Tribhuvan University

Faculty of Humanities and Social Science

A PROJECT PROPOSAL ON

"MULTI-VENDOR SYSTEM"

Submitted to

Department of Computer Application

Mega National College
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Table of Contents

List of Figures

1. INTRODUCTION

Multi-vendor refers to a business model where an online marketplace allows multiple independent vendors to sell their products or services on the same platform. In a multi-vendor setup, each vendor has their own account, storefront, and inventory management system. The platform owner earns a commission on the sales made by each vendor.

Multi-vendor marketplaces have become increasingly popular in recent years, as they offer several benefits to both vendors and customers. For vendors, it provides a ready-made platform to showcase their products or services, tap into a larger customer base, and benefit from shared marketing and promotional activities. For customers, a multi-vendor marketplace provides a wider selection of products and services, often at competitive prices. Multi-vendor approaches are commonly used in industries such as retail, IT, and construction, where projects often require a wide range of specialized expertise. However, managing multiple vendors can also introduce new challenges, such as coordination, communication, and quality control.

This project aims to create a multi-vendor system where multiple people can sign up to sell their own products and services. Each vendor has its own storefront with product listings. Whenever someone searches for a product on the site, any vendor who has that product for sale may come up in the results. Examples of popular multi-vendor marketplaces include Amazon, Etsy, and eBay.

2. PROBLEM STATEMENT

A multivendor system is a type of e-commerce platform where multiple vendors can offer their products or services on a single website or platform. The problem statement of a multivendor system involves creating a platform that allows vendors to sell their products to customers, while also providing customers with a seamless and secure shopping experience.

Some of the key challenges of a multivendor system include ensuring that vendors are verified and trustworthy, managing inventory and shipping, handling payments and commissions, and providing customer support. Additionally, the system must be scalable and able to handle a large number of vendors and products, while also providing a user-friendly interface for both vendors and customers.

Overall, the goal of a multivendor system is to create a marketplace that benefits both vendors and customers, by providing a wide selection of products and services, competitive pricing, and a convenient and enjoyable shopping experience.

3. OBJECTIVES

1. To provide vendors with a ready-made platform.
2. To offer customers a wide variety of products or services.

4. METHODOLOGY

The data may be collected for either theoretical or practical research which is used to structure, plan, and control the process of developing an information system. The information which was used for this study was carried out by oral interview. It analysis the methods and principles associated with a branch of knowledge.

4.1 REQUIREMENT IDENTIFICATION

Requirements define the needs of the project to provide the best of its utility and benefits.

4.1.1 STUDY OF EXISTING SYSTEM

The existing systems enable the customer to search through the online web portal. Many multi-vendor systems provide users where multiple people can sign up to sell their own products and services Some of the websites are Amazon, Etsy, eBay, and many more.

Amazon [1] is a multinational technology company that specializes in e-commerce, cloud computing, digital streaming, and artificial intelligence. Founded by Jeff Bezos in 1994, Amazon has become one of the world's largest retailers, offering a wide variety of goods and products through its online shopping platform. The company also provides a range of services, including Amazon Prime, which provides free shipping and streaming of movies and TV shows. In addition, Amazon's cloud computing platform, AWS, is one of the leading providers of cloud-based services in the world. The company has also expanded into areas such as artificial intelligence and entertainment, and as of 2021, it is one of the world's most valuable companies, with a market capitalization of over $1.6 trillion.

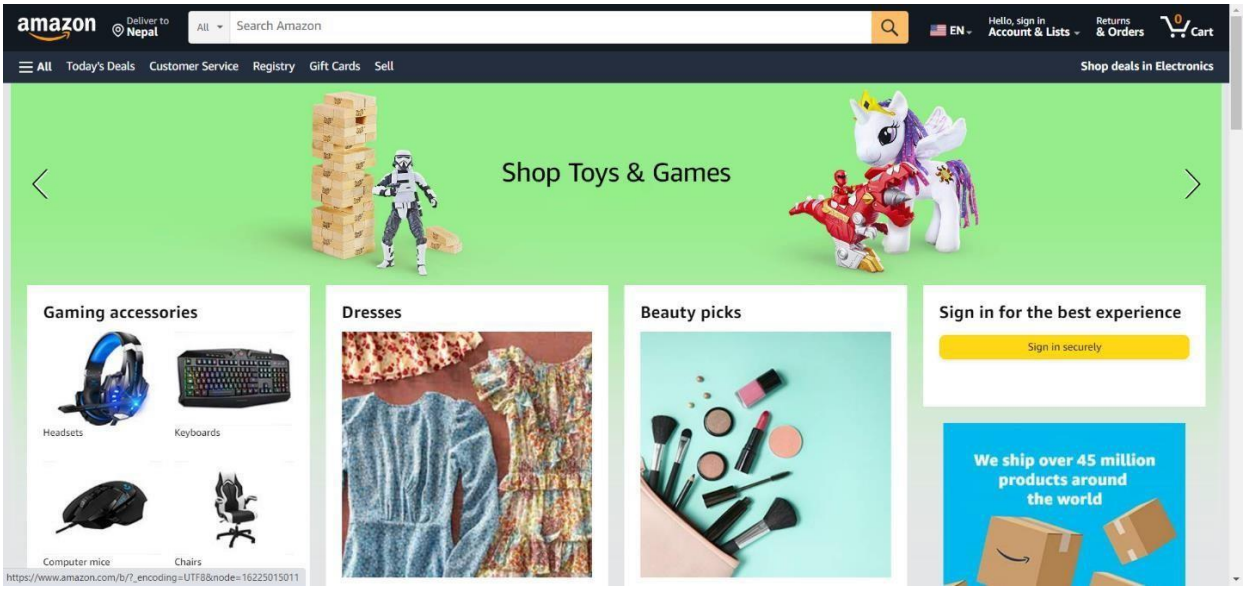

Figure1:Amazon.com

4.1.2 LITERATURE REVIEW

eBay [2] is a multinational e-commerce platform that allows individuals and businesses to buy and sell a wide range of goods and services. It was founded in 1995 and is based in San Jose, California. eBay operates in over 190 countries, with localized websites in more than 20 countries.

On eBay, users can create accounts to buy and sell items using various formats, such as auction-style listings and fixed-price "Buy It Now" listings. eBay also offers a range of services, including PayPal for online payments and eBay Motors for buying and selling vehicles. In addition to physical goods, eBay also facilitates the sale of digital products such as software and music downloads. eBay has faced a number of challenges over the years, including criticism over its handling of counterfeit goods, fraud, and concerns over user privacy. However, the platform remains popular with millions of users worldwide, and continues to be a major player in the e-commerce industry. eBay allows individuals and businesses to buy and sell new and used items in various categories, including electronics, fashion, home and garden, collectibles, and vehicles. Sellers can list items for sale on the platform and buyers can browse and purchase these items through an auction-style or fixed-price format. eBay also offers various services to facilitate

transactions, such as payment processing, shipping and delivery, and customer service. The company operates in more than 190 markets globally and has millions of active users.

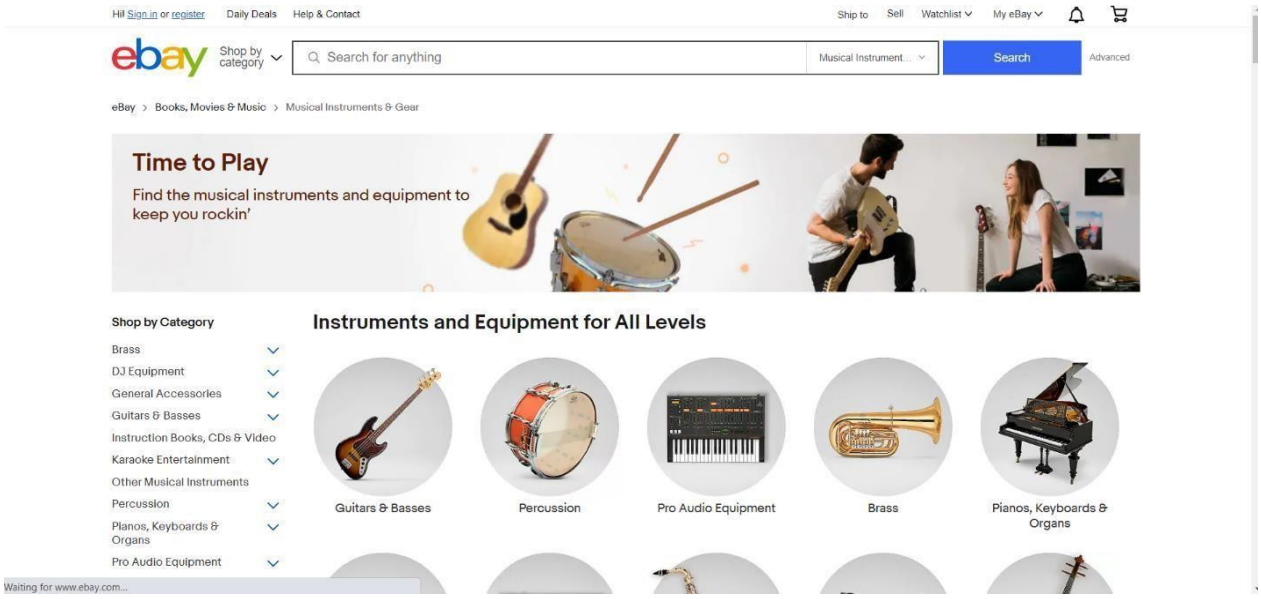

Figure 2:eBay.com

4.1.3 REQUIREMENT ANALYSIS

Requirements analysis or requirements engineering is a process used to determine the needs and expectations of a new product. The analysis for requirements is done based on two requirements; Functional and Non-Functional requirements.

4.1.4 FUNCTIONAL REQUIREMENTS

Functional requirements for a system describe system behavior and focus on the needs of the users to accomplish their tasks.

1. When the customer selects “home” it must be able to look at the display item.
2. When the customer selects “login” it must be able to display the login form.
3. When the customer selects “category” it must be able to show the category.

4.1.5 USE CASE DIAGRAM

A use case is a description of a system's behavior as it responds to a request that originates from outside of that system (the user).

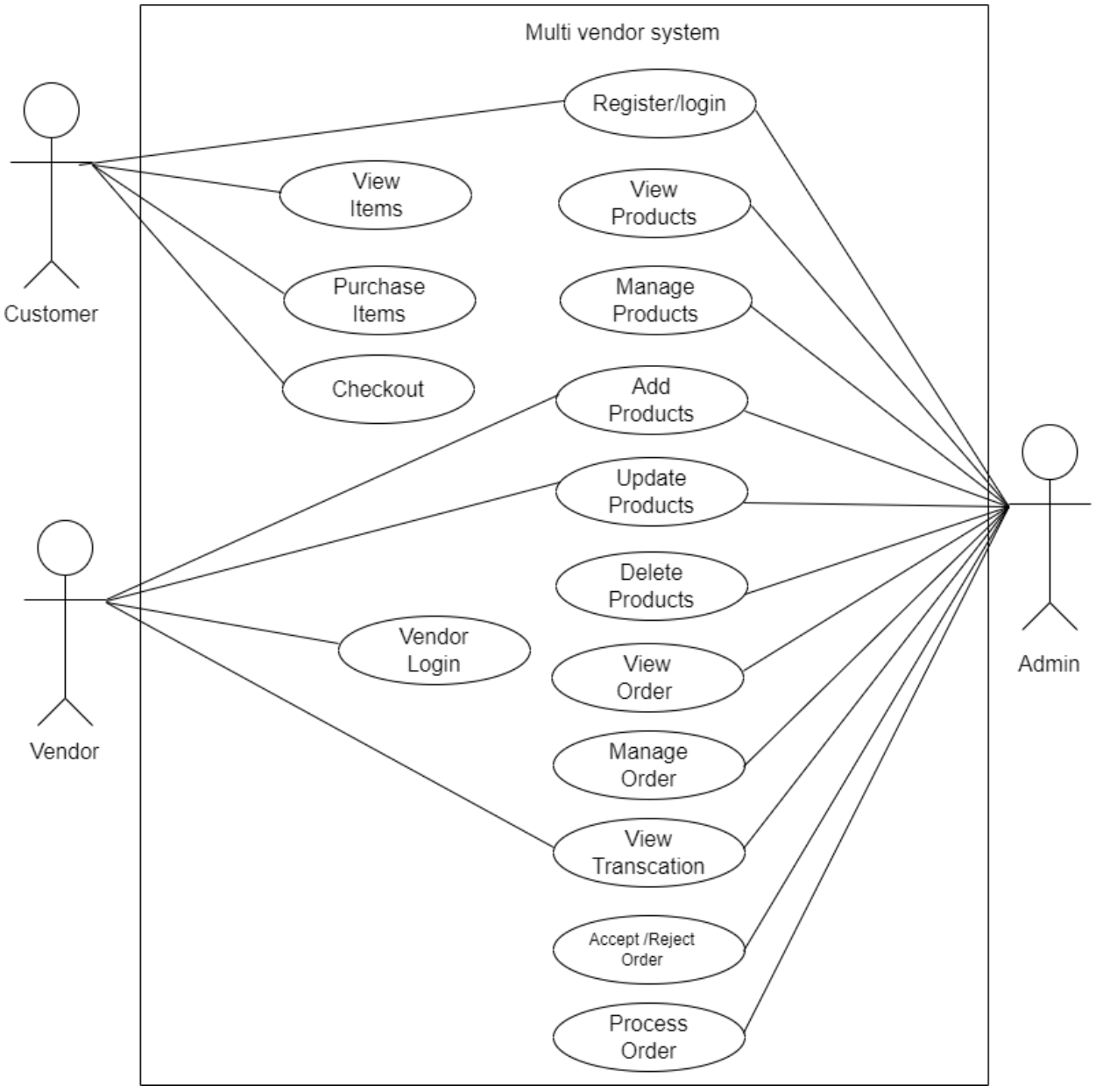

Figure 3:Use Case Diagram

4.1.6 NON - FUNCTIONAL REQUIREMENTS

a. Usability:

The system provides an easy-to-use graphical interface so users can easily learn how they use the system. It is user-friendly so that users can use it easily without confusion.

b. Performance:

The login information is verified within fewer seconds. The response time of the system will not take a long time, almost a few seconds. The system works 24 hours per day 7 days a week. The passengers' information will save in the database a few minutes after the end of the registration. **c.**

Error handling:

The system will check user inputs to the system to handle the error. It handles and shows errors by displaying the error message when the user enters invalid input.

d. Security:

Only authorized users can get access to the database. To prevent unauthorized users, the user should have their username and password that help them to log in to the system. The users should take care of their usernames and password. They should have been kept in a secret manner.

4.2 FEASIBILITY STUDY

A feasibility study is an assessment of the practicality of the proposed plan or project. The goal of the feasibility study is to become aware of any potential problems that could occur while implementing the project. It also determines if, after considering all significant factors, the project is viable that is worth undertaking.

4.2.1 TECHNICAL FEASIBILITY

For the development of this project, the programming languages for the front are HTML, CSS, PHP, and Java, and for the backend, we use (MySQL) which is easily available. The software and hardware requirement for the development of this application are not many and are already available as free as open source.

4.2.2 OPERATIONAL FEASIBILITY

It determines whether there will be any problems in implementing the system in its operational environment. It should be easy, simple, and user-friendly.

4.2.3 ECONOMIC FEASIBILITY

This feasibility checks whether the system can be developed with the available funds. The proposed system does not require enormous money to be developed. This can be done economically if planned judicially, so it is economically feasible. The cost of the project depends upon the number of man-hours required.

4.2.4 SCHEDULING FEASIBILITY

It addresses the time it will take to complete the project, taking into consideration available resources and additional resources required, if any. The following table shows the estimated time schedule for the completion of the project.

4.3 HIGH-LEVEL DESIGN OF SYSTEM

The high-level design of a system explains the architecture that would be used to develop the system. The architecture diagram provides an overview of an entire system.

4.3.1 METHODOLOGY OF THE PROPOSED SYSTEM

Based on the research carried out and analysis of system requirements for the proposed system agile methodology is selected. The Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage. Once the work begins, the team cycle through a process of planning, executing, and evaluating. Continuous collaboration is vital, both with team members and project stakeholders.

4.3.2 REQUIREMENT AND ANALYSIS

In this stage, we study the project make a team and discuss the outcome of the projects. We discuss what the customer wants to build, who will be the end-user, and what is the purpose of the product.

1. **Planning:**

The planning phase of the SDLC is also when the project plan is developed that identifies, prioritizes, and assigns the tasks and resources required to build the structure for a project.

2. **Design:**

The Design Phase is an essential phase of the Software Development Life Cycle. The list of requirements that you develop in the definition phase is used to make design choices. In the design phase, one or more designs are created to achieve the project result.

3. Implementation:

In this phase now, the code is done in the required software application (Visual Studio Code). Here we start writing the code according to the requirement of the user.

4. Testing:

The testing phase of the software development lifecycle (SDLC) is where you focus on investigation and discovery. During the testing phase, developers find out whether their code and programming work according to customer requirements.

5. Deployment in the Market and Maintenance:

After the project team tests, the product passes each testing phase. This means that the product is ready to be used in a real environment by all end-users of the product.

4.3.3 CONTEXT DIAGRAM

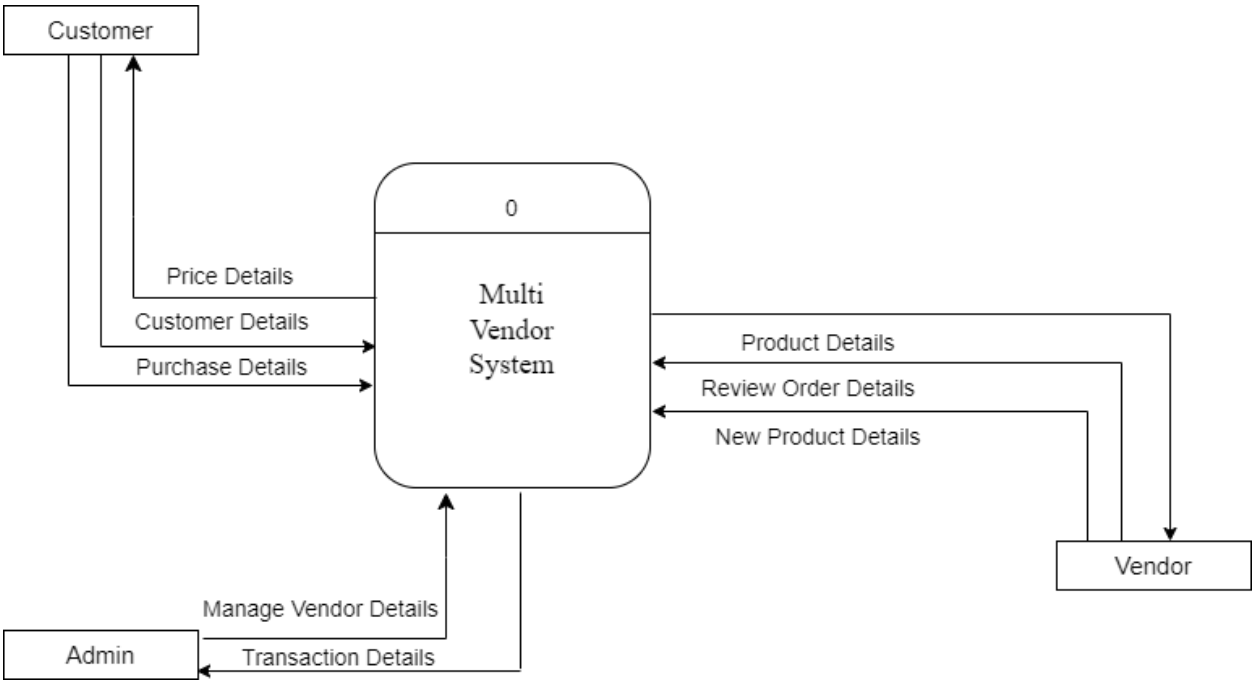

Figure 4:Context Diagram

In this system, there are three entities: Admin, Customer, and Vendor. Here in Figure customer sends the process like new customer's details, and purchase details in response customer get the order details, payment response, and login response.

4.3.4 ENTITY-RELATIONSHIP DIAGRAM

An entity-relationship diagram (ERD) is a data modeling technique that graphically illustrates an information system's entities and the relationships between those entities.

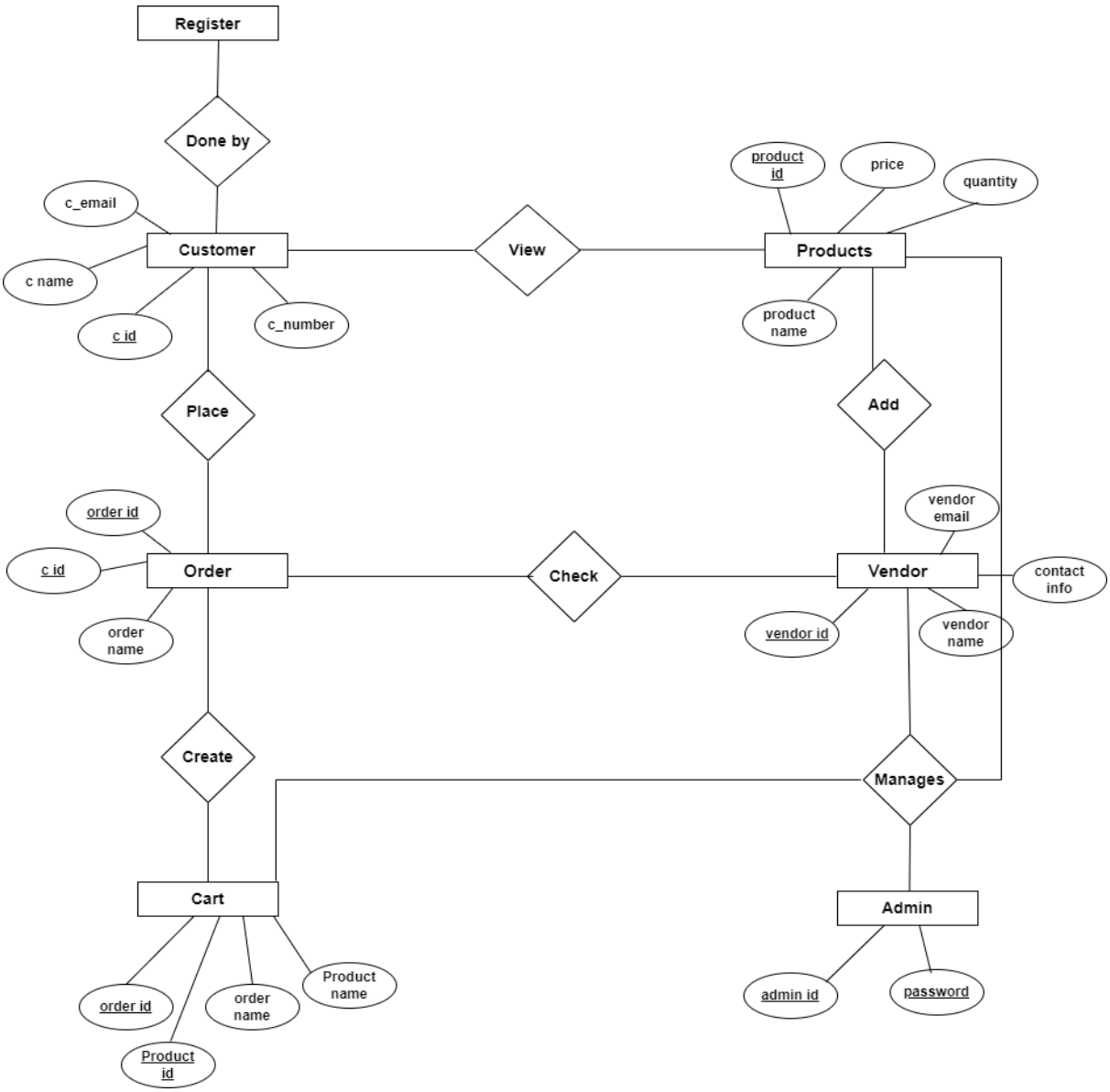

Figure 5:ER Diagram

5. GANTT CHART

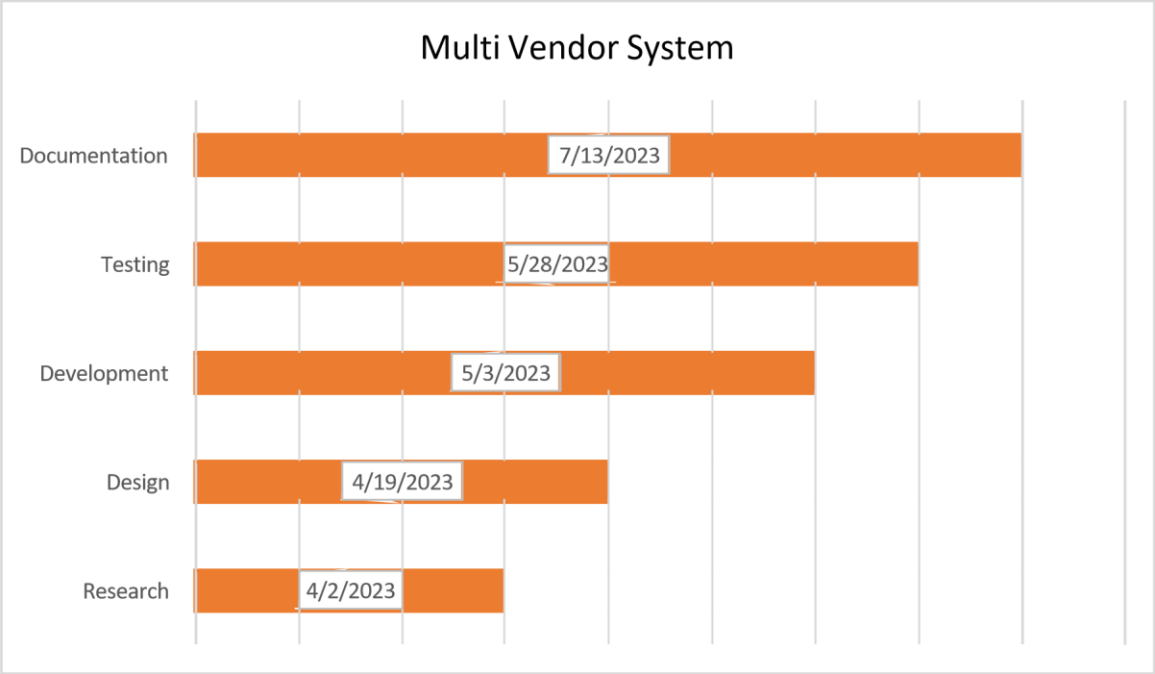

Figure 6:Gantt Chart

Stages	Start Date	End Date	Duration(days)
Research	4/2/2023	4/18/2023	20 days
Design	4/19/2023	5/02/2023	17 days
Development	5/03/2023	5/13/2023	16 days
Testing	5/28/2023	7/12/2023	40 days
Documentation	7/13/2023	8/13/2023	26 days

6. EXPECTED OUTCOME

The expected outcomes are given below:

1) Platform for businesses to reach more customers, increase sales, and improve efficiency.

2) Customer support system to resolve the problems.
3) Secure and reliable payment system for Customers.

7. REFERENCES

[1] Amazon.com: Welcome to Amazon (no date). Available at: https://us.amazon.com/b?node=17867753011 (Accessed: April 1, 2023).

[2] eBay (no date) Electronics, cars, fashion, Collectibles & More, eBay. Available at: https://www.ebay.com/ (Accessed: April 1, 2023).