Threads Mania

Coding Academy By Orange

Project 10 - Master Piece Project

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1.0 INTRODUCTION

1.1 Preamble

With the difficult conditions we are facing during the covid-19 pandemic , the use of online stores/websites increased, therefore the pressure of delivering more professional, interactive and appropriate features to these websites also increased, and having a website for your business is now considered to be an advantage . This website “Threads Mania” was a result of a project presented to Orange Coding Academy as a graduation project. In this chapter, you will be introduced to the motivation that led to adopt this idea as well as to the main objectives that it was designed to achieve. Software and hardware requirements, project scope and limitations, the expected output, project schedule, and report outline are also going to be stated

1.2 Project Motivation

The main reason behind choosing to build a website for a small business was as mentioned before; the conditions we are going through in the covid-19 pandemic and the increased demand on online shopping.
And as for choosing the platform, there were many reasons behind to build a website over an application, some of these reasons are:

1) Websites are considered to be a cost-effective method for reaching the targeted users.

2) It can be accessible instantly from the browser of any phone with any OS whether it’s android or IOS.

3) Also, the mobile apps need to be downloaded by the user whereas websites can be accessed without downloading.

1.3 Problem Statement

We can look at the problem statement of this project from two aspects:

From the admin aspect:

1) Finding an already existing administration system that provides all the specific and customized services requested by the business owner was not successful. Therefore an admin website with all these features will be built as a solution.

From the customers aspect:

1) Shopping nowadays can be difficult. You are limited in specific hours to shop at because of the curfew, this also causes going to far distanced places harder. Designing a website that allows the users to buy products anytime and anywhere is a solution for this problem.

2) Viewing your orders history in the traditional way is hard. Keeping , Looking and searching through printed receipts is both inefficient and time consuming. Enabling the users to search through the website is a solution for this problem.

3) Customers may miss new products and best selling products that they might be interested in in the traditional shopping,

4) Customers may miss products that they are interested in and they might like, in this case a recommended products section will be a solution for this problem.

1.4 Project Aim and Objectives

The overall objective that this project aims to achieve circles around improving both the business owners and customers experience by providing a complete platform that contains a site for customers to buy from , and an administration site for the business owners to manage their business.

1.5 Project Software and Hardware Requirements

In order to complete the website's development process, the following requirements had to be available

| Table 1.1: Project Software and Hardware Requirements |

Software Requirements	Hardware Requirements
Visual Studio Code	Laptop – Intel Core i7-8550U Processor
phpMyAdmin	Internet
Postman	
GitHub	
Trello	

1.6 Project Limitations

At first, the reader of this document should be informed that the time frame for students to work on the graduation project is the internship's 7 months at the academy, noting that the students are constantly learning and discovering new technologies that they might replace the work they already started and redo everything they have done from scratch using the new technology that they have learned. As a result, students cannot fully utilize their imagination and should be rational instead in order to achieve their goals. For this project, the most significant and important functionalities requested by the business owner were taken as a first step, and after that more functionalities may be taken as future work.

1.7 Project Schedule

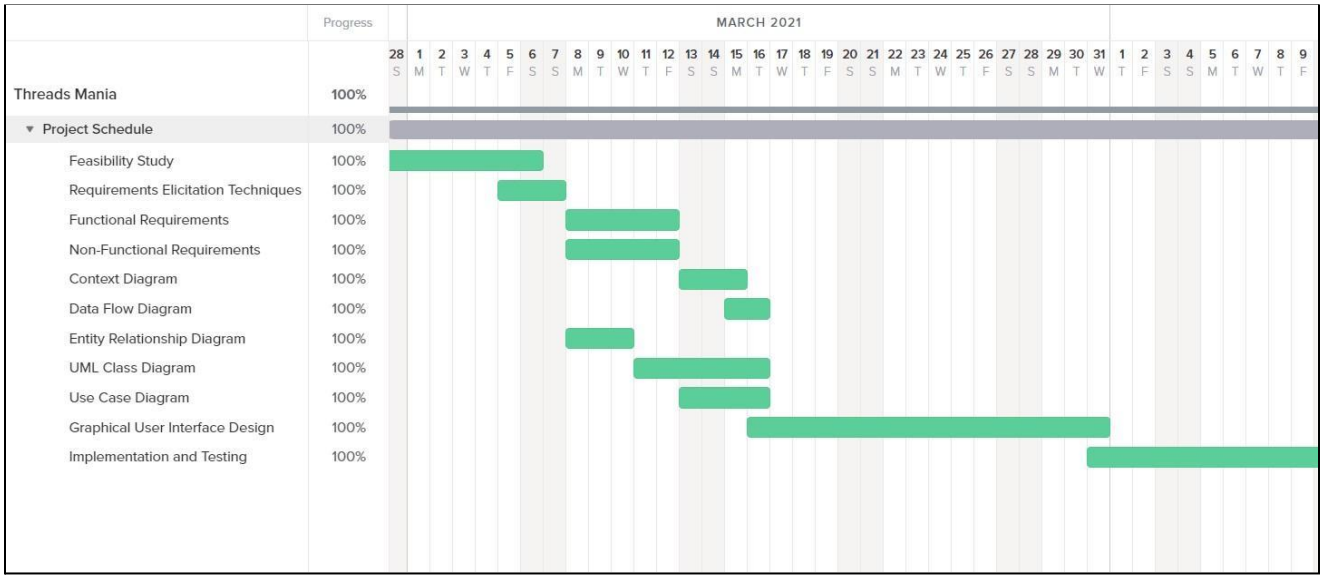
The project schedule below reflects all the work associated with delivering the project on time. It officially started on 28-2-2021 and it is planned to be delivered on 29-4-2021

| Table 1.2: Activity Table |

Task	Description	Duration Time(day)	Predecessor
T1	Feasibility Study	5	-
T2	Requirements Elicitation	3	T1
T3	Functional Requirements	5	T2
T4	Non-functional requirements	5	T2
T5	Context Diagram	3	T3
T6	Data Flow Diagram	3	T5
T7	Entity relationship diagram	3	T2
T8	Use case Diagram	4	T3
T9	UML Class Diagram	4	T7
T10	Graphical user interface design	16	T3
T11	Implementation and Testing	30	T10

1.7.1 Gantt Chart

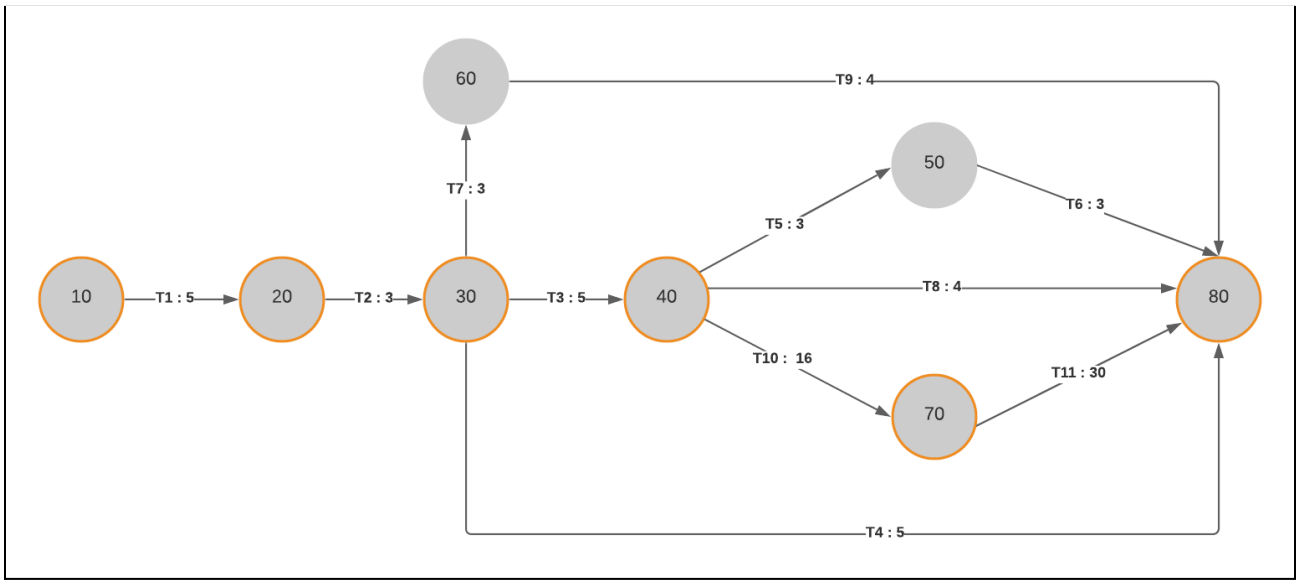
gIn the Gantt Chart below, you can see the graphical illustration of the schedule planning, coordinating, and tracking the project's tasks.



| Figure 1.1: Gantt Chart |

1.7.2 Pert Chart

In the Pert (Program Evaluation Review Technique) Chart below, you can see the tasks in our project scheduled, organized, and coordinated.



| Figure 1.2: Pert Chart |

1.10 Report Outline

In the following chapter, many activities in relation with the Requirements Engineering (RE) process will be clarified to the reader, starting with the feasibility study followed by Elicitation Techniques, Targeted Users, Functional Requirements Definitions and Specifications, UML Use Case Diagram and Non-Functional Requirements.

Chapter 3 simplifies the activities of the System Design phase by comprising several diagrams such as Context Diagram, UML Sequence Diagram, UML Class Diagram, Data Flow Diagram (DFD) and Graphical User Interfaces (GUI).

Chapter 4 consists of the system implementation including Database implementation and Graphical User Interfaces implementation. Testing techniques used to evaluate our application; namely Heuristic Testing, Cooperative Testing and Requirements validation and completeness evaluation will be explained in chapter 5.

In section 2 and 3 of chapter 6, the reader will find the overall strengths and weaknesses of this website. In section 4 of the same chapter the future work planned to be applied on the website will be revealed.

2.0 **SYSTEM REQUIREMENTS ENGINEERING AND ANALYSIS**

2.1 Introduction

Requirements Engineering (RE) is presented as the first phase of the development process. It refers to the process of formulating, documenting and maintaining software requirements. Whereas Requirements Analysis involves reviewing the requirements to ensure that they all are useful to building the website. In this chapter, you will be introduced to the details of the Requirements Engineering (RE) phase starting with the Elicitation Techniques followed by Targeted Users, Functional Requirements Definitions and Specifications, Non-Functional Requirements, UML Use Case Diagram and a section to summarize a comprehensive conclusion.

2.2 Requirements Elicitation Techniques

In Requirements Engineering (RE), Requirements Elicitation is the practice of collecting the requirements of a system. The practice is also sometimes referred to as Requirements Gathering. As it's obvious from the definition above, Requirements Elicitation Techniques are the methods used to gather system requirements. In this website, this process has been done by using Interviews.

2.2.1 Interviews

A couple of interviews with the business owner were conducted, the interviews lasted for about 10-15 minutes. The interviews were great help with writing the requirements, and through them the following main topics were covered:

- Satisfaction about the currently used technologies.
- Speed and quality of current technologies.
- Some problems facing the owner.
- Missing features requested by the owner.

| Table 2.1: Interview Agenda |

Duration in Minutes	Task
3	**INTRODUCTION**
2	Introducing myself, and explaining the idea and goals
1	Explaining the interview process
12	**INTERVIEW QUESTIONS**
3	Satisfaction about the currently used technologies
3	Speed and quality of current technologies
3	Some problems facing the owner.
3	Missing features requested by the owner.
Total Time in Minutes	
15	

2.3 Targeted Users

Targeted users are those whom the website is designed and developed for:

1) The Business Owner (Admin)
2) Customers (Assiccories and handmade lovers)

2.3 Functional Requirements Definition

2.3.1 User

2.3.1.1 Sign-Up

Guests can enter the website and sign up with their information (name, email, password) to become users.

2.3.1.2 Login

The users use their username and password to log in into the website and gain access to more features.

2.3.1.3 View categories

The users can view the categories available on the website.

2.3.1.4 View products

The users can view the products available on the website.

2.3.1.5 View recommended products

The users can view the recommended products specially for them based on their orders and purchases history.

2.3.1.6 View best selling products

The user can view the best selling products at the time on the website.

2.3.1.7 Rate products

Users can put their ratings on products they have purchased.

2.3.1.8 Write feedback on products

Users can put their feedback on products they have purchased.

2.3.1.9 Add products to cart

Users can add the products they wish to buy in the cart.

2.3.1.10 Remove products from cart

Users can remove the products they don't want to buy anymore from the cart.

2.3.1.11 Clear cart

Users can clear all the products from the cart.

2.3.1.12 Add products to favorites

Users can add the products they like or wish to buy in the future to the favorites section.

2.3.1.13 Remove products from favorites

Users can remove the products they don't like anymore from the cart.

2.3.1.14 Clear favorites

Users can clear all the products from the favorites section.

2.3.1.15 Checkout order

Users can proceed in the order process and complete it with checking out.

2.3.1.16 Contact Us

Users can contact the business owners from the viewed contact information on the website.

2.3.1.17 View profile

Users can view their information on their profile.

2.3.1.18 View orders history

Users can view all their orders history on their profile.

2.3.1.19 Search for products

Users can search for a product whether by name description or any other characteristics in that product.

2.3.1.20 Logout

Users can logout from the website and continue browsing as a guest.

2.3.1.21 Customize products

Users can customize their products by adding the characteristics and pictures of them and submitting them to the admin.

2.3.2 Admin

2.3.1.1 Login

The admin can use his/her username and password to log in into the website.

2.3.1.2 Managing Orders

1. View current orders

   The admin can view the list of current orders waiting to be done or confirmed .

2. View past orders

   The admin can view the list of past orders they have already finished and delivered.

3. View orders type

   The admin can view the type of the order whether it was pickup or delivery orders.

4. View current orders

   The admin can view the list of orders waiting to be done.

5. Add orders manually

   The admin can add orders manually and select the source of that order.

2.3.1.4 View products in-stock

The admin can view how many pieces there are from each available 5product.

2.3.1.5 Write and save notes

The admin can write their notes down and save them in the notes section for later viewing or for using them as reminders.

2.3.1.7 Manage communications with delivery companies

The admin can manage and communicate with the delivery companies he/she are dealing with.

2.3.1.8 Draw customized products

The admin can draw the customized product requested by the user to have a better vision of it and start making it.

2.3.1.9 Generate monthly reports

1. Generate revenue reports

   The admin can get a detailed revenue report of a specific month.

2. View Number of placed orders

   The admin can view the number of all orders placed in a specific month.

3. View Number of products sold

   The admin can view the number of all products sold in a specific month.

4. View the most selling category

   The admin can view the category with the most sold products in a specific month.

5. View the best selling product

   The admin can view the product with the most sales in a specific month.

2.3.1.20 Logout

Users can logout from the website and continue browsing as a guest.

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2.4 Non-Functional Requirements

2.4.1 Usability

Usability here means the ease of use and learnability of a human-made object. The object of use can be a software application, website, book, tool, machine, process, or anything a human interacts with. In this website the interface will be easy and understandable to all users and organized in a way that errors, being lost or misled are minimized.

2.4.2 Privacy

Users' information is confidential and can be accessible and usable only by authorized people.

2.4.3 Maintainability

The ability to update the system in order to meet changing user requirements is applied in this project.

2.4.4 Response time

The system should react to a given input from the user quickly.Any operation or query should have it’s result ready in under 30 seconds and there should not be any delays. This is to not make the users wait which may lead to losing them.

2.4.5 Availability

That users of the websites should be able to connect to the system whenever they need.

2.5 Summary

The beginning of this chapter clarifies and concentrates on defining and analyzing the required requirements for this application that meet targeted users' needs and expectations. You can conclude by reading this chapter that there are two types of requirements that are functional and non-functional requirements. They are gathered using methods known as “Requirements Elicitation Techniques”.

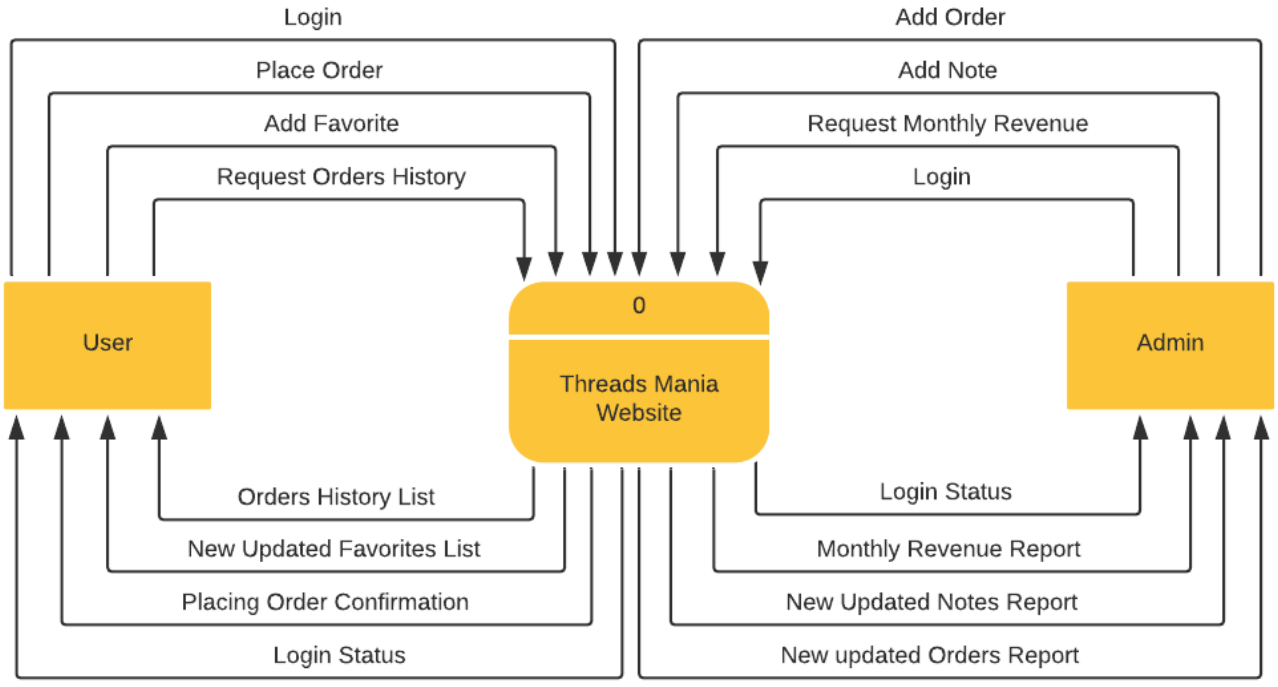
3.0 SYSTEM DESIGN

3.1 Introduction

This chapter represents the System Design phase. It includes Context diagram, Data Flow Diagram (DFD) pursued by UML Class Diagram. These modeling diagrams help out understanding, recognizing and describing user requirements that the software must provide. Moreover, they describe the structure of the software to be implemented and expand the logical thinking or the idea about the system.

3.2 Context Diagram

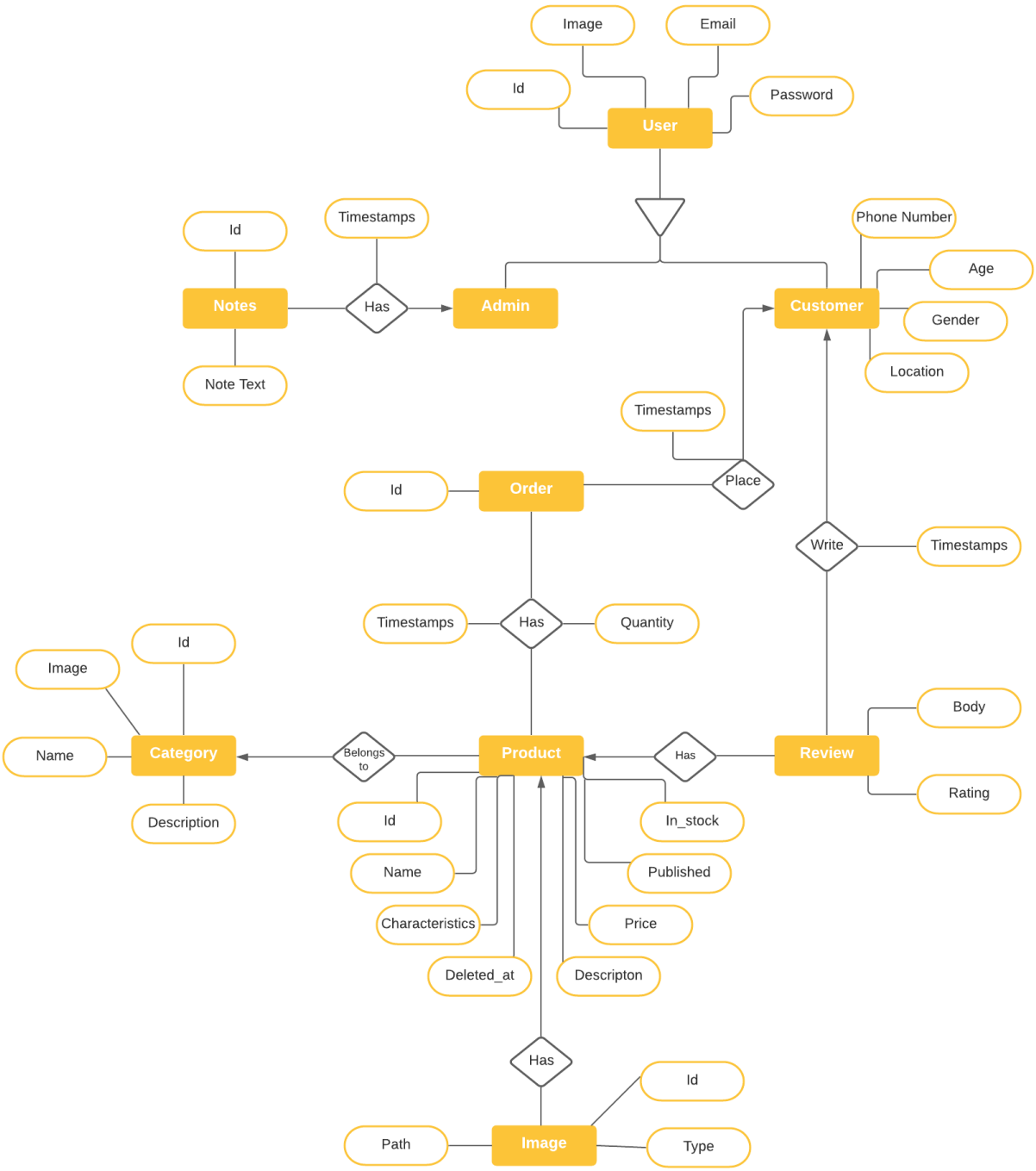
The Context Diagram (SCD) below defines the boundaries between the system and its environment, showing the Users and Admins that interact with it. This diagram is a high-level view of a system.



|Figure 3.1: Context Diagram |

3.3 Entity Relationship Diagram (ERD)

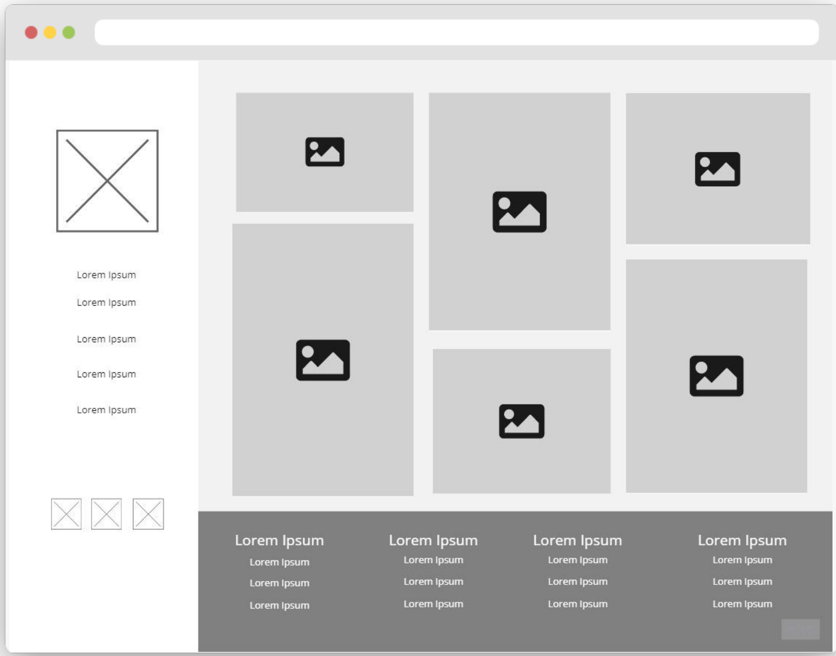
The ERD below describes the interrelated things of interest in this specific domain of knowledge. And it is composed of entity types and specifies relationships (Write, Place, Has, Belongs to) that exist between Users, Orders, Products, Categories, Reviews.



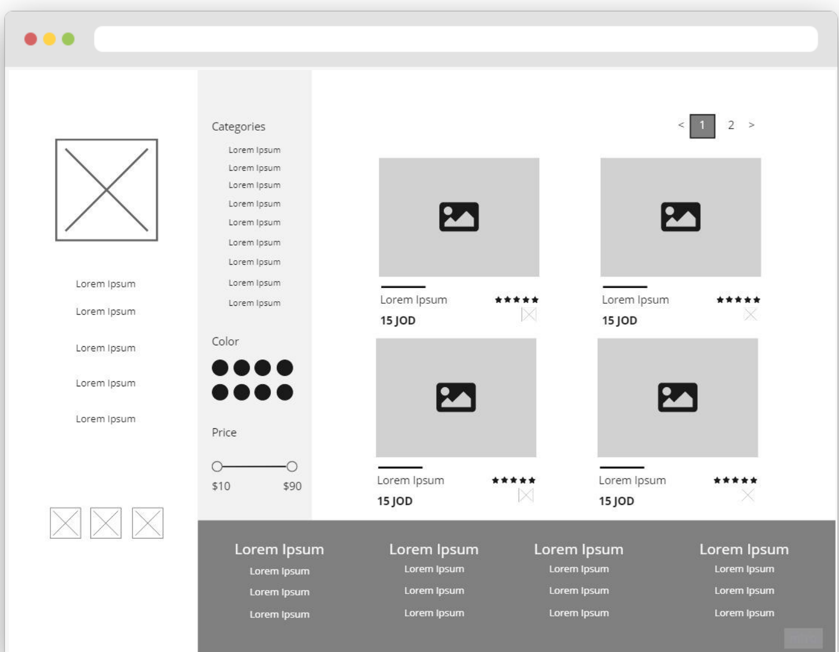
|Figure 3.2: Entity Relationship Diagram |

3.4 Graphical User Interface (GUI) Design

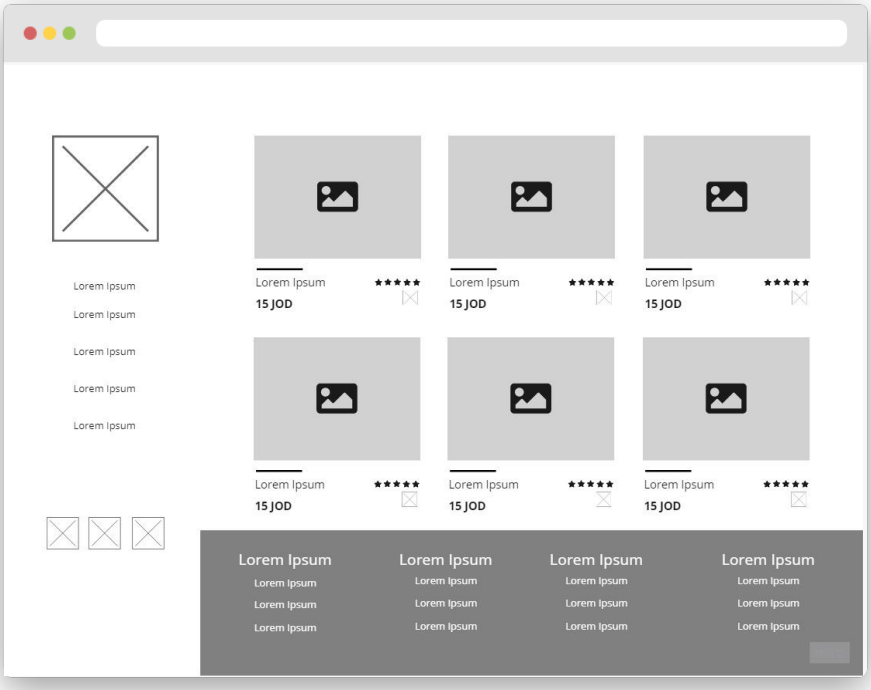
3.4.1 Wireframes



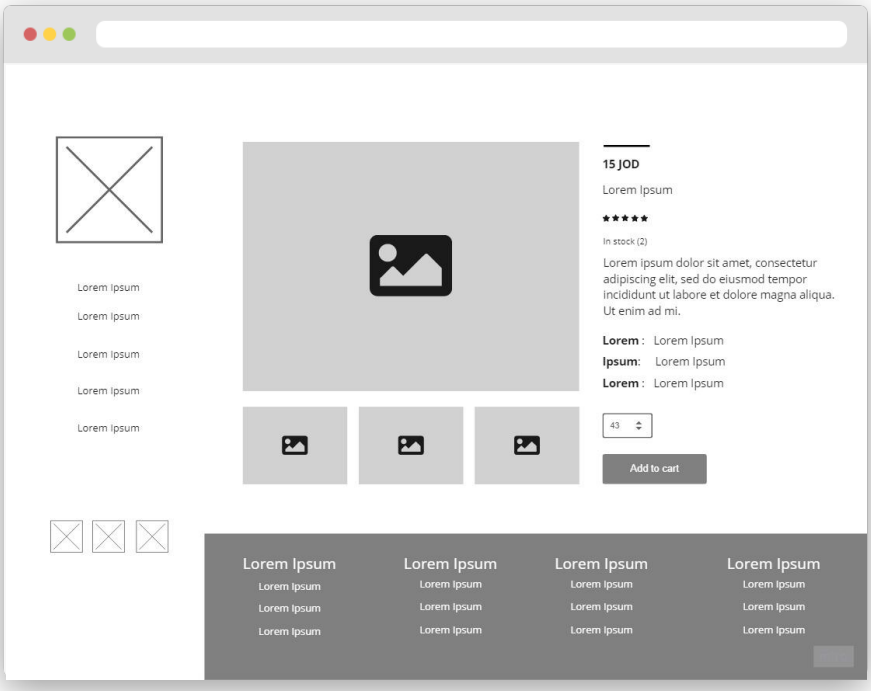
|Figure 3.3: Homepage|



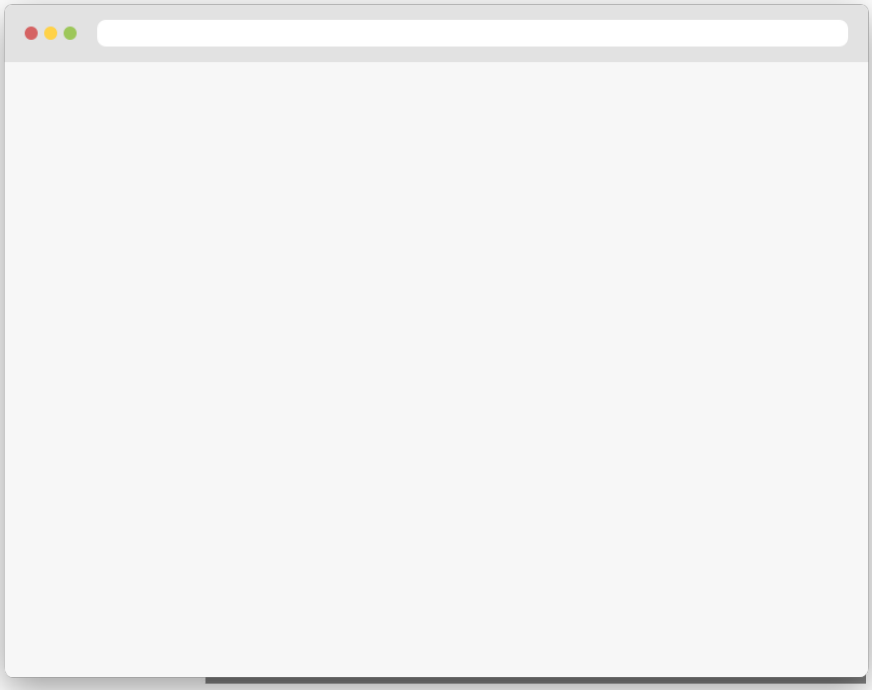
|Figure 3.4: Shop|



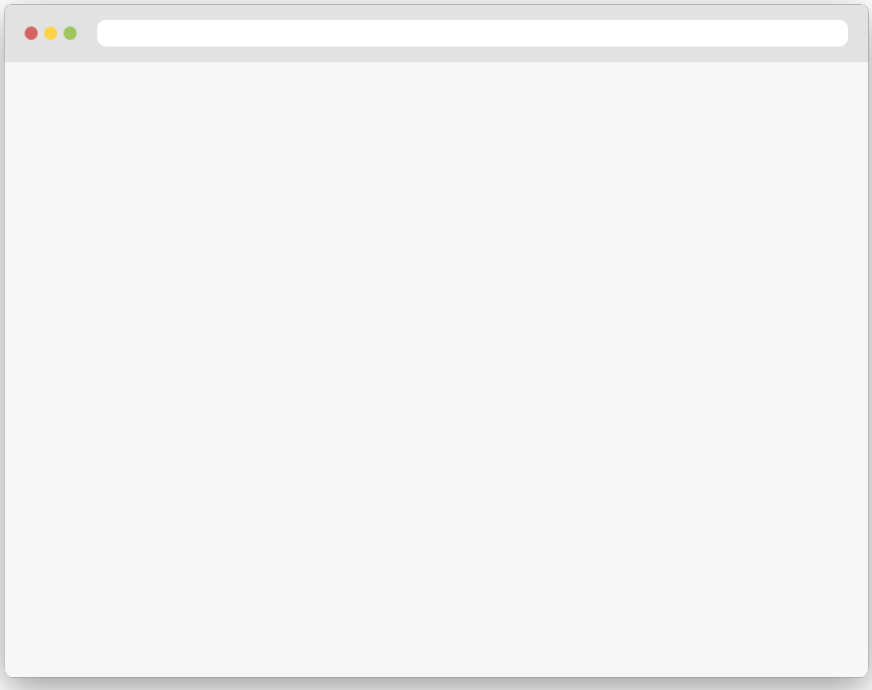
|Figure 3.5: Favorites|



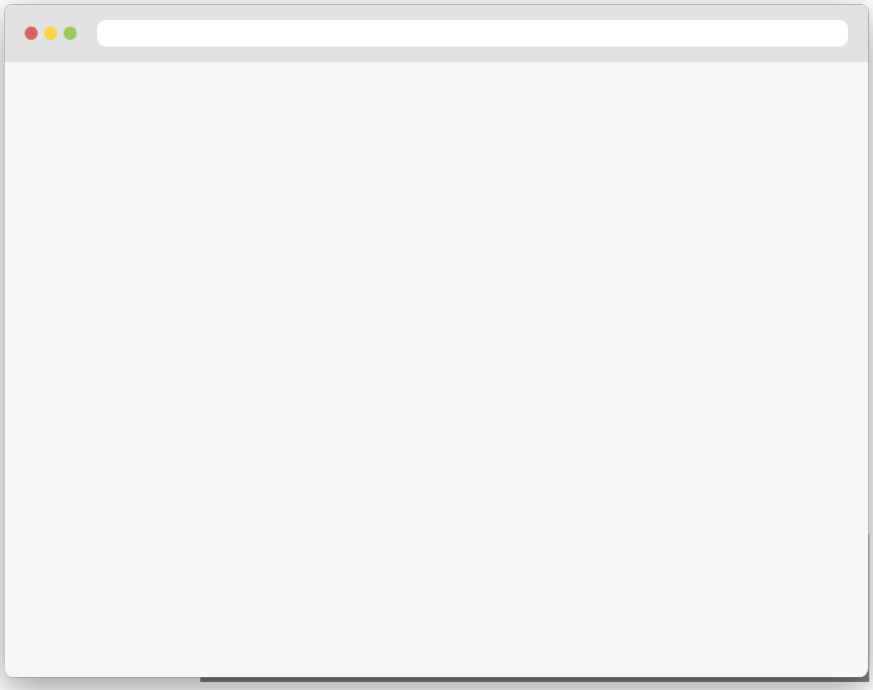
|Figure 3.6: Customize product|



|Figure 3.7: Cart|



|Figure 3.8: Product Details -1|



|Figure 3.9: Product Details -2|