LONDON METROPOLITAN UNIVERSITY

islington college
(इस्लिङ्टन कलेज)

Module Code & Module Title

CS6P05NI Final Year Project

Assessment Weightage & Type

25% FYP Interim Report

Semester

2020 Autumn

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Assignment Due Date:12/25/2020

Assignment Submission Date:12/252020

Word Count (Where Required):3200

I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

Abstract

The online auction system is a web-based application that allows users to buy or sell items; by posting ads. This program allows users to post their goods for auction; the bidder can register and bid for any product available. There are some existing applications that allow users to bid, but in your local area, the product is not available, you cannot inspect the item you are going to purchase. Users will be able to bid on items that are available via an online auction program. This project focuses mainly on the arts auction. As there is a lack of any online auction system in Nepal, it creates a whole new platform in here. After the completion of the project an any artists can sell and buy any arts through the auction system. It also creates an opportunity for the young and inspired artists.

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1. Introduction

1.1 introduction to Topic

Online Auction has successfully created a huge virtual marketplace where people can buy, sell, or check out the goods of the day, there are highly common high traffic location where you can start selling goods almost instantly without overhead or upfront cost, no physical stores or suppliers, no initial investments and no website of your own (entrepreneur, 2020). The amount of traffic drawn by these sites makes online auctions a perfect place to draw on widespread, readily accessible exposure. There a lot of different type of products that are kept for the auction. One of the popular items kept in the auction are arts as most people tends to love it and keep it as a décor.

There are many different types and formats of online auctions including ascending English auctions, descending Dutch auctions, Vickrey auctions and first-price sealed-bid. In general, online auctions appear to last between one and 10 days, with the seller being able to set the time limit for the auction on his own. Other advantages of online auctions include greater flexibility and the potential of a large number of sellers and bidders to facilitate high-volume online business (capital, 2020).

1.2 Current Scenario

There are some existing applications that allow users to bid, but in your local area the product is not available, you cannot inspect the item you are going to purchase. Today the internet has become a very critical part of life. More than 3 billion people have access to the internet worldwide, which is 45% of the world's population. In the past 15 years, this has risen from 778 million users, which is a fantastic and rapid growth. In most cities and towns, both locally and internationally, it is accessible that most individuals are trying to buy goods every day, desperate if they could get a solution, or a right person to provide them with a solution (ukdiss, 2003). These individuals end up deciding on products or service providers who are conmen or who sell the desperate buyers illegal and fraudulent items. As for the people who love art, they can have an applicability to buy the arts without any hectic just sitting in their home which tends to save a lot of time.

As in the case for the Nepal, there are a lot of inhouse or physical auction available but not any online auction system. Thought the use of the internet in Nepal is increasing and the field of the e-commerce is increasing slightly, the truly auction system is not available. There are many opportunities for art in Nepal and can utilize this opportunity further by making it online. Using this technology more artist can have an opportunity to show their work.

1.3 Problem Domain

Some of the problem statement are given below (paragraph)

- There is not much availability for auction application in Nepal.
- The recognition for the artist in Nepal is very low.
- Due to the pandemic most people tend not to go out
- The auction is not very time efficient.

1.4 Scope

Some scope of the are given below:

- Creating a platform for the artists
- Creating a platform for the auction online
- It saves up a lot of time so it is time efficiencies
- People could bid form home without worrying about the pandemic.

1.5 Aims And objective

Aims

The main aim of this study is the development of an online auction system.

Provide a place for sellers to meet and communicate with buyers and sell goods to

Bidders that are interested.

Objectives

- Create an online marketplace for bidders to auction through the online system for products posted by the seller
- Create a panel where a buyer receives requests from a seller and sends back feedback, a response to a question or requests to meet the bidder.
- implement and test the newly developed system's workability
- learn about how to intergrade API in the system.
- develop web application.
- complete project within time.

2. Background

2.1 Web application as a platform

Web applications are normally coded in languages supported by the browser, such as JavaScript and HTML, as these languages depend on the browser to make the program executable. Some of the apps are complex, requiring processing on the server side. Others are entirely static, with no server processing needed.

Web applications can be built for a wide range of purposes and can be used by anyone, for various reasons, from an organization to a person. Webmail, online calculators, or e-commerce stores can be widely used for web applications. Some Web apps can be only accessed by a specific browser; however, most are available no matter the browser (Rouse, 2019).

2.2 Project Elaboration

The project in an online auction application where user can sell and bid on an Art product like paintings and others. A seller can post their arts on the application on where bidder can bid on that product. Seller can also set the timer on how long a product is available on the market. After the time for the bid ends the bidder with the higher bid would get notification notifying that they won a bid. A user can also search for the products they want to bid on. The seller also has the profile where they can show their arts. This project also helps to promote the art and the unknown artist in Nepal.

The expected outcome of this project would be to create a new online Auction web application in Nepal where an Artist can sell their products without any hectic procedure.

2.3 Project Delivers

This project is mainly targeted to the artist who is willing to illustrate and sell their art. The project is mainly aimed at use of online and systematic auction environment. This project can also help to promote the arts and the artis in Nepal.

2.4 Terms and definition

Web applications are typically encoded in browser-supported languages, such as JavaScript and HTML, because they rely on the browser to render the program executable. Some of the apps are complex, requiring server-side processing. Others are fully static, with no need for server processing (Gibb, 2016).

PhpStorm is a lightweight and smart PHP IDE designed with a focus on developer productivity. It understands your code at a deep level and provides smart code completion and on-the-fly error checking. PhpStorm is always ready to help you shape your code, run unit tests, or provide visual debugging (capterra, 2020).

Laravel is a web application framework with expressive, elegant syntax. A web platform offers a framework and starting point for your application to be developed, allowing you to concentrate on creating something awesome while we sweat the information. While providing powerful features such as comprehensive dependency injection, an expressive abstraction layer of the database, queues and scheduled work, unit and integration testing, and more, Laravel aims to provide an outstanding developer experience. Laravel is a structure that can develop with you, whether you are new to PHP or web frameworks or have years of experience. As a web developer, we'll help you take the first steps or give you a boost as you take your skills to the next level. We can't wait for what you're designing to see. (laravel, 2020)

2.5 Function and Features

2.5.1 Bid for a product

A user can Bid for the products which is kept in an auction.

2.5.2 Log in Feature

Log In feature allows admin of the system to know the number of users that have currently been using the system.

2.5.3 Search For products

Sometime a user might want to find some specific products. Therefore, user can search for the product they want.

2.5.4 Online Payment

A user is allowed to pay for the product online.

2.5.5 Show the Art if the Artist

The seller has option to show their arts which is include in the profile of the user.

2.5.6 Notification System

When the user wins the bid the notification is sent to the user email address.

2.6 Similar Projects

2.4.1 project 1: US Agency Online Auction

The U.S. Embassies, via a Web Based Electronic Auction, sell surplus movable property (SMP). For a period of time that clearly shows the start and end date, each auction will be triggered. This information is accessible on the web application's information panel. It will usually be active for a two-week duration from Monday to Friday. You should actively take part during this time and apply your bid for the surplus land.

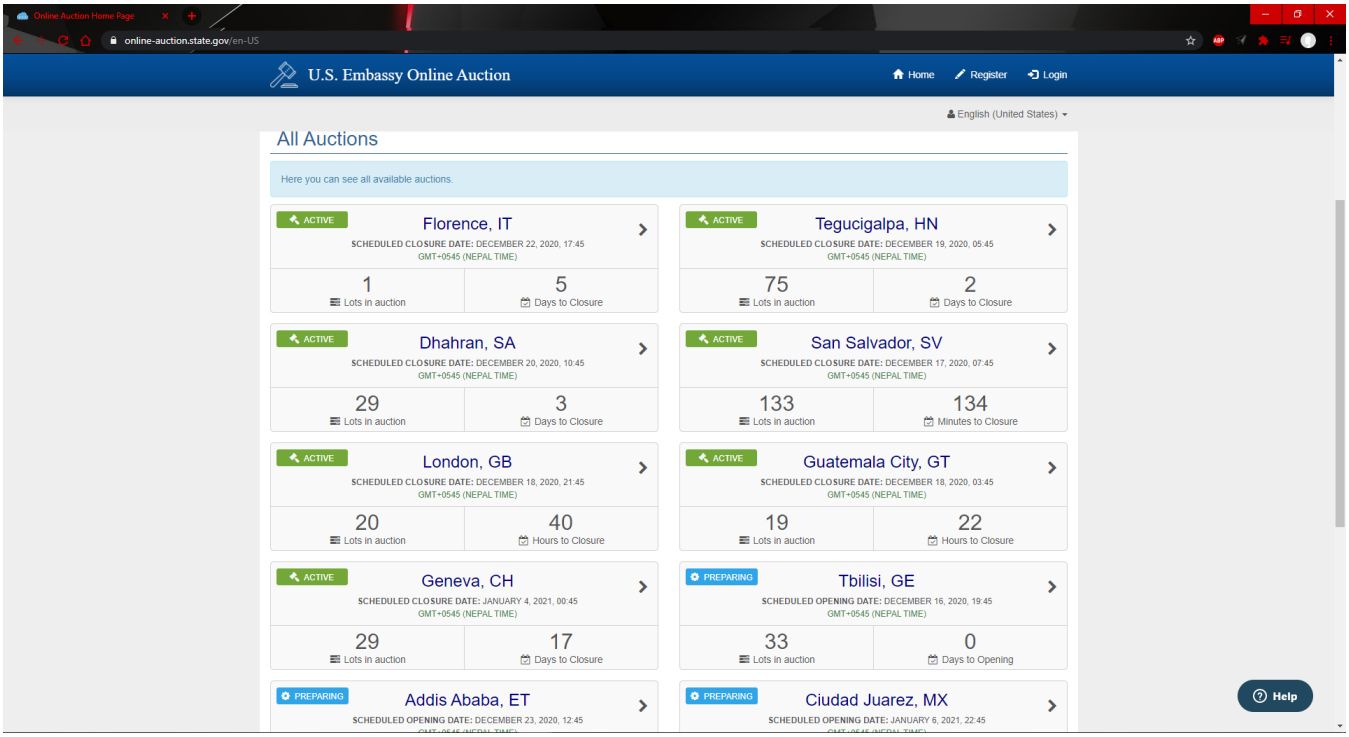

Figure 1: Home page (Auction, 2020)

2.4.2 Project 2: artsy

Artsy is a platform for exploring current and past museum and gallery exhibits, biennials, and cultural festivals, and for previewing international art fairs before opening their doors to the public. In order to help major non-profit organizations, including SFMOMA, Public Art Fund, National Gallery Singapore, ICA London, Make A Wish Foundation, and more, Artsy hosts select benefit auctions.

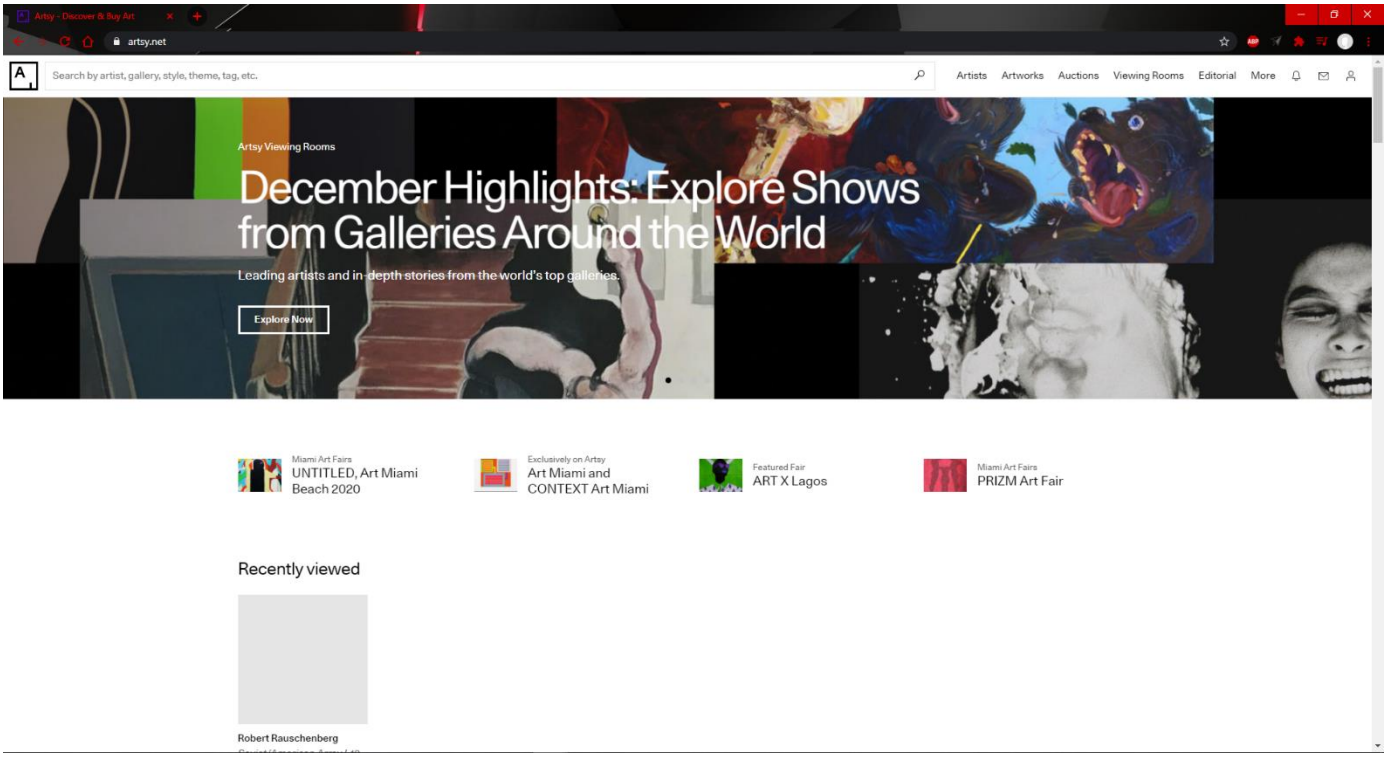

Figure 2: artsy webpage (Artsy, 2020)

2.4.3 Christies

Christie's is a name and location that speaks of outstanding art, exemplary service, experience and global scope. Christie's, founded in 1766 by James Christie, has since held the greatest and most celebrated auctions over the years, providing the special and the beautiful with a common showcase. In more than 80 categories, including all areas of fine and decorative arts, jewellery, portraits, collectibles, wine, and more, Christie's offers about 350 auctions annually.

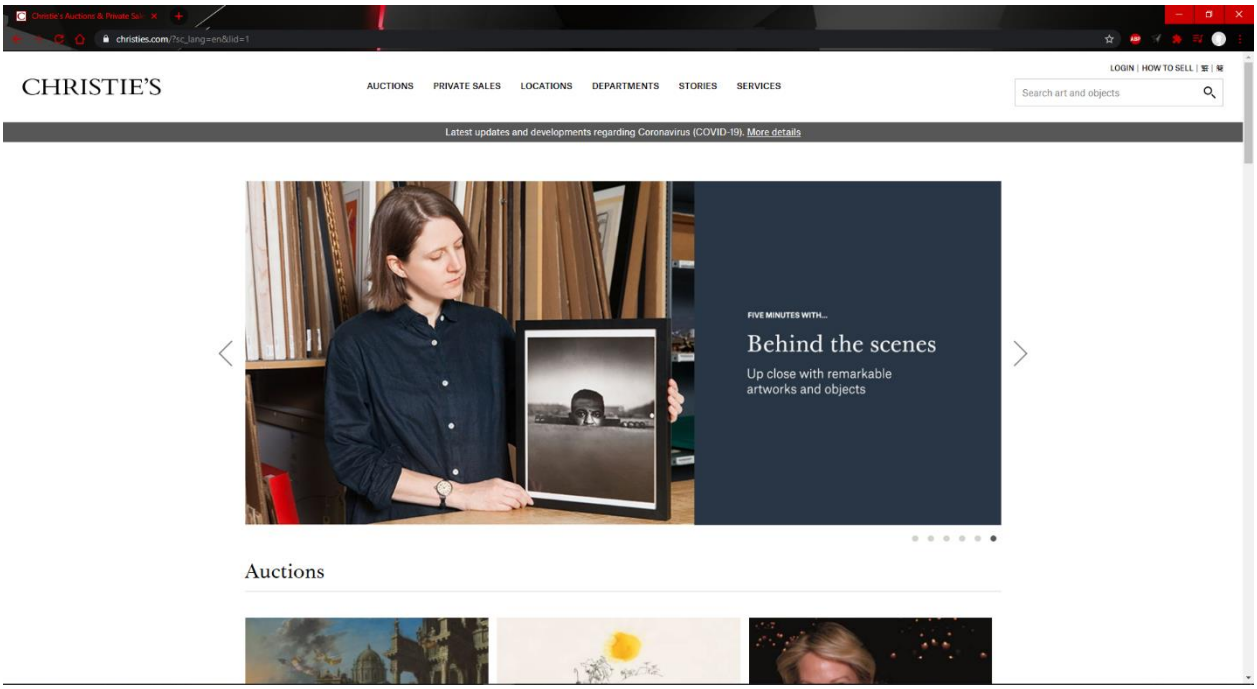

Figure 3: Christies website (christies, 2020)

2.7 Comparation of table

Sn	Features	Project 1	Project 2	Project 3	This Project
1	Search the products	✗	✓	✓	✓
2	Can Contact the Admins	✗	✓	✓	✓
3	Rate the products	✗	✗	✗	✓
4	No Live Auction	✗	✗	✗	✓
5	Login and register	✓	✓	✓	✓

3. Development to date

3.1 Considered Methodology

3.1.1 Agile development Methodology

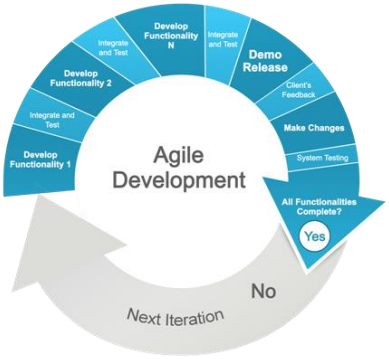

Figure 4: Agile Methodology (anhvnn, 2016)

Agile is an iterative, team-based evolutionary approach. This approach emphasizes the rapid delivery of full functional components to an application. Every time is "time-boxed" into phases called sprints instead of developing tasks and schedules. Each sprint has a fixed length with a running list of deliverables, usually in weeks, scheduled at the beginning of the sprint. As determined by the client, deliverables are prioritized by business importance. If it is not possible to complete all scheduled work for the sprint, work is reprioritized and the data is used for future sprint scheduling. Stemming from the values and principles of the Agile Manifesto, it was created as a response to the inadequacies of traditional development methods such as the Waterfall method. The software industry is a highly competitive market due to the fact that software is something that can be continuously upgraded (Muslihat, 2018).

Justification for considering the approach

- Working software is delivered frequently
- Regular adaptation to changing circumstances.
- Working software is delivered frequently.

Reasons for not choosing Prototype Model

- In the case of certain software deliverables, especially large ones, it is difficult to determine the effort needed at the beginning of the life cycle of software development.
- It is not useful for small development projects.
- There is a lack of intensity on necessary designing and documentation.

3.1.2 Prototype Model

The prototyping model is a systems development method in which a prototype is built, tested and then reworked as necessary until an acceptable outcome is achieved from which the complete system or product can be developed. This model works best in scenarios where not all of the project requirements are known in detail ahead of time. It is an iterative, trial-and-error process that takes place between the developers and the users (Rouse, 2019). In this process model, before or during the review phase, the method is partly introduced, thereby giving consumers the ability to see the product early in the life cycle. The approach begins by interviewing the clients and designing the incomplete high-level paper model.

Justification for considering the approach

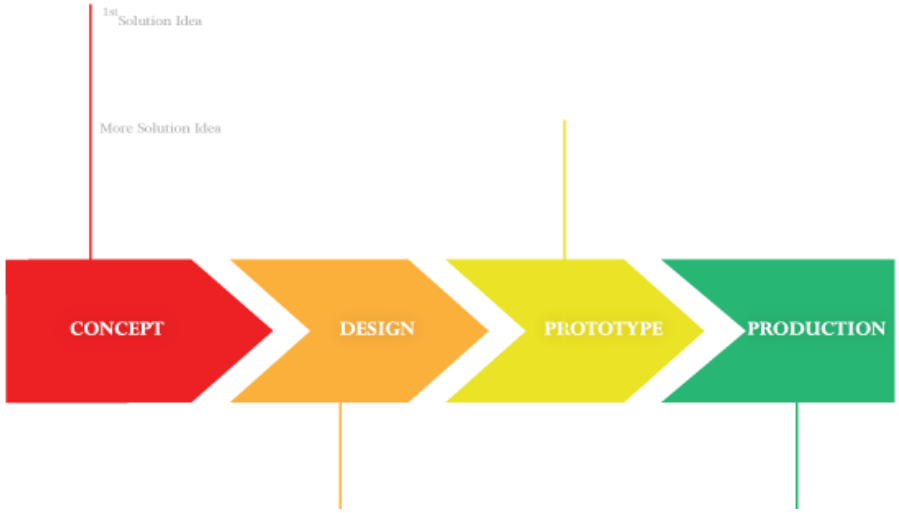

Figure 5: Prototype Model (heliostcs, 2013)

- Interaction with client is higher.
- Quicker input from users.
- The clients are satisfied from final Project.

Reasons for not choosing Prototype Model

- A software prototype may be mistaken as the client's final produced output.
- Developers in a hurry to build prototypes may end up with sub-optimal solutions.
- Customers often ask for the final product to be shipped shortly after seeing an early prototype.

3.2 Selected Methodology

3.2.1 Iterative Waterfall Model

Iterative Waterfall Model is the extension of the Waterfall model. This model is almost the same as the model of the waterfall, except that some changes are made to enhance the software development efficiency. The iterative waterfall model presents input paths for the customer from each point to its previous stages. For the feasibility study process, there is no input path provided, so if any adjustment is needed in that phase, there is no scope for alteration or corrections in the iterative model. The iterative approach begins with a basic implementation of a subset of software specifications and iteratively develops the developing versions until the complete framework is implemented. Design changes are made at every iteration and fresh functional capabilities are introduced. The basic idea behind this method is to develop a system through repeated cycles (iterative) and in smaller portions at a time (tutorialspoint, 2020).

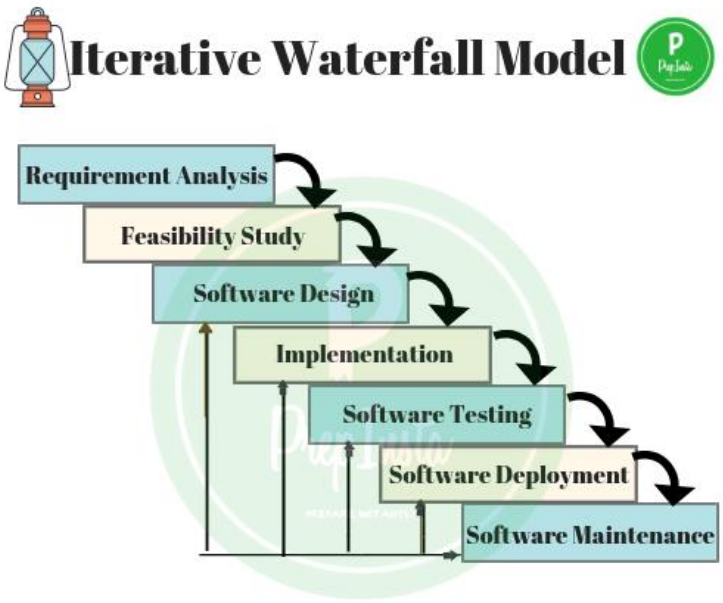

Figure 6: Iterative Waterfall model (prepinsta, 2020)

Reasons for choosing Incremental Waterfall Model

- This is a quick process to make adjustments or other changes at any point.
- Some working functionality can be developed quickly and early in the life cycle.
- Issues, problems and threats found may be used/applied to the next increment from each increment.
- Lower delivery cost while working in this model.
- Easier to fix Bugs.

3.3 Comparation between methodology

Feature	Prototype methodology	Iterative methodology
Requirement	It is frequently changed during the development of project.	It is gathered in the beginning and can only be changed before the iteration.
User Involvement	High number of users are involved.	Medium, number of users are involved.
System complexity	It can get complex according to the user feedback.	The simple application is developed.
Cost	Has high cost.	Has low cost.
Successful completion	Average change in completing the project.	High chance in completing the project.
Overlapping of phase	The overlapping of the phases is present.	There is no overlapping of the phases.
Cost control	It is not possible.	It is possible.

3.4 Similarity between Methodology

Feature	**Prototype methodology**	**Iterative methodology**
Risk Analysis	No risks	No risks
Cost Control	No cost control	No cost control
Availability of reusable components	Available	Available
Change incorporated	Simple	Simple

3.5 General Requirement

3.5.1 Functional

- User can bid on the products.
- User can put up their products for Auction.
- User are allowed to search the product they like.
- Seller can edit, delete and update their products.

3.5.2 Non-Functional

- User cab view all the pages.
- User can view all the arts or products.

3.6 Use case Diagram

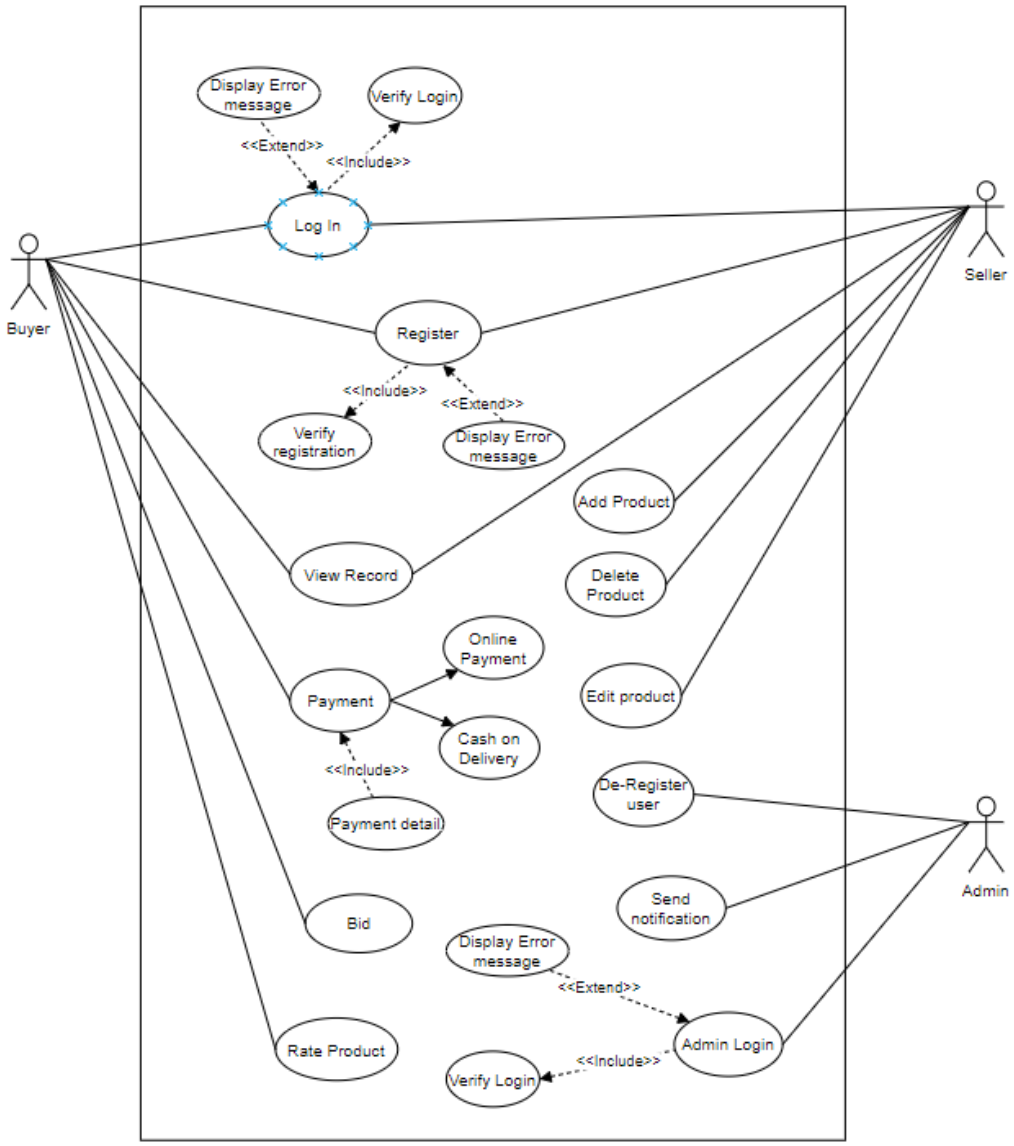

Figure 7: Use case Diagram

3.7 High level use case description

i. Register User

Use case: Register user

Actor: Buyer, Seller

Description: A user must register must registration form to use this application. User need to fill out their personal detail to in order to register it in the system.

ii. Log In

Use Case: Log in

Actor: Buyer, Seller

Description: After Registering the information a user must Log in onto the system. A user must enter their username and password to log in.

iii. Bid

Use case: Bid

Actor: Buyer

Description: After logging in the system a buyer can bid for an item which they are interested in.

iv. Payment

Use case: Payment

Actor: Buyer

Description: Buyer are required to pay for the item if they successfully won the bid.

v. Rate Product

Use Case: Rate Product

Actor: Buyer

Description: After successfully buying a product the used are able to rate the product.

vi. Add Product

Use Case: Add Product

Actor: Seller

Description: Seller are allowed to keep their products for bidding buy keeping all the information about the product.

vii. Delete Product

Use Case: Delete Product

Actor: Seller

Description: A seller can delete their products if they don't want it.

viii. Edit product

Use Case: Edit product

Actor: Seller

Description: A seller can edit the information of the products.

ix. De-register user

User case: De-register user

Actor: Admin

Description: Admin has an ability to de register an account of the user if the account is unactive.

x. Send Notification

User Case: Send Notification

Actor: Admin

Description: The admin sends the notification if the user won the bid.

3.8 UI

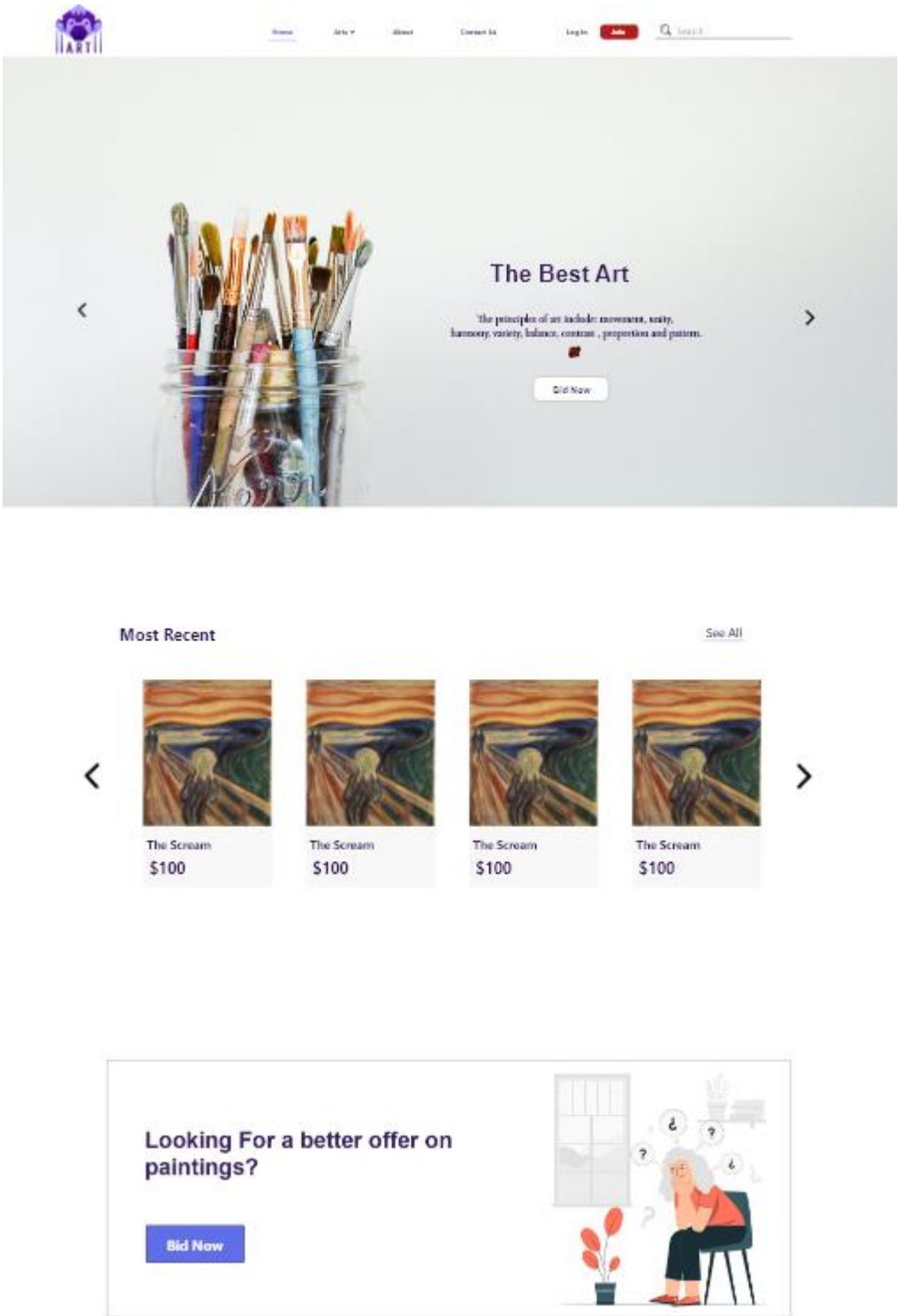

Figure 8: Home page

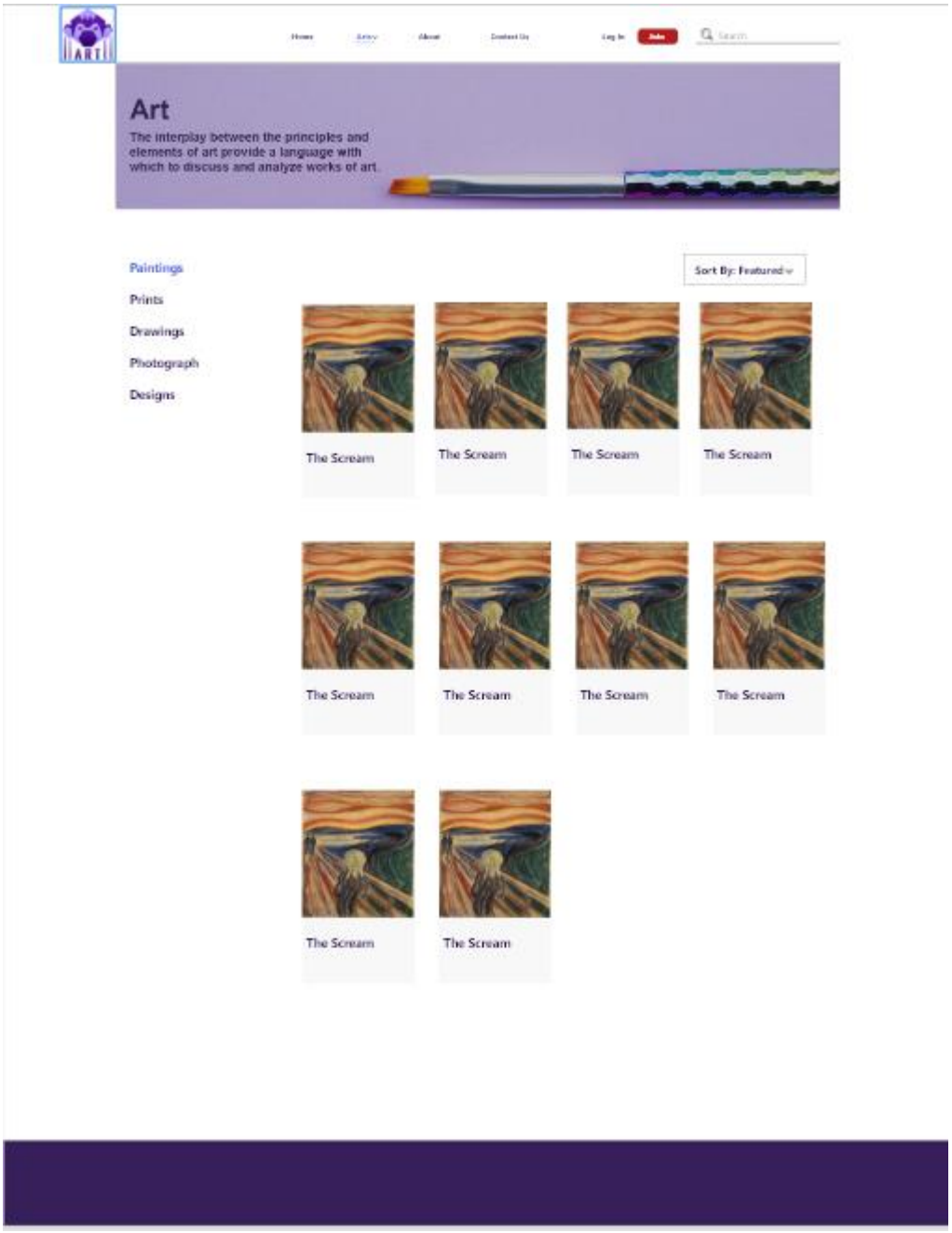

Figure 9: Product Page

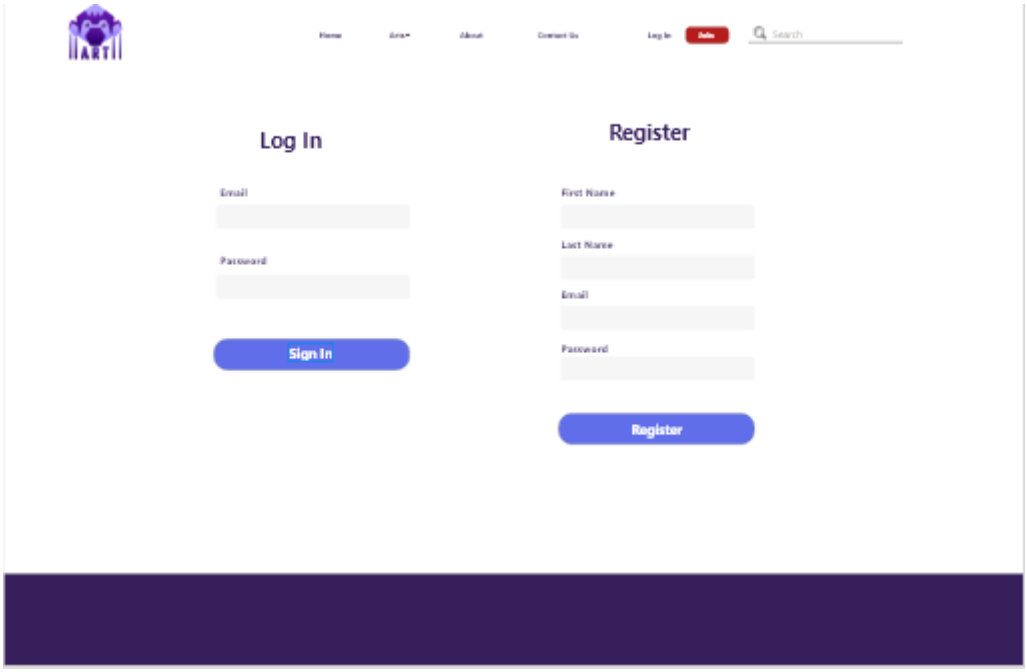

Figure 10: Log In / Register page

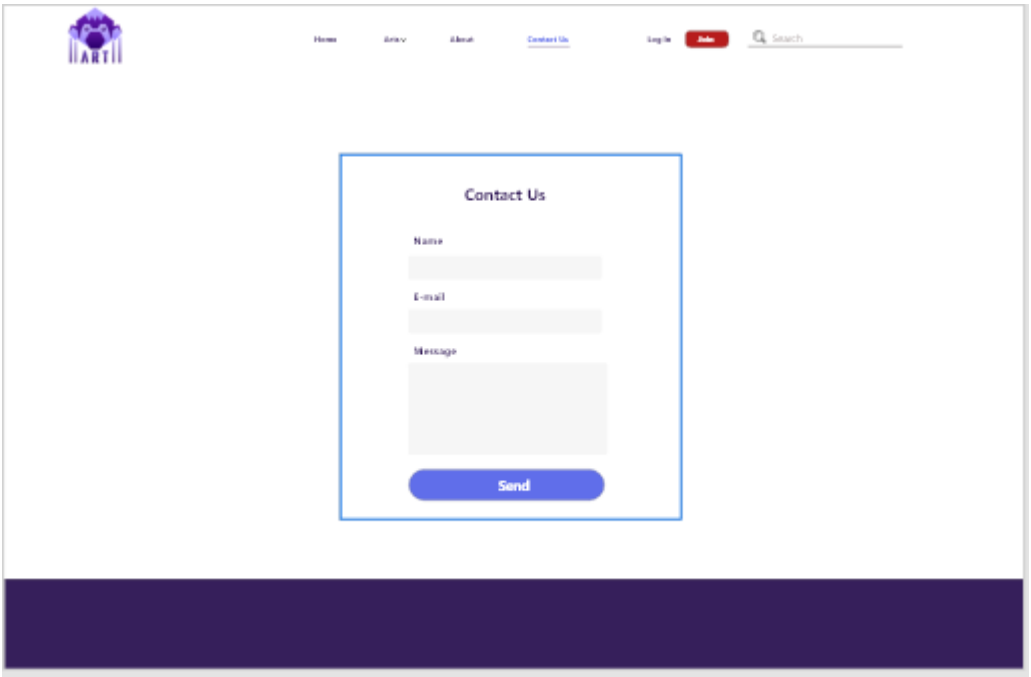

Figure 11: Contact Us page

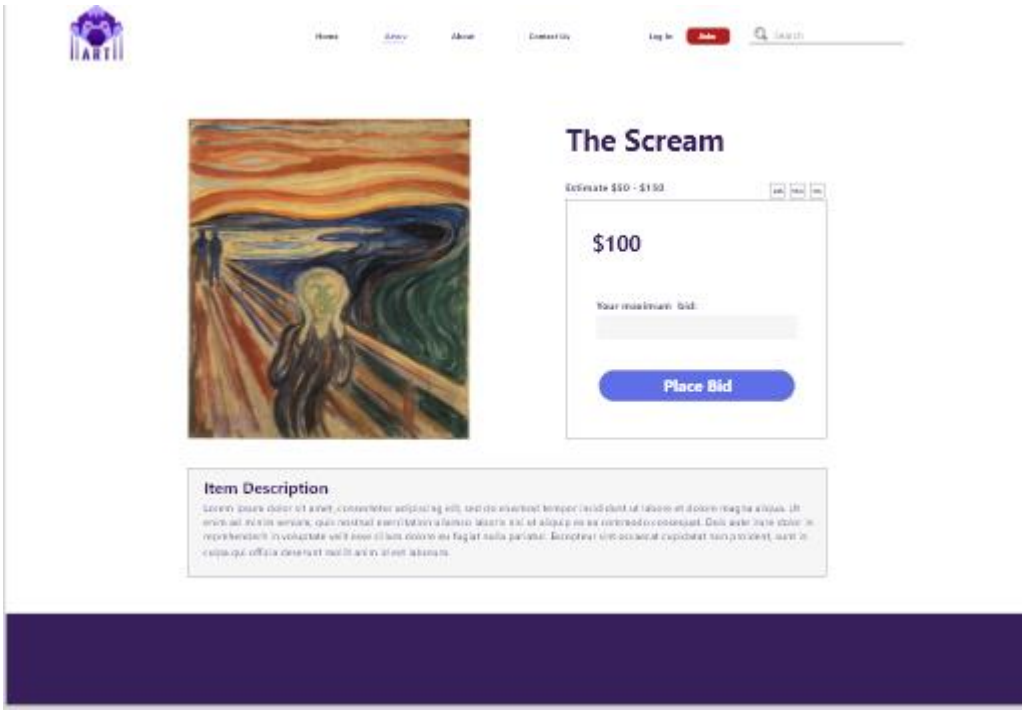

Figure 12: Product Description Page

4. Analysis of Progress

The progress report to provide information on the state of the project and how it is being built is included in this section. This chapter helps to assess the real values of project success and to equate them with the Gantt map. I've begun doing the project's machine design. Then, for both mobile and web apps, I have completed the use case diagram and high-level use case definition. After that, I began to design the system's database. The task I have completed till now is given below:

i. Research on similar projects.

ii. Gathering the requirements.

iii. Developing Proposal.

iv. Designing the Web Application.

v. Making use case Diagram.

vi. Designing database.

vii. Inserting Data in Database.

viii. Implementing Crud operation for user.

ix. Implementing Crud operation for products.

5. Future Works

This segment covers the project's remaining work. The following tasks were left to complete, according to the Gantt chart:

- Create UML Diagram.
- Complete the web application.
- Add notification system.
- QA testing for application.
- Final document for project.

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7. Appendix

7.1 Gannt Chart

Activity	Start Date	End Date	Total day	27-Sep	28-Sep	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct
Painting Auction	**27-Sep**	**15-Mar**	**154**										
Feasibility Study	**27-Sep**	**10-Oct**	**14**										
Evalution project feasibility	27-Sep	28-Sep	2										
Identify any cost	29-Sep	2-Oct	3										
Research about my project	4-Oct	5-Oct	1										
Requirement Analysis	12-Oct	19-Oct	**7**										
Development questionnaire in order to know requirement of user	12-Oct	13-Oct	2										
Analyze the features are requuired in the app	14-Oct	18-Oct	5										
Design	**18-Oct**	**31-Oct**	**14**										
Developing Wireframes	31-Oct	6-Dec	7										
Development Graphic design	7-Dec	13-Dec	7										
Implementation	**14-Dec**	**14-Mar**	**91**										
Carry out research in the developing UI and UX	14-Dec	10-Jan	28										
Develop UI and UX	11-Jan	22-Feb	42										
Design database	23-Feb	7-Mar	14										
Make suggested improments to UI and UX	8-Mar	14-Mar	7										
Testing	**15-Mar**		**84**										
Test logical error	15-Mar	11-Apr	28										
Find bugs	12-Apr	16-May	35										
Get best possible way to record data in database	17-May	30-May	14										
Maintenance Phase	on going	on going	on going										
Documentation	10-May	14-May	**14**										

Figure 13: Gannt Chart

7.2 Wireframes

7.2.1 Home Page

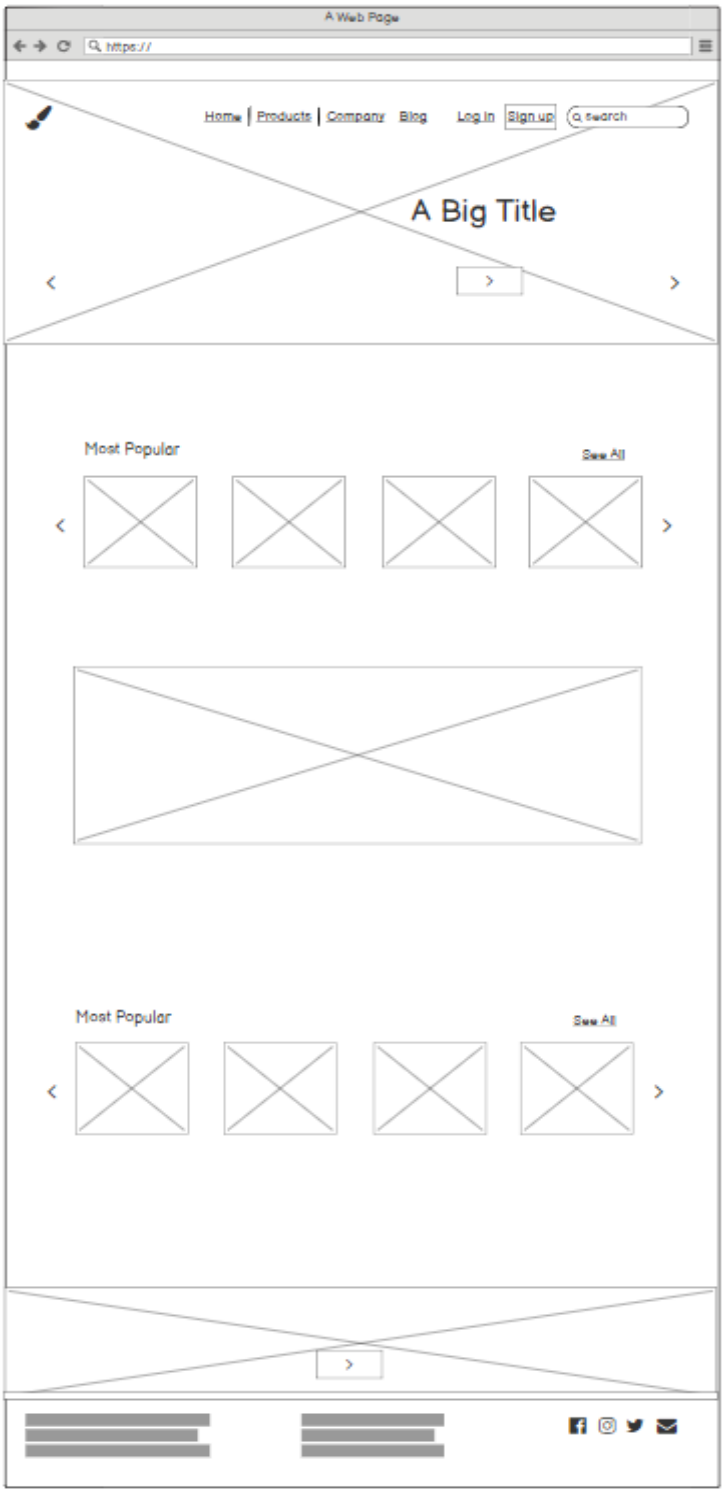

Figure 14: Home Page

7.2.2 Product Page

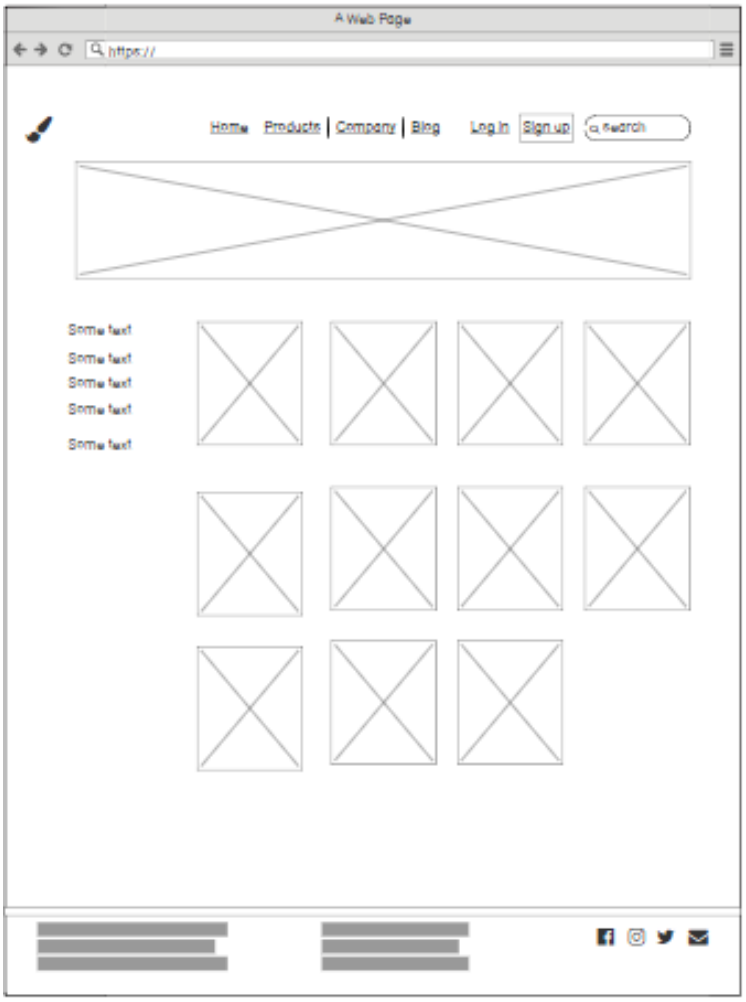

Figure 15: Product Page

7.2.3 Log in / Register Page

Figure 16: Log in / Register

7.2.4 Contact us page

Figure 17: Contact Us

7.3 Survey Questions

The survey was carried out to collect data on the present situation and people's vision of the Online Auction Application. We were able to gather some of the response. The individuals' responses are described below:

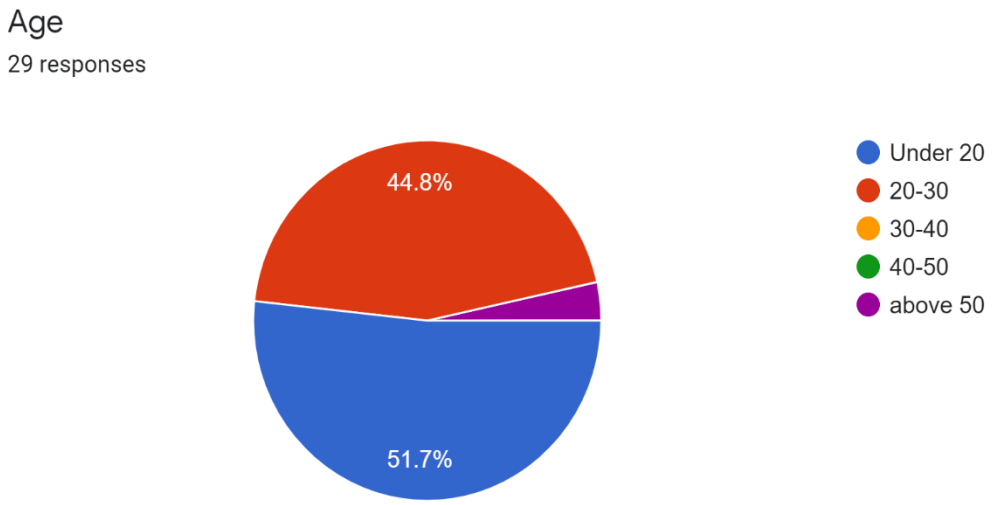

Figure 19: Survey question 1

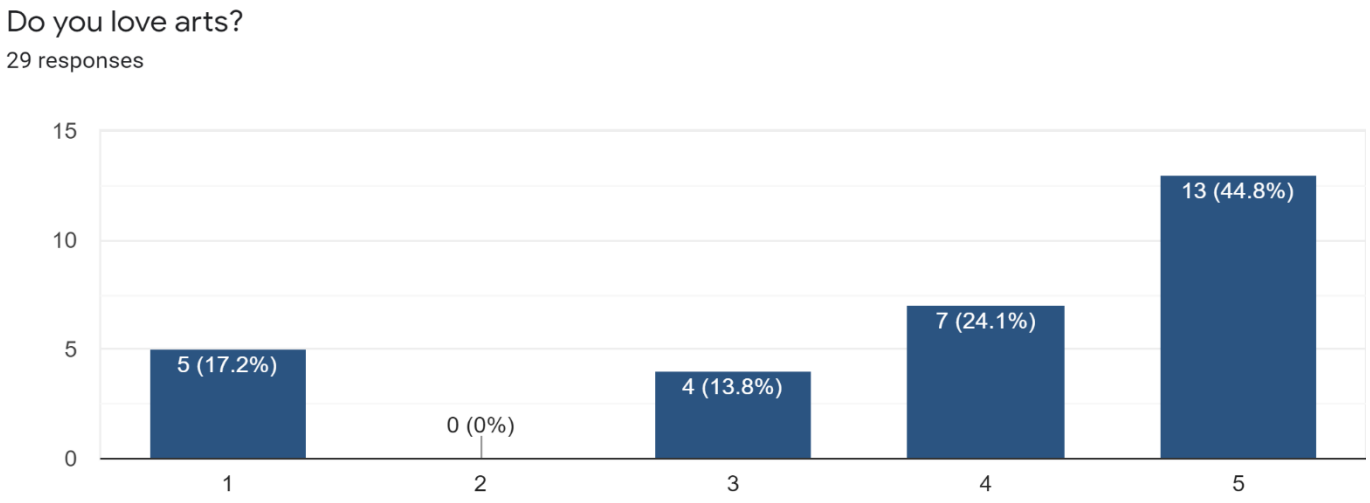

Figure 18: Survey question 2

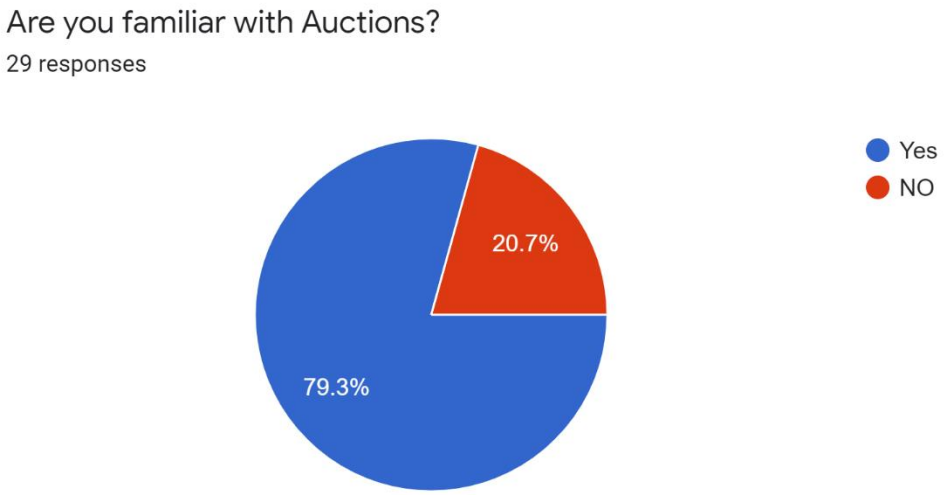

Figure 20: Survey question 3

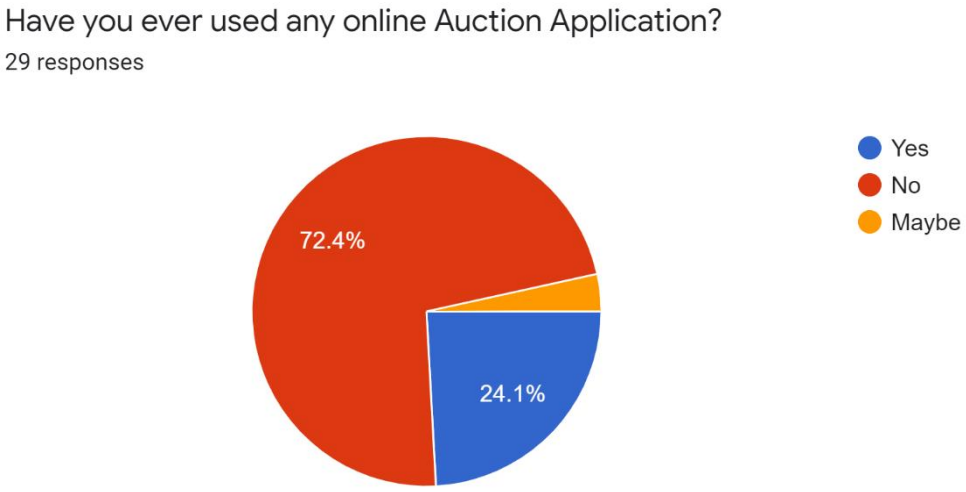

Figure 21: Survey question 4

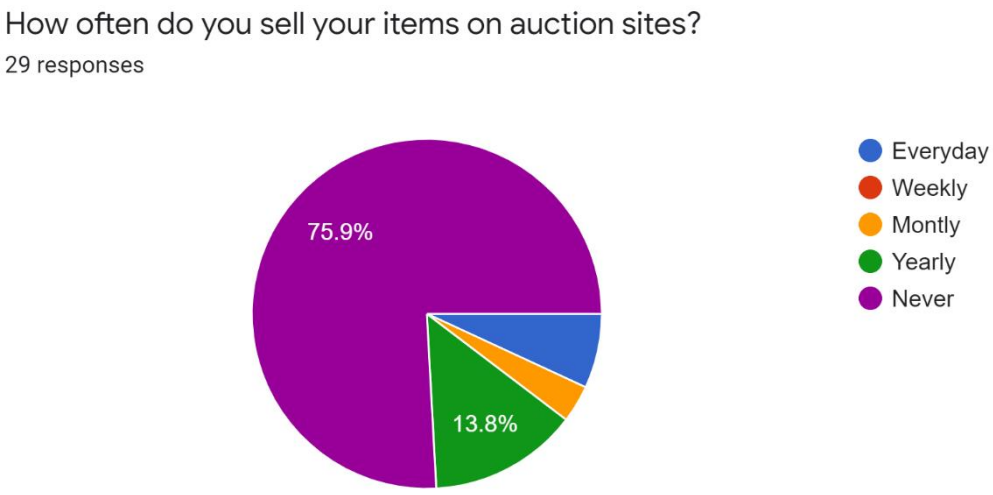

Figure 22: Survey question 5

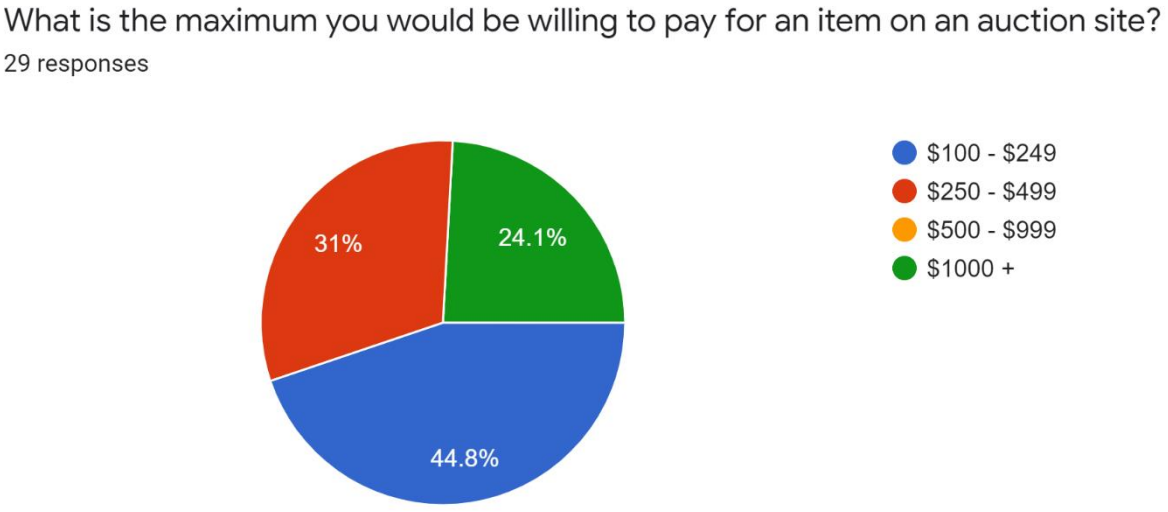

Figure 23: Survey question 6

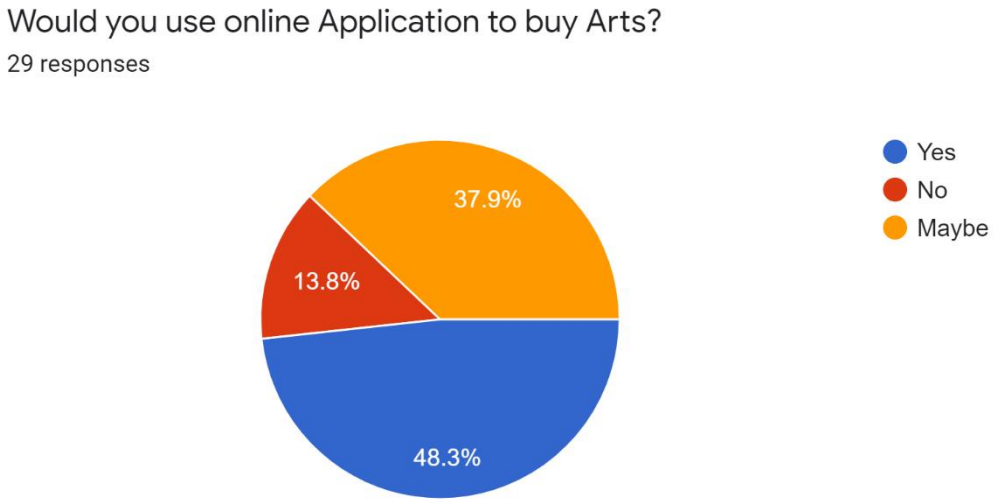

Figure 24: Survey question 7

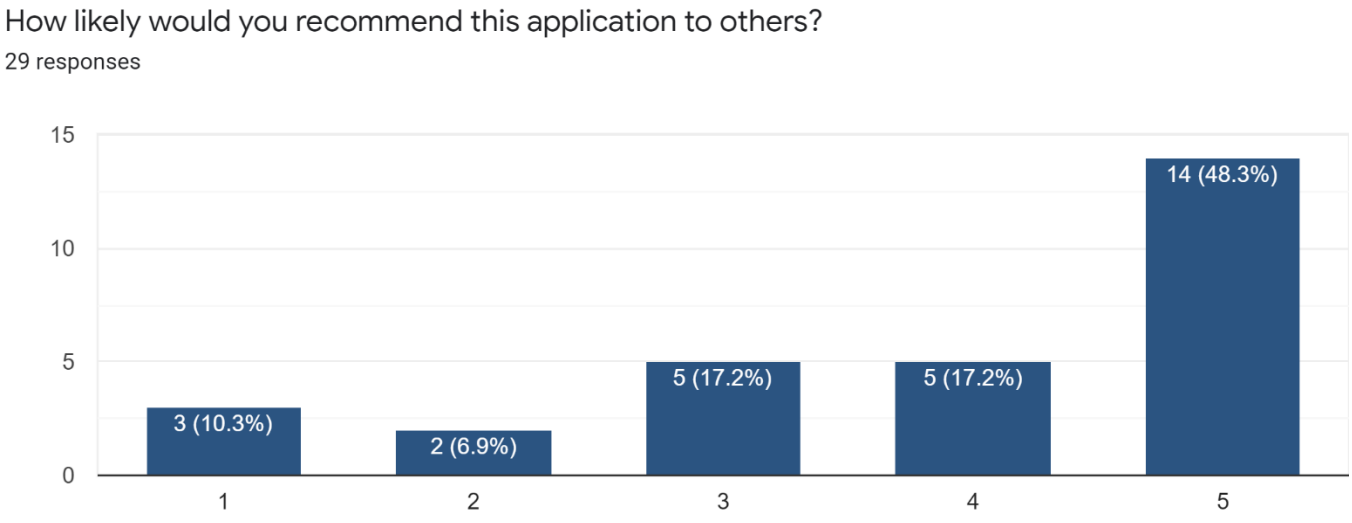

Figure 25: Survey Question 8

7.4 ERD

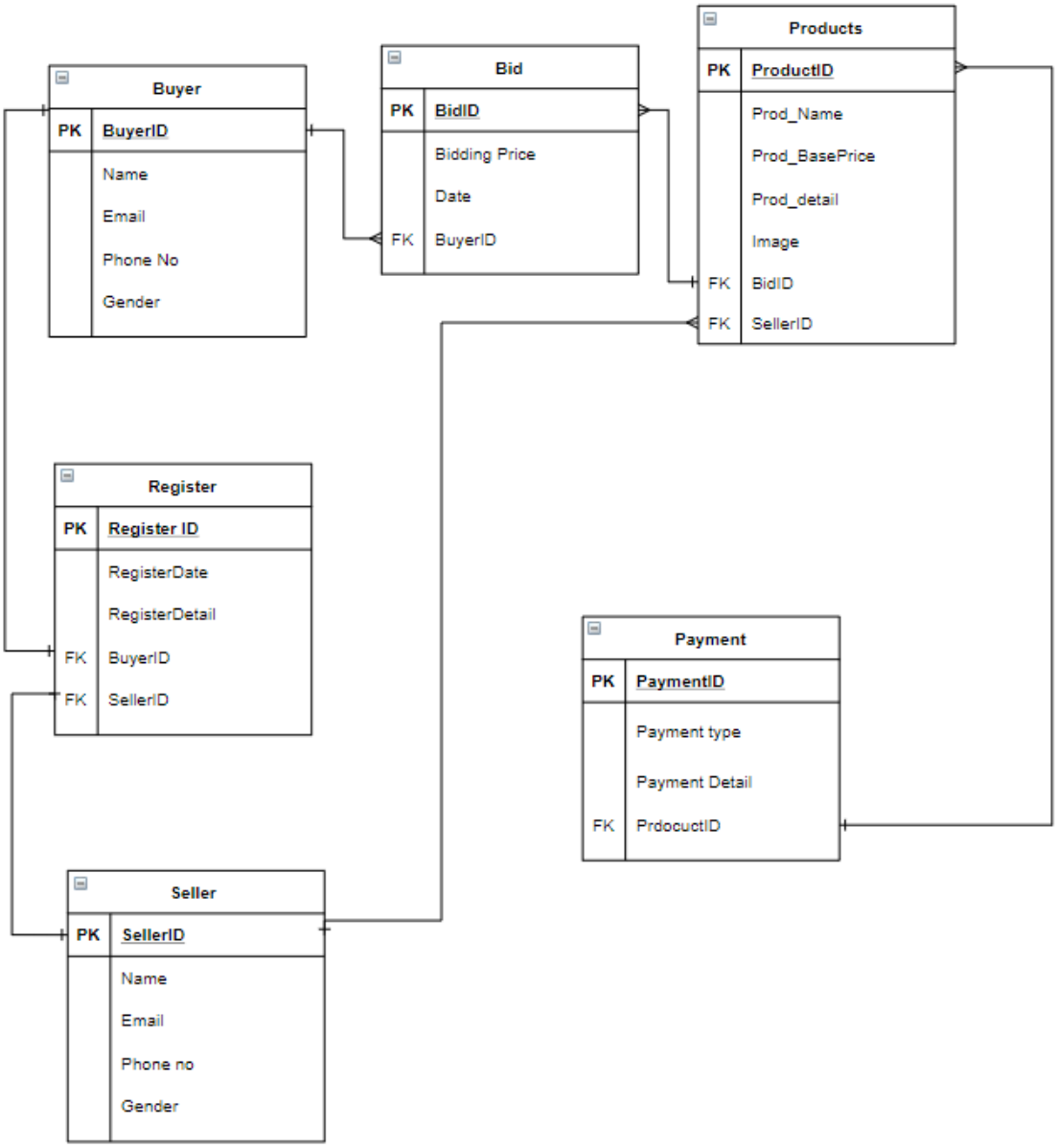

Figure 26: ERD