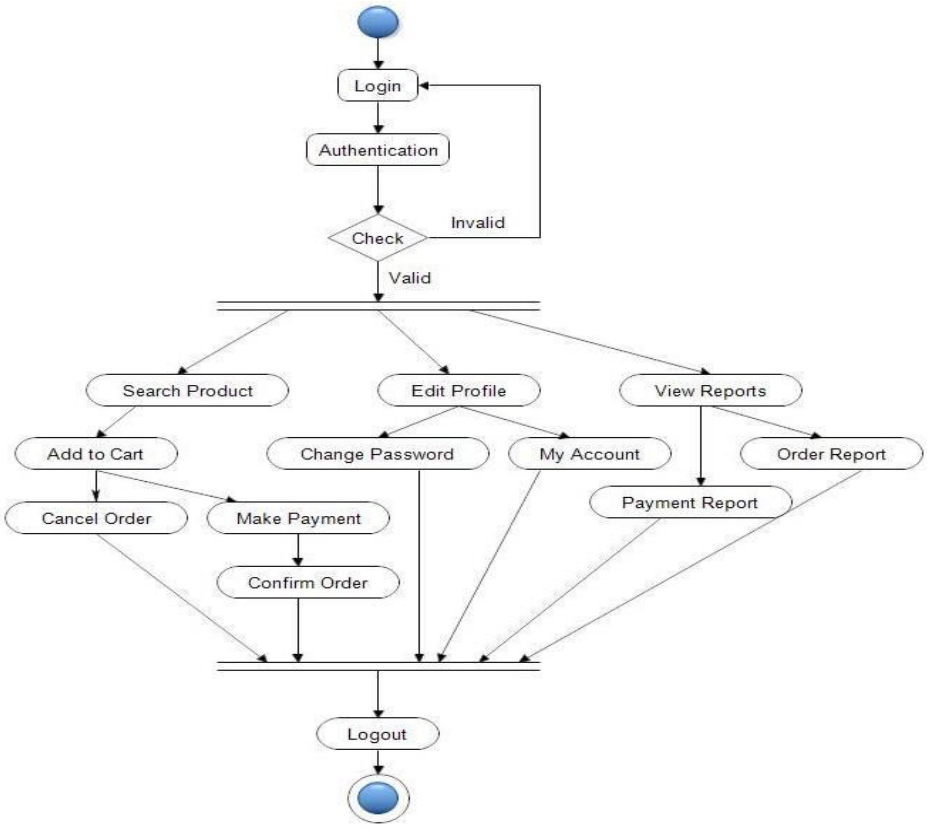

Figure 4. 5 activity diagram for Client side.

References

[1] https://tojjarbooths.910ths.sa

[2] https://www.aklatbyoot.com/ar

[3] Phishing website dataset available at https://www.kaggle.com/

APPENDICES