



# An Undergraduate Internship Report on FindArt, a Social Media Website

By

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Science in Computer Science

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# Attestation

This is to certify that the report is completed by me, Rosa Mahmud Taran (1730089), submitted in partial fulfillment of the requirement for the Degree of Computer Science and Engineering from Independent University,Bangladesh (IUB). It has been completed under the guidance of Md. Abu Sayed. I also certify that all my work is genuine which I have learned during my Internship. All the sources of information used in this project and report has been duly acknowledged in it.

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Signature

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Date

Rosa Mahmud Taran

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Name

# Acknowledgement

I would like to firstly like to thank the Almighty Allah for giving me the endurance and the ability to work hard and for giving me the chance to be able to do my internship at Techdojo.

I would like to thank my honorable faculty and supervisor Md. Abu Sayed, Lecturer, Department of Computer Science Engineering, Independent University, Bangladesh, for his invaluable guidance, patience, time, constructive criticism and thoughtful advice regarding various aspects of my internship and preparation of this report.

I express my deep gratitude to external supervisor and my mentor Ms. Shama Hoque, for appointing me as an Intern and including me to be a part of this company. Without her extreme energetic support and guidance, I could not finish the project successfully. Also, my senior coworkers Asif Mahmud and Sabah Ashraf who made me feel at home from day one in the company and helped me navigate throughout the projects.

Last but not the least, I would like to thank my parents and other family members my for their unconditional love and support that have sustained, nurtured, and got me ready for this challenge.

# **Letter of Transmittal**

10 Sep 2021

Md. Abu Sayed

Lecturer,

Department of Computer Science and Engineering,  
Independent University, Bangladesh

Subject: Letter of Submission for Internship Report, Summer 2021

Dear Sir,

With due honor and respect, I, Rosa Mahmud, from Summer 2021, Section 5, would like to submit my Internship report. This report is written to kindly inform you that I have completed my internship program and its report. I completed my internship at Techdojo Limited.

This report is based on my experience and the work I did at Techdojo Limited during my internship. The primary goal for my internship was to gain experience in the different technology related fields of the company, including software development, and to get acquainted with software development processes and practices with emphasis and priority on understanding how a software is being built rather than what is being built.

Over the period of my internship at Techdojo Limited, I found out that I learned and applied a lot of new skills and technologies. The company comprises of a small team of software craftsmen who learn, collaborate, and innovate together.

I hope the following report can achieve your approval and is up to mark.

Sincerely,

Rosa Mahmud Taran

# Evaluation Committee

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Supervisor

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Internal Examiner

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# Abstract

Nowadays, people rely on technology for almost everything including home, service, business and education. It gets a bit difficult sometimes for people to hire artists for some sort of work within the budget, and also for the underrated artists to gain recognition. Hence, a decision was made to create a web application with the purpose of finding and hiring artists simple and easy.

In this report, I have thoroughly detailed the structure and configuration of the social media based website named "FindArt". I went through the project's goal, as well as the management of the website's development. Moving forward, I have described the methodology for completing the website, from planning to deployment. It was important to evaluate the outcome, make graphical explanations of the website, consider the findings, and ultimately analyse system. Each factor have been addressed in details in my report. I have also mentioned my internship experience in Techdojo limited. As an intern of the company, I was assigned with responsibilities that I performed remotely. Before assigning the project to me, I was given a training session where I learned the MERN stack.

**Keywords**— artists, clients, MERN stack

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# Chapter 1

## Introduction

### 1.1 Overview/Background of the Work

The sense of aesthetics and the skills to implement them may not be the best quality of most of the consumers, but certainly is demanded by everyone. Therefore, people hire artists such as painters, designers, photographers for various kind of personal or commercial works. A dream wedding or any kind of events can not be completed without the decorations, photography, musical performances, etc. To find the right group of people for such events is not that easy, so people need to go to event management firms for help. This can become very costly and often, it becomes unaffordable. Hence, hiring talents from management firms becomes an unviable option. This is where hiring freelance artists/talents may come in very handy.

It is not always convenient to find artists for any kind of work from personal contacts. ‘FindArt’ will make it more convenient in finding the most suitable freelance artists for personal and commercial projects. It is a social media for finding artists within a user’s affordability and its category-based search makes it easier to find the type of artist they need. Artists of all mediums can upload their work to get clients and establish communication.

In a competitive market, the renowned artists get overrated and hence, their services become more expensive. This is a problem that a lot of customers face as well. ‘FindArt’ is a platform that will help underrated artists to be discovered. It will offer all the users a user friendly and an interactive interface that will help clients to find suitable freelancers for their projects, and it will also help the artists to connect with other artists that can be helpful for them.

## 1.2 Objectives

- To create a market place by connecting the artists to the general public.
- To showcase the artists portfolio.
- To make it easier for the general public to find artists according to their needs.
- To find artists at an affordable range.
- To bring undiscovered talents into the spotlight.
- To motivate rising talents and help them to get freelance work.

## 1.3 Scopes

- Artists will be able to upload their portfolio.
- Artists and clients will be able to follow their favorite artists.
- Users can like artists' work.
- Users can edit their user information.
- Artists can be searched based on the medium of art they work on.
- Both clients and artists can be rated and reviewed after an event is done.

# Chapter 2

## Literature Review

### 2.1 Relationship with Undergraduate Studies

- **CSE 203 Data Structure:** This was one of the most important courses that taught us about basic to advanced things like how complex arrays can be handled and manipulated, objects, classes etc. Arrays are widely used throughout the project and so the knowledge from this course made it easier.
- **CSE 213 Object-Oriented Programming:** In this course, we learned to write modular programs which make the codes reusable, less repetitive and easier to read. The lesson learned from this course helped me to make ‘FindArt’ have a clean code base. It also made it easier for me to find bugs in my code.
- **CSE 303 Database Management:** This course helped me visualize for the first time, how to design and plan a project. I learned a lot of planning and strategy practices like Rich Picture, Requirement Analysis Entity Relationship Diagram etc.
- **CSE 307 System Analysis and Design:** This course helped me in learning important diagram tools, which I needed for planning such as data flow diagram, decision trees etc. It also helped me creating a good user interface design which is very much necessary because users are the ones who will be using the system the most. The UI should not be confusing, but rather simple and easy to understand.
- **CSE 309 Web Applications and Internet:** I got introduced to the fundamentals of web-development from this course that is HTML, CSS and Java-Script. The project I am working on is based on purely Java-Script. The front end is based on react, which is a Java-Script library for creating UI components. For backend, I am using Node Js and Express Js which is also a framework of node Js that helps me to create powerful web-application.

## 2.2 Related works

Mary Beth and McCabe stated in their paper that social media can be very useful to promote yourself and apply for jobs that are challenging and satisfying which helps to grow your career. It mainly focuses on LinkedIn and how it connects people to job opportunities. Now a days job seekers are particular in picking their employers. Due to social media, traditional recruitment processes has been forgone [1].

As the paper suggested that social media allows for more job opportunities, the system I am working on will do something like that as well. Like how people can upload their work in this platform to promote themselves, and thus increases the opportunities to get more clients. And also serves a platform for the general public to get hold of artists. Since the system has a review functionality for the artists to review clients, artists can choose their clients based on their reviews.

H. Kristl Davison, Mark N.Bing, Donald H.Kluemper, Philip L. Roth mentioned in their paper that recruiters use the internet and social media to learn more detailed information about the job candidates. By accessing their information through social media, the candidates do not have privacy. This is where concern over legality and appropriateness comes in to question. The paper aims to study over these issues and provide suggestions for people in HR in using social media for selection purposes [2].

The system we are working on emphasises to strictly share artist's information that is professional. This eliminated the issue of privacy being breached. But, this is an option that is left to the users. If they still want to mention their personal information, that is up to them. The only mandatory information that will be available to the public are the artist reviews left by other users.

Facebook: Facebook is a platform that connects all the people worldwide and the users can share their thoughts, upload videos, like and comment on posts. Similar to Facebook, ‘FindArt’ allows the users to connect with all kind of artists and artists can upload their work.

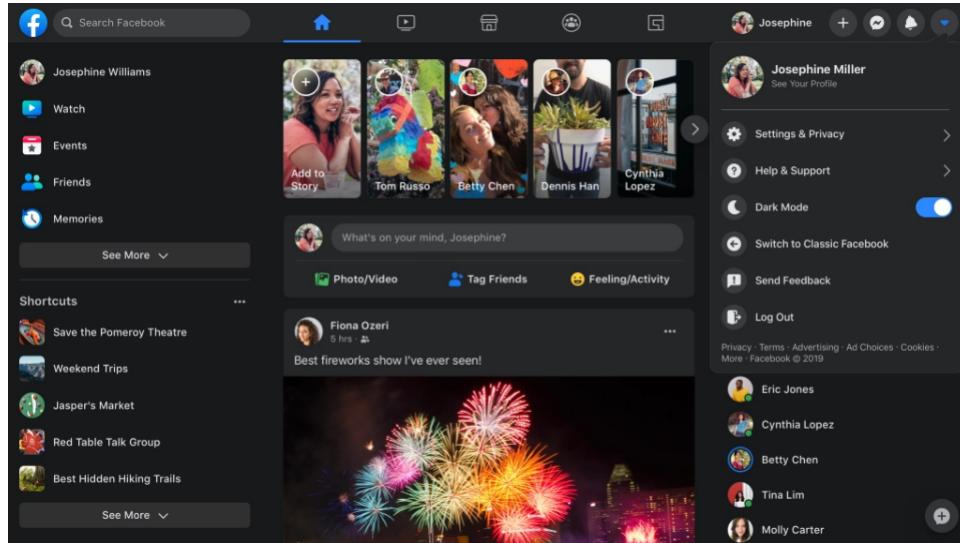


Figure 2.1: Facebook page

Fiverr: Fiverr is an online platform for people looking for freelance jobs. They help freelancers to offer digital services to customers globally. This system and ‘FindArt’ both help people to get freelance work.

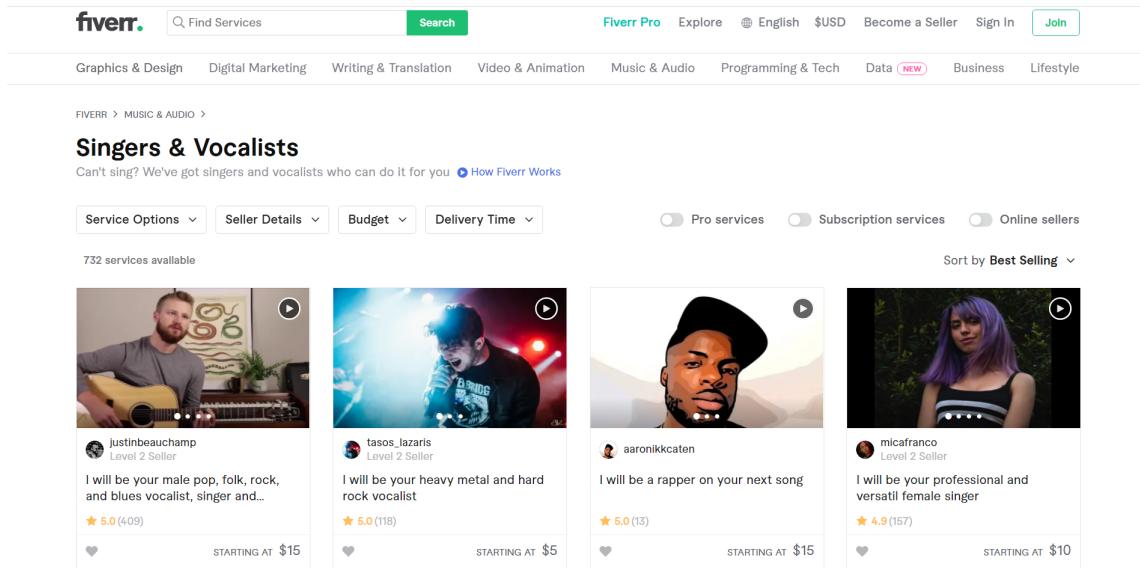


Figure 2.2: Fiverr

# Chapter 3

## Methodology

Among the different agile methodologies, the developers of Techdojo Limited [3] follows Extreme Programming (XP) method that aims to produce higher quality software and higher quality of life for the development team. The goal of XP is to write high-qualitative software quickly and be able to adapt to customers' changing requirements. In this methodology, the development team estimates, plans, and delivers the user stories with the highest priorities on an iteration-by-iteration basis [4]. XP has simple rules that are based on 5 values. They are:

- **Communication:** We had weekly meetings with our teams where we shared our progress and discussed about any issued that anyone of us faced.
- **Simplicity:** Our goal was to keep things simple. We only worked on the things that were important for the project so that it can be easily maintained.
- **Feedback:** After each iteration, we showed it to the clients to get their feedback and make changes according to their preferences.
- **Courage:** We were encouraged not to be afraid when making changes and accept any sort of feedback when given.
- **Respect:** while working on this project, every team member communicated with respect and everyone respected each others decisions.

## XP Workflow

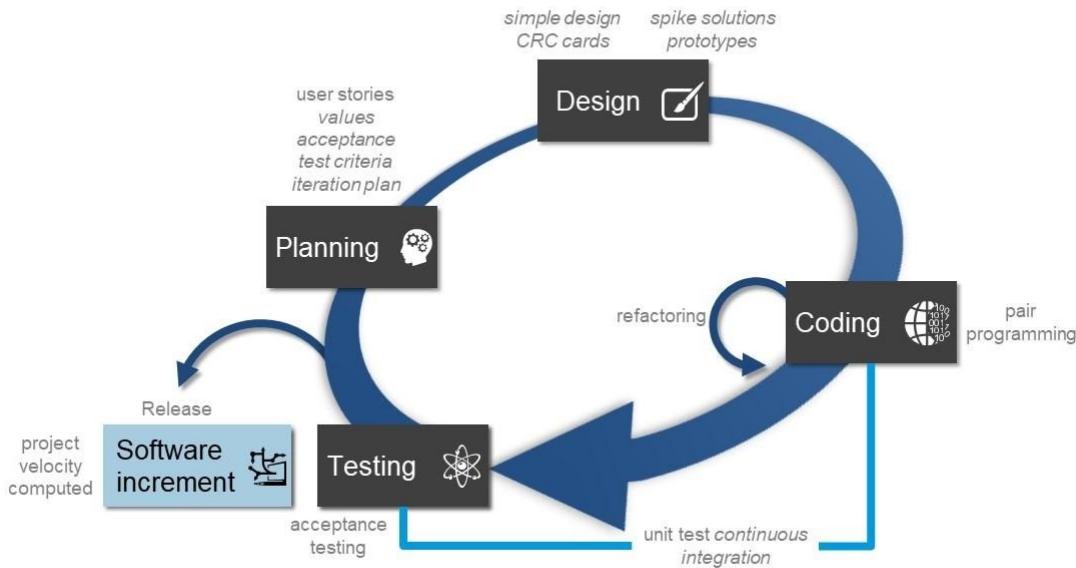


Figure 3.1: Extreme Programming Methodology

## Web Application Development

Web application development is the process involved in creating powerful and sophisticated systems [5]. It can be anything from an e-commerce site, an online video platform, social media platform and many more. HTML and CSS are the basic foundation of web development. To add any sort of functionality, we can use programming language like JavaScript or PHP.

'FindArt' is a web application that is build using a MERN stack, which is a very popular full stack development tool. It consists of the following technologies:

**M:** MongoDB is a NoSQL database where the data is stored in JSON format. Its document model made it simple for me to learn and use as my database for the project.

```

1   {
2     _id: "5cf0029caff5056591b0ce7d",
3     firstname: 'Jane',
4     lastname: 'Wu',
5     address: {
6       street: '1 Circle Rd',
7       city: 'Los Angeles',
8       state: 'CA',
9       zip: '90404'
10    }
11  }

```

Figure 3.2: A Document Model Of MongoDB

**E:** Express.js is a backend framework that allows us to maintain communication between the frontend and backend by the use of REST API to manage and manipulate data to and from the database.

**R:** React is a JavaScript library made by Facebook. React allows us to create reusable UI components that make building web applications faster.

**N:** Node.js is a JavaScript runtime environment that lets us create powerful web applications.

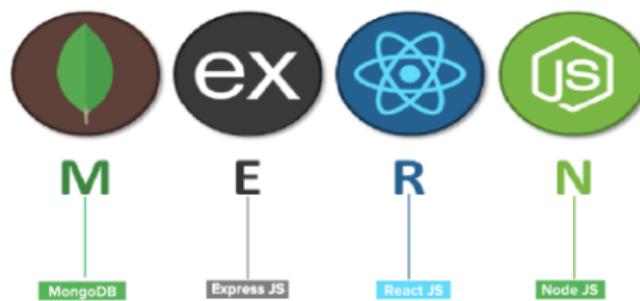


Figure 3.3: MERN Stack

## Non-Development Tools

**Version Control:** For version control, the team and I used git, which is a free, open-source distributed system. It helped us keep track of changes in the source codes during development and also specific versions of the system that can be called again later.

**GitHub:** To use the functionality of git, we use GitHub which provides hosting for free software development and version control. In addition, it also provides access control and several collaboration tools.

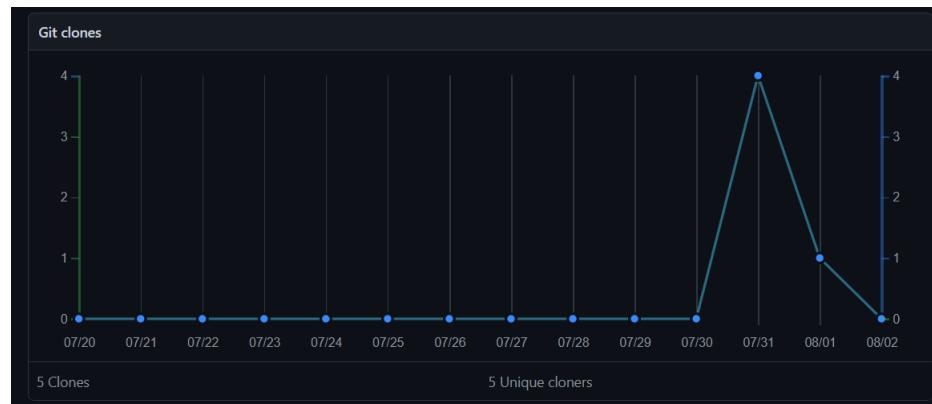


Figure 3.4: Git Clones

**Discord:** Due to COVID-19, my internship had to be virtual. The entire team had to work from home. So, to keep clear communication we used Discord, which is a VoIP, instant messaging and file managing platform. It also supports video calls and screen sharing which was very important when it came to collaborating with other team mates and group discussions.

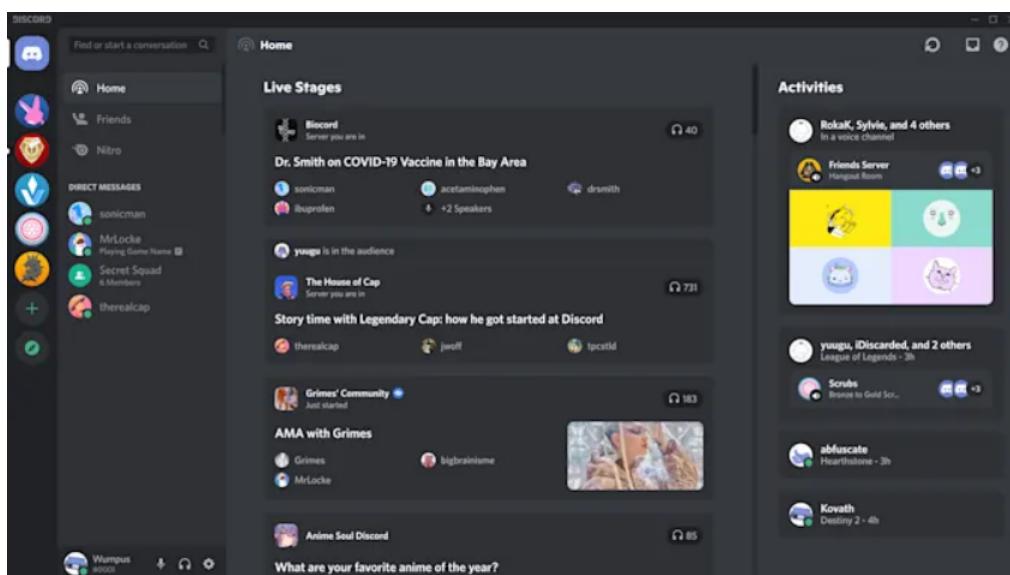


Figure 3.5: Discord Application

# Chapter 4

## Project Management & Financing

### 4.1 Work Breakdown Structure

The WBS [6] is a method for getting a complex, multi-step project done. It is a way to divide and conquer large projects, so things are done faster and more efficiently. Work breakdown structure (WBS) is a hierarchical tree structure that outlines a project and breaks it down into smaller portions. The goal of a WBS is to make a large project more manageable. Breaking it down into smaller chunks means work can be done simultaneously by different team members which leads to better team productivity. Below is the WBS of 'FindArt'.

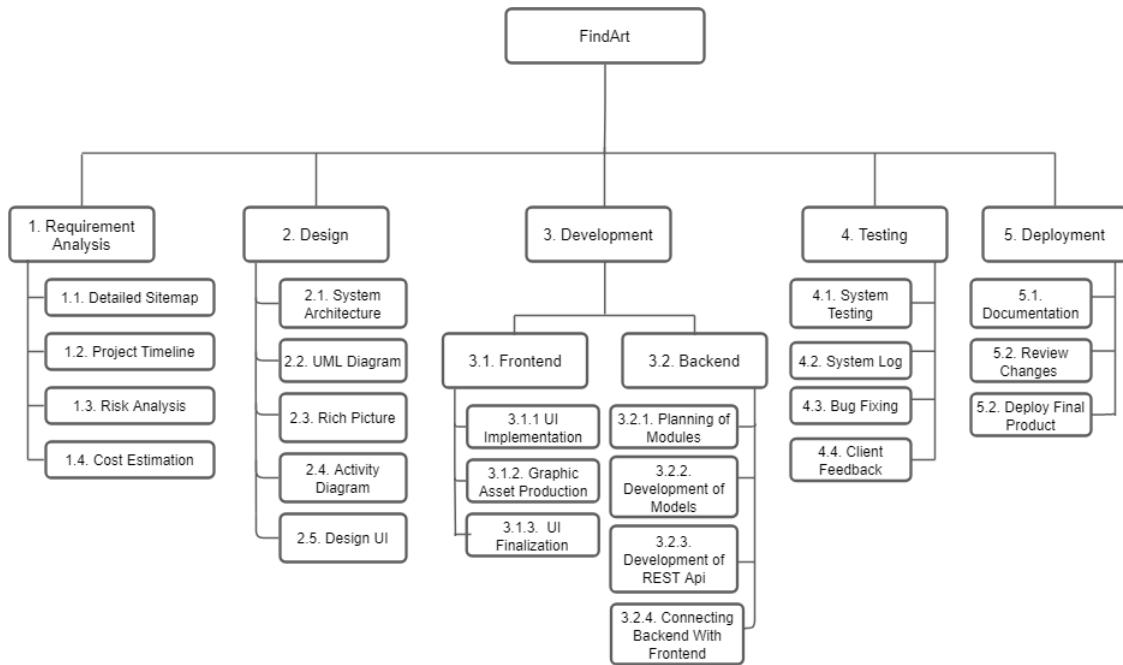


Figure 4.1: Work Breakdown Structure of 'FindArt'

## 4.2 Process/Activity wise Time Distribution

For each section mentioned in the Work Breakdown Structure, time was also allocated so that the project can be completed on time. The table below shows the time allocation of work.

Task	No. Of Days	Work Percentage
Requirement Analysis	8	12
Design	8	14
Development	30	50
Testing	7	14
Deployment	7	10
Total	60	100

Figure 4.2: Activity Wise Time Distribution

## 4.3 Gantt Chart

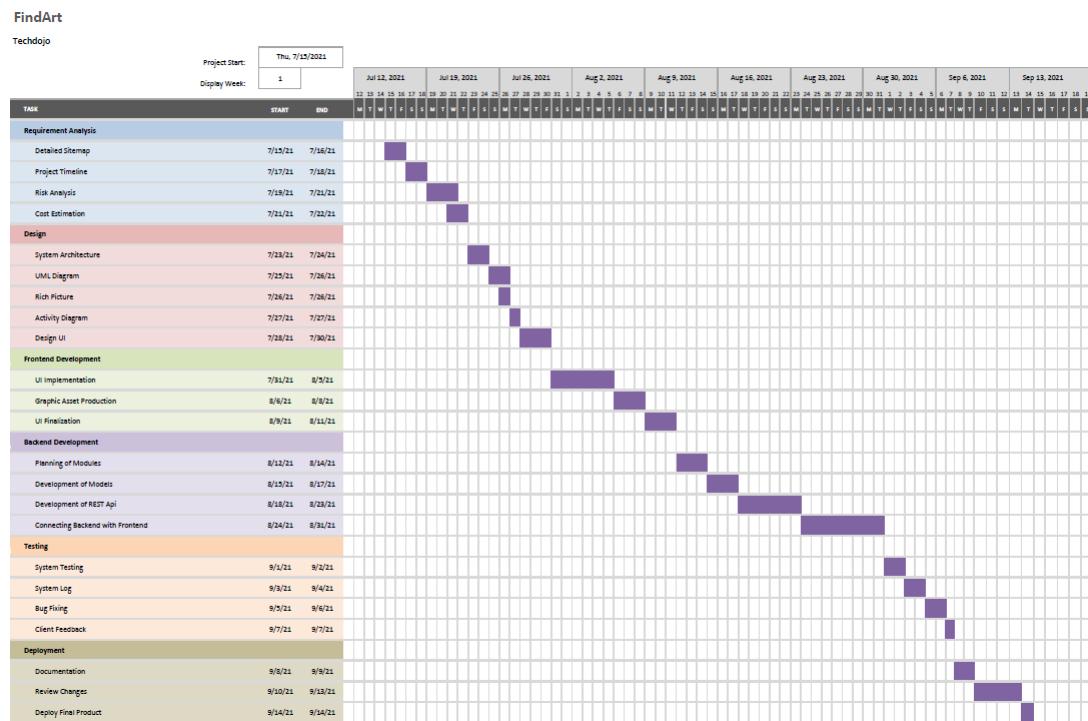


Figure 4.3: Gantt Chart of 'FindArt'

A Gantt chart has been produced to help plan and schedule project tasks. It helped assess how long the project should take, determine the resources needed and plan the order in which tasks will be completed. It also helped in managing the dependencies between tasks.

The Gantt chart was also useful for monitoring the project's progress once it has started. It helped in having a clearer vision of what should have been achieved by a certain time frame

and when the project fell behind schedule; appropriate actions were taken to bring it back to course.

## 4.4 Process/Activity wise Resource Allocation

- **Requirement Analysis:** It is the first phase in the software development process where the expectations of the users for a system is defined. It is a very important phase for developing a system. If it is not done properly, the project might not be successful. So, for this project 12% of the work was dedicated to requirement analysis.

- **Design:** Design layout refers to the way in which elements on a page is arranged. It is important to make the design simple and user friendly, so that everyone can use the system easily. 14% of the workload was dedicated for designing ‘FindArt’.

- **Development:** Development is a very crucial stage in software development life-cycle. It consists of creating the front-end for the users and back-end for the server, and finally connecting them to make the system functional. It requires the most time and so 50% of the workload was allocated to development.

- **Testing:** After development, comes testing. The system needs to be tested properly to see if there are any bugs in the system before it can be deployed. For ‘FindArt’, 14% of the workload was allocated for testing.

- **Deployment:** After all the testing, the system is ready for deployment. It is handed over the client and is hosted on the client’s domain. 10% of the workload for this project was allocated for this.

## 4.5 Estimated Costing

Cost is estimated on the basis of the scope of the project and the time needed to complete the project. It depends on the size, functionalities and the design of the website. The cost of developers and resources used are also taken into account. There is also going to be an additional charge for hosting and domain. The approximate cost of the project is shown on the table below.

Stage	No. Of Hours (hr)	Cost (BDT)
UI/UX Design	55-60	30,000
Front-end	200-210	45,000
Backend	220-230	65,000
Testing	30-40	30,000
Total	500-540	170,000

Figure 4.4: Estimated Cost

# Chapter 5

## Body of the Project

### 5.1 Work Description

'FindArt' is a web application which aims to make it easier for the general public to find artists of various types for any kind of personal or professional events. It also aims to help the underrated artists to grow their career. This application will help the general public to find artists that will be the most suitable for their work according to their budget and requirements.

New users can register for their accounts from the login page. There are going to be two types of users in this system. Clients, who want to look for artists for a particular work, and artists, who want to get clients and promote their work through this system. While registering for a client's account, the user must provide their email, username and their password. If the user registers with an email that already exists, or if the email is not valid, the registration will not be successful. The registration for artists is almost like the clients registration, and the only difference is that the artist needs to choose the category of specialization he/she works on for the registration to be successful.

There is also going to be an admin in the system to control the actions of the users. The admin will have the power to remove a user or a post from the system if it violates the system's policies or regulations.

After registering for the account, artists will be able to post their work on their profile and they can also follow other users in the system to connect with them. Users can like and add comments to the posts they want. Clients will be able to follow artists they like to get their updates. They can also search for artists based on the categories and their names. In addition, they can post and ask for recommendations for a particular work or a job that can be handled best by an artist. All the posts will have a feature that will show how long ago the post was made. The posts in the feed will be sorted by latest. After a successful event, both clients and artists will be able to review and rate each other.

Users can also update their profile. Both the users can change their username, password, profile and cover picture, but they can not change their email. They will have the option to delete or edit a post if they want to.

I worked on the front-end of the system along with some other modules which are listed below:

Registration, creating two different type of accounts, uploading and liking/unliking posts or photos, sorting the posts by latest, following users and category or name based search.

## 5.2 System Analysis

### 5.2.1 Six Element Analysis

Processes	Human	Non-Computer Hardware	Computing Hardware	Six Element Analysis		Database	Communication and Network
				Software			
Registration	Users -Fills up the form with necessary information	Pen and Paper	Desktops, Laptops, Smartphones	Web Browser - To try and test the system VS code - To code Github -To collaborate with team members MS Word - For documentation Discord -To communicate with the developers		MongoDB - To store data	WAN/LAN - To visit the website
Login	Users -Types the user credentials to login	Pen and Paper	Desktops, Laptops, Smartphones	Web Browser - To try and test the system VS code - To code Github -To collaborate with team members MS Word - For documentation Discord -To communicate with the developers		MongoDB - To store data	WAN/LAN - To visit the website
Upload Media/ Posts	Artists -Logs into account, types/choose file to upload in the input form  Clients -Logs into account, types in the input form and shares it	Pen and Paper	Desktops, Laptops, Smartphones	Web Browser - To try and test the system VS code - To code Github -To collaborate with team members MS Word - For documentation Discord -To communicate with the developers		MongoDB - To store data	WAN/LAN - To visit the website
Search Category Based Artists	Users - Clicks on discover and types the category name he/she is looking for	Pen and Paper	Desktops, Laptops, Smartphones	Web Browser - To try and test the system VS code - To code Github -To collaborate with team members MS Word - For documentation Discord -To communicate with the developers		MongoDB - To store data	WAN/LAN - To visit the website
Review	Users -Searches for the user he/she wants to review, types their thoughts on the review section and clicks on submit	Pen and Paper	Desktops, Laptops, Smartphones	Web Browser - To try and test the system VS code - To code Github -To collaborate with team members MS Word - For documentation Discord -To communicate with the developers		MongoDB - To store data	WAN/LAN - To visit the website
Update/Delete User Accounts	Users -Clicks on the edit option, makes required changes to edit information or clicks on delete button to delete account	Pen and Paper	Desktops, Laptops, Smartphones	Web Browser - To try and test the system VS code - To code Github -To collaborate with team members MS Word - For documentation Discord -To communicate with the developers		MongoDB - To store data	WAN/LAN - To visit the website
Follow Users	Users -Searches for the user or clicks on the user's profile icon to visit the users' profile and clicks on follow button	Pen and Paper	Desktops, Laptops, Smartphones	Web Browser - To try and test the system VS code - To code Github -To collaborate with team members MS Word - For documentation Discord -To communicate with the developers		MongoDB - To store data	WAN/LAN - To visit the website

Table 5.1: Six Element Analysis.

### 5.2.2 Feasibility Analysis

A Feasibility study was carried out based on many purposes to analyze on whether the system we are developing will be right in terms of development, implantation, contribution of project to the organization, etc.

- Technical Feasibility: 'FindArt' is built using React, Node.js, Express.js and MongoDB. These technologies are now popular in the modern industry and everyone involved in the development of this project had the skills to work with at least one of the technologies mentioned. Therefore, it can be concluded that the project is technically feasible.
- Operational Feasibility: Different kind of events are taking place throughout the year. Let it be professional or personal, all the events need some creative group of people to make it successful. It is not always easy to find artists within the budget for an event and similarly, it is also not easy for the artists to find work. With the help of this website, both their problems will be solved.
- Economic Feasibility: The cost and benefits of this website have been considered in this section. The website does not contain any hidden costs for users. They aim to profit from the ads and artists when they want to promote their accounts. They also plan to work on premium accounts in the future.

### 5.2.3 Problem Solution Analysis

During requirement analysis period, the client suggested that the normal user does not know the names of all the artists, it makes it difficult to search for artists for a particular work. They wanted to search for artists based on the type or work they do. So, after a session of quick-brainstorming, we came up with an easy solution. We implemented a category-based search feature. The idea was that at first, we implemented two types of registration page. One for the normal user and the other for the artists. So, when artists register for the system, they need to select the type of work they specialize on, and this will be stored in the database. So later, when users search for artists based on a certain category, they can simply type the category and the artists who had registered under that specific category is displayed as a result.

The client wanted this system to be unique and not follow the ways of the usual social media apps. This system will give more power to the artists. They wanted the artist to have a voice or platform to showcase their work and gain more recognition. So, the solution we came up with was for the system to have two different kinds of accounts. One is artist and the other one is the general user named clients. The artists will be able to post photos and videos, but the clients will not be able to do that. However, they can post updates to ask for recommendations for artists regarding a particular work or event.

The client also wanted some sort of privacy for the normal users. Hence, all the users can not search for the general users (clients) through the system. Only artists will have the feature to search for clients if they want to connect with them for future work.

The client wanted to make sure that no users were scammed. As a result, we implemented a feature where the users can report other users if they did any sort of foul play. The admin, then can take matters to their own hands and take actions against the user accordingly.

### 5.2.4 Effect and Constraints Analysis

Currently the website allows the general public to hire artists. It also allows artists to get a job and opportunity to grow their career. However, this system has some limitations which can be developed in the future. There will be a booking system in the website where both artists and the clients will get periodic reminders before the event. Both user type will have the option to cancel the booking when necessary. We would also like to add the feature where when one searches for artist based on the category, the highest rated artist will show first.

## 5.3 System Design

### 5.3.1 Rich Picture

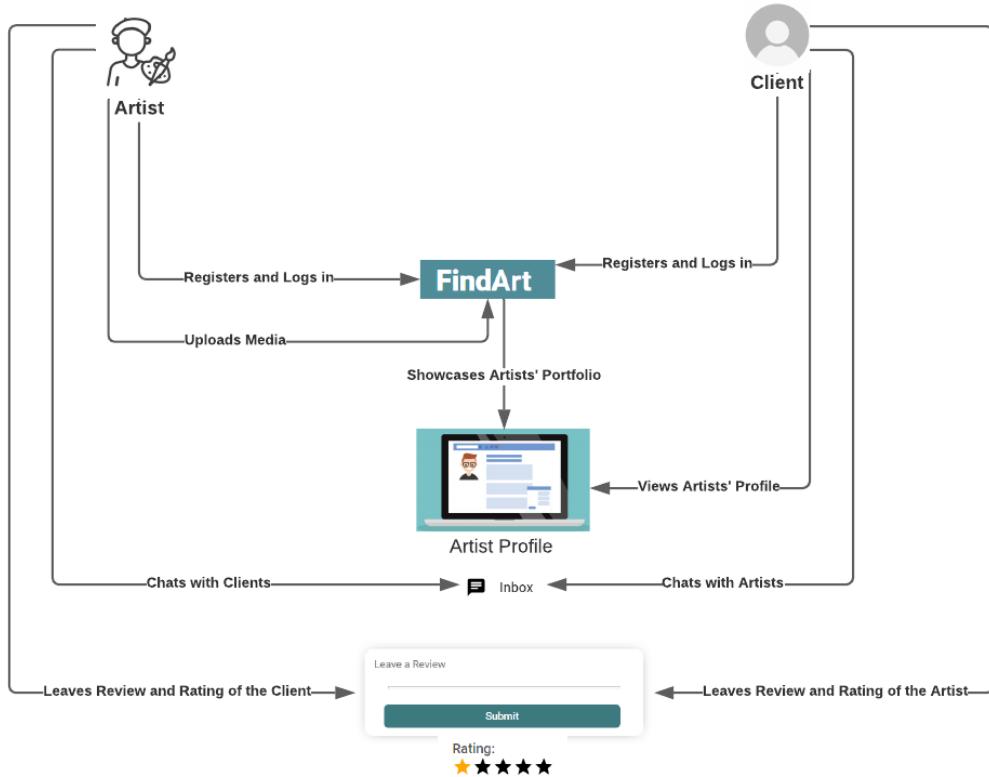


Figure 5.1: Rich picture of FindArt

### 5.3.2 UML Diagrams

#### Use Case Diagram

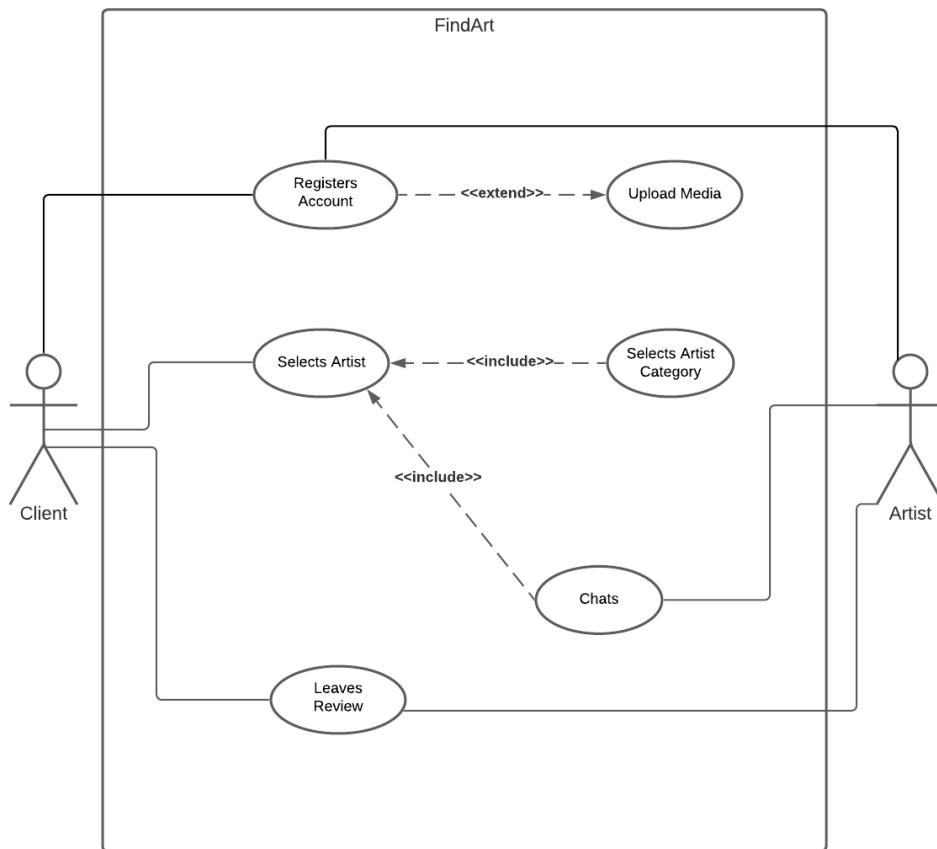


Figure 5.2: Use case For FindArt

In the use case diagram, there are two actors named artist and client. Clients and artists can register for their accounts. After doing so, artists can upload media as a template of their work and clients can look for artists they want. Both the users can chat and leave a review for each other.

### Activity Diagrams

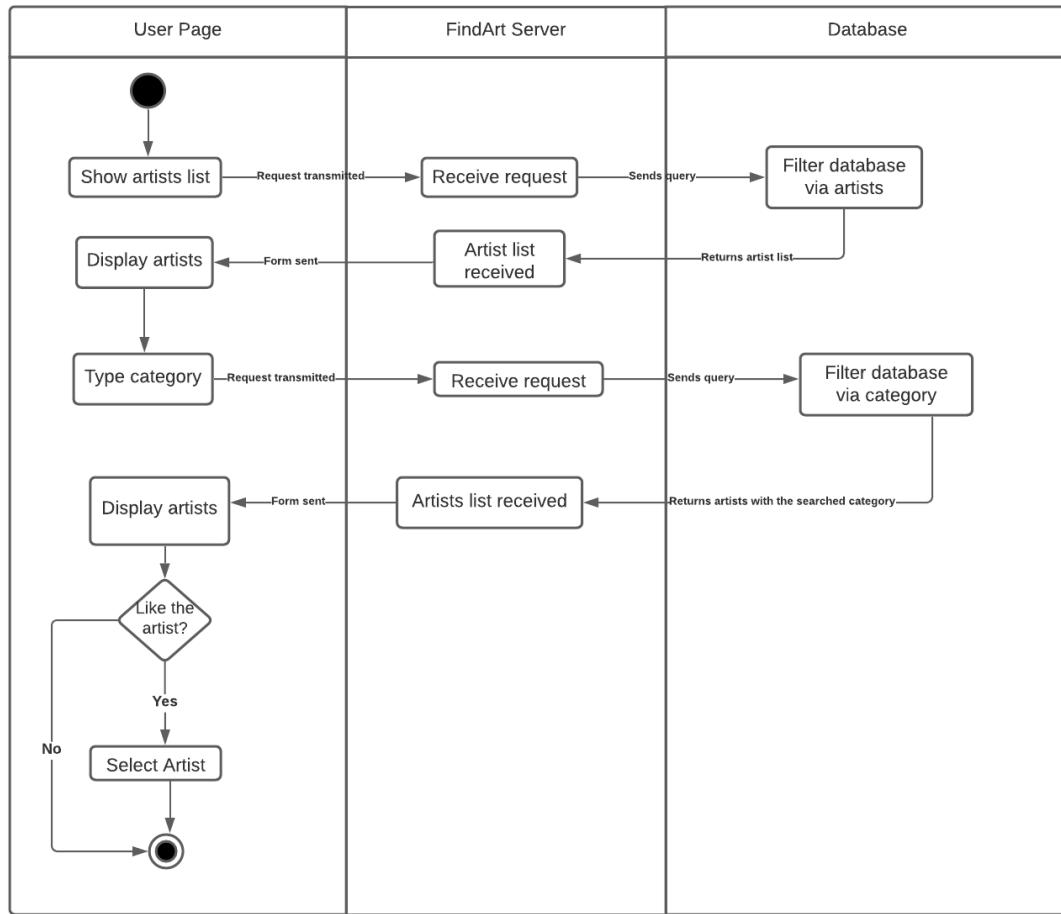


Figure 5.3: Activity diagram for a client selecting an artist

This diagram shows how a client can select an artist of their choosing. At first, the client clicks on Artists list to see all the artists registered in the system. Then he/she types the category of artist they are looking for in the input field to see all the artists belonging in that category.

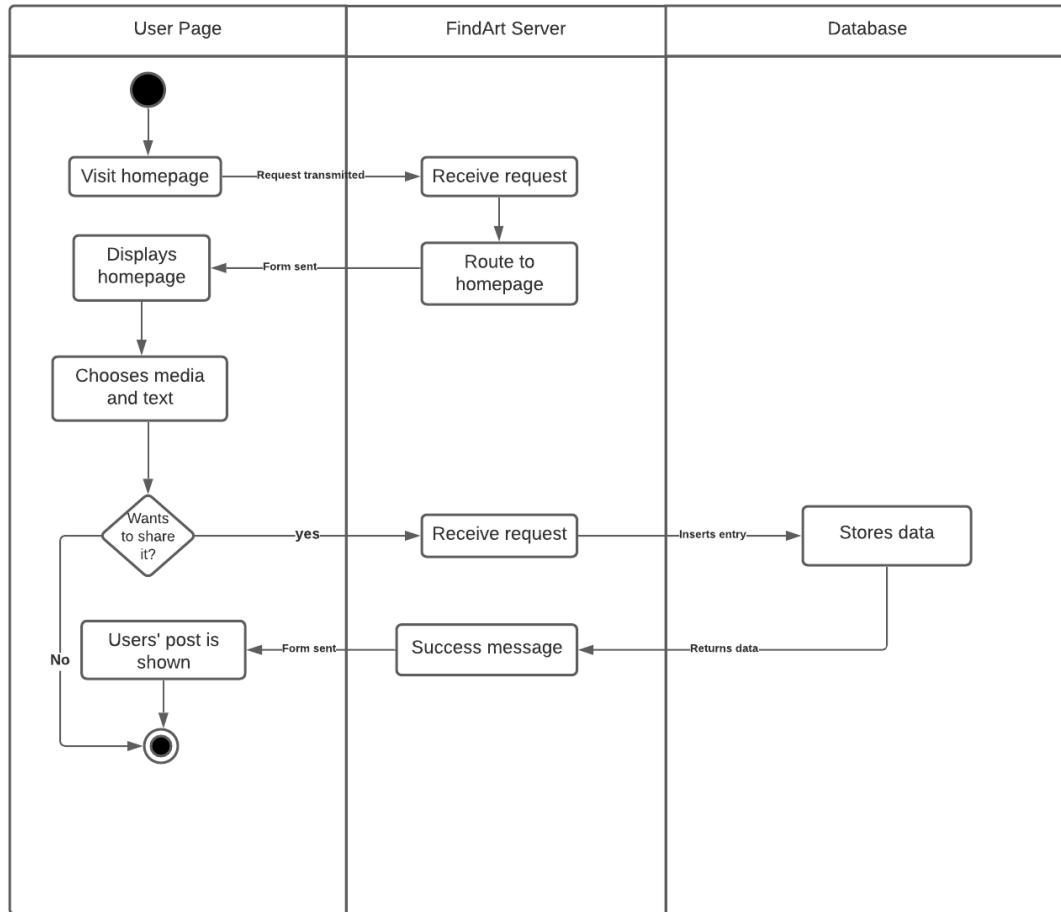


Figure 5.4: Activity diagram for an artist uploading Media

This diagram shows how an artist can upload media on their profile. There is a option on their home page to share their work. They can add media and add captions to it if they like.

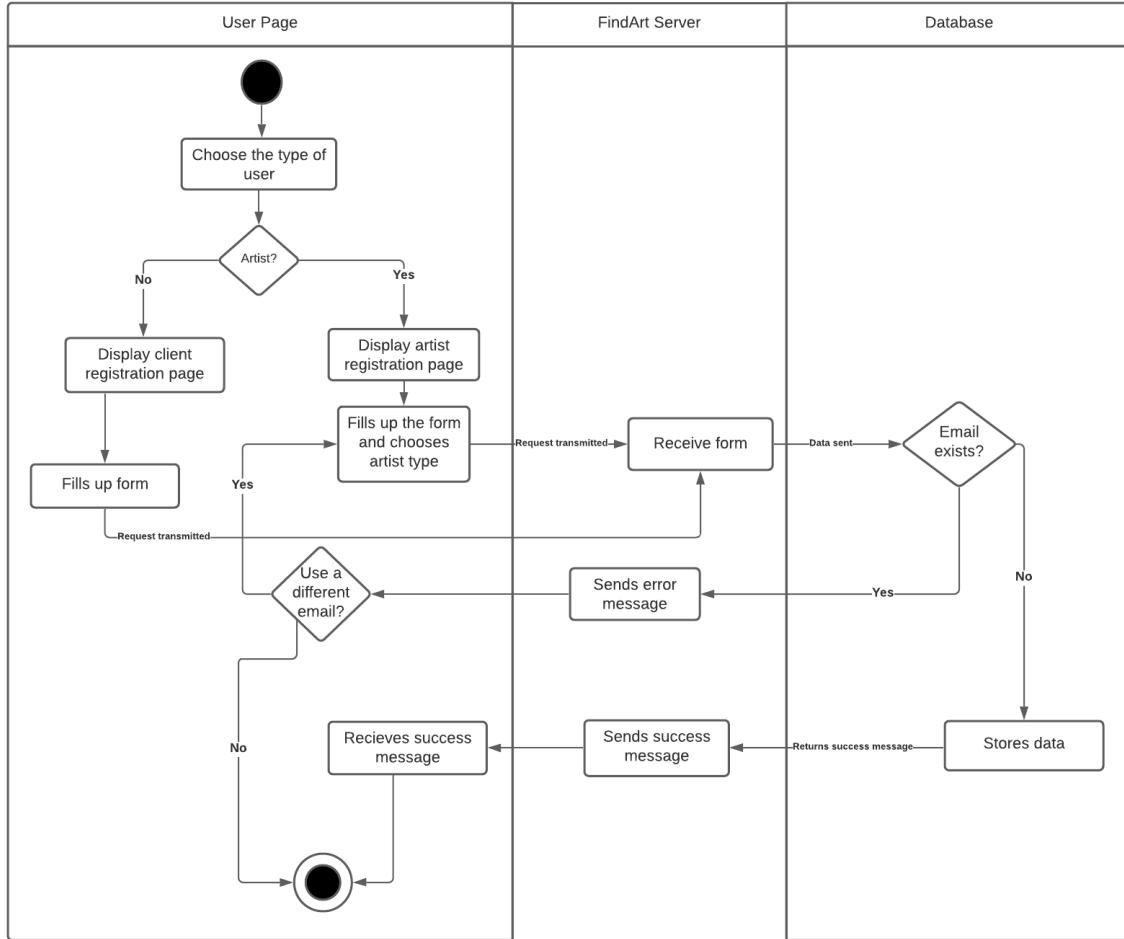


Figure 5.5: Activity diagram of users registration

This diagram shows how a user can create an account in the system. At first, the user will have to select the type of user he/she wants to be registered as in the system. There are two types of registration page. Clients will be taken to the client registration page and the artists will be taken to the artist registration page. If the email already exists, it will show an error message and the registration will not be successful. If it's a unique and valid email, the registration will be successful.

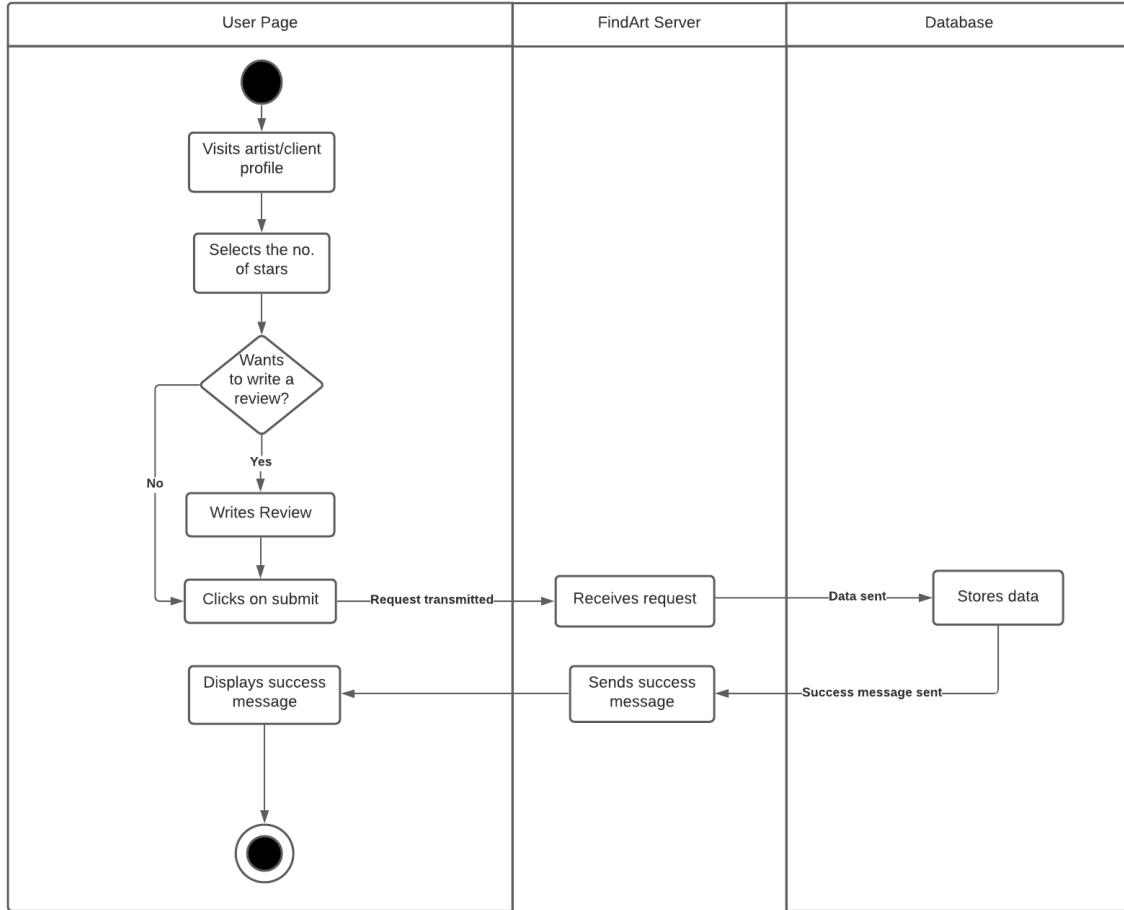


Figure 5.6: Activity diagram for reviewing users

This diagram shows how users can review each other. At first, the user needs to visit the profile they want to review. Then they can select the number of stars they want to give the user. If they want, they can also add a written review.

### 5.3.3 Functional and Non-Functional Requirements

#### Functional Requirements:

- **Users will be able to sign up for one of the two options the system provides.**  
This feature will be used by all the users in the system. Although, the clients have a different registration page than the artists as the artist needs to provide additional information. This feature helps the artists to have different functions than clients.
- **Artists will be able to share media as a template of their work.**  
Only the artists will be able to do this. It is important for the artists as the clients will judge and hire the artists based on the work they did before.
- **Users can follow each other to get their updates.**  
This is applicable for both artists and the clients. Artists can follow other artists to keep a connection and to collaborate with them in the future if they want. Clients can follow artists they like to get the updates of their work and for future need.
- **Both the user types can rate and review each other.**  
This functionality will help the users to have an idea about the person they will be working with. By looking at the rating and the review, the users will be able to judge properly and make their decision if they want to work with that user.
- **Users can react to the posts they like.**  
This functionality is for both the users. If an artists post gets a lot of likes, the artist will get validation for their work and be motivated to work harder. This will also help other artists as they will know what type or work people likes and try to improve their work based on that.
- **Users can search artists based on the category.**  
This functionality is provided to make it easier for all the users to search for artists based on the work they do.  
  
This system is going to have two types of users, artists and clients. The users will be able to sign up for one of the two options provided by the system with one email. Artists will be able to share media as a template of their work. They can also post to look for other artists if they want to collaborate and work on a project. Users will also be able to post, but they will not be able to upload any media. All the users will be able to follow each other. Clients can follow artists they like to get their updates, and artists can follow clients if they want to keep contact with them for future work. Both the users will be able to rate and review each other. Users will also be able to like/unlike and comment on posts they want to. Artists can be searched based on category.

**Non-functional Requirements:**

- Usability- The system will be user friendly and aesthetically pleasing.
- Maintainability- The system will be maintained to ensure the best performance.
- Scalability- The system can be accessible from any devices like laptops, computers and smartphones.
- Security- Only authorized users can access the system with username and password.
- Data integrity- Accuracy and consistency of all the data.
- Reliability- The system will be able to meet the users expectations and will not be prone to crashes.

## 5.4 Product Features

### 5.4.1 Input

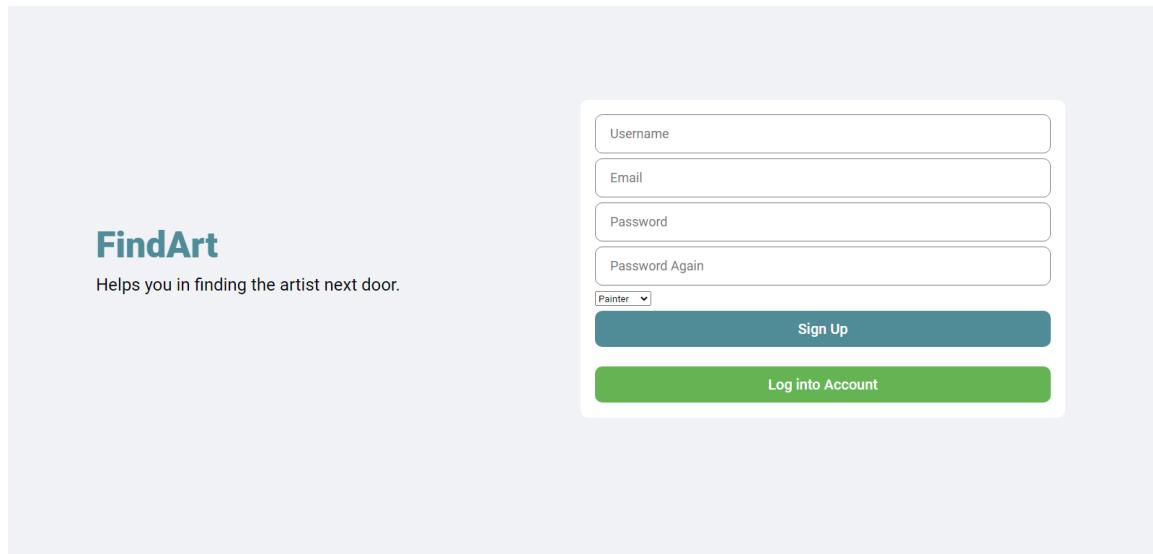


Figure 5.7: Registration for artists

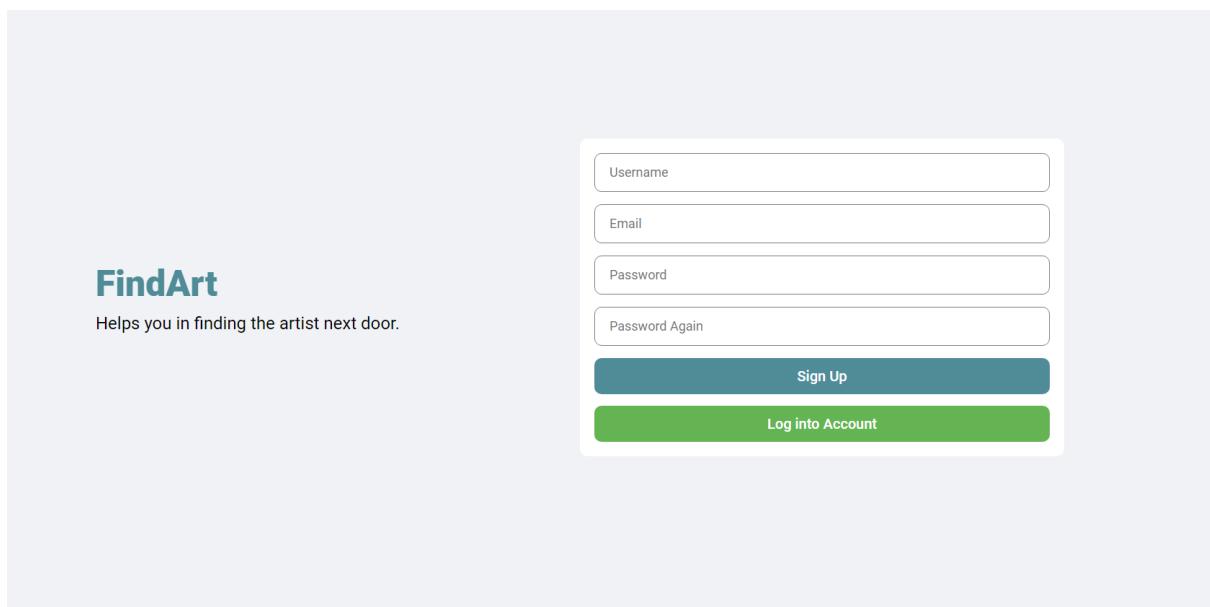


Figure 5.8: Registration for clients

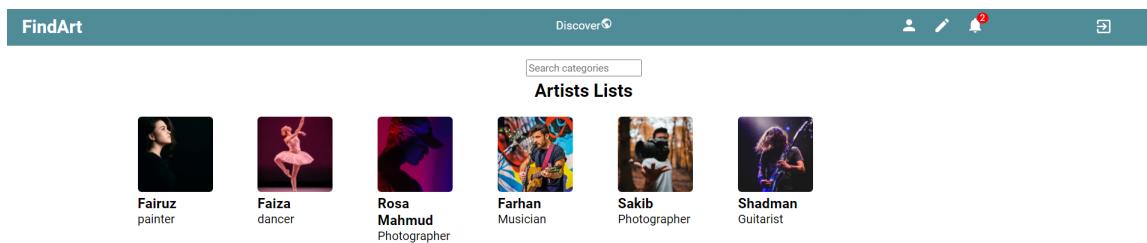


Figure 5.9: Search for artists

### 5.4.2 Output

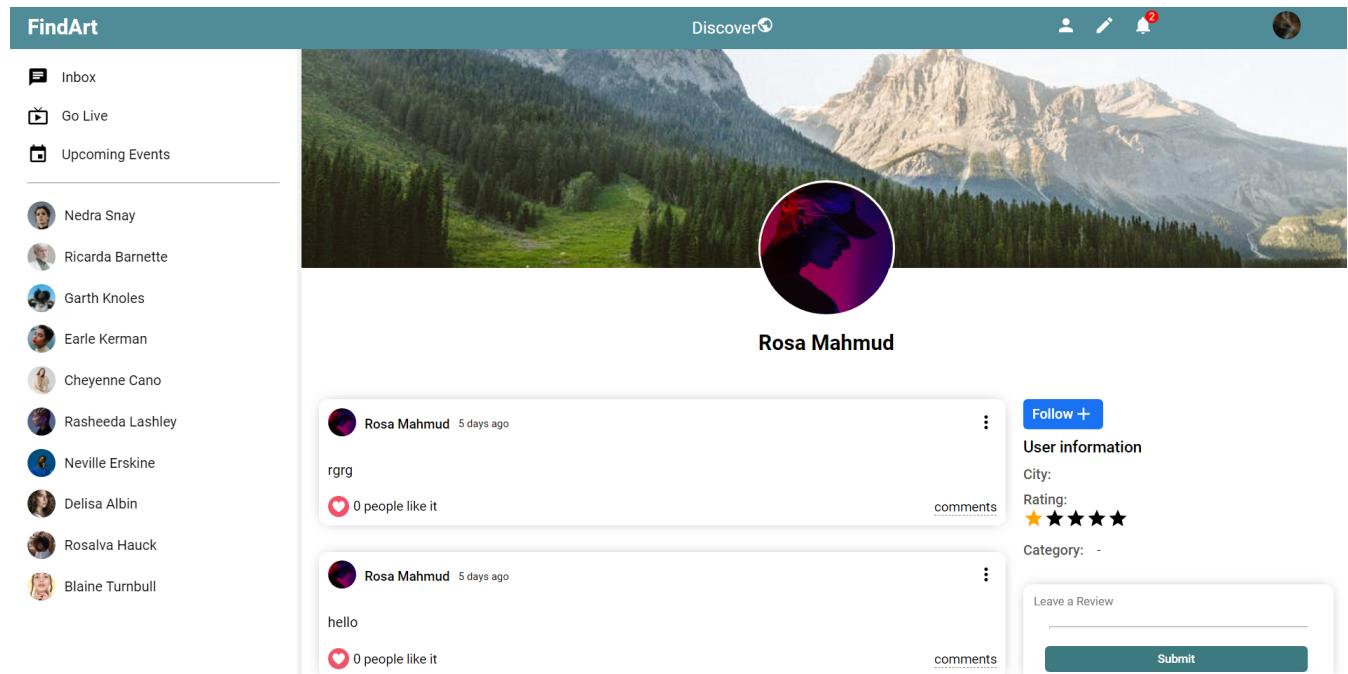


Figure 5.10: Artists' profile page

This is the Artists' profile where the users can see all posts the artist shared and there is a follow button, a review and rating section.

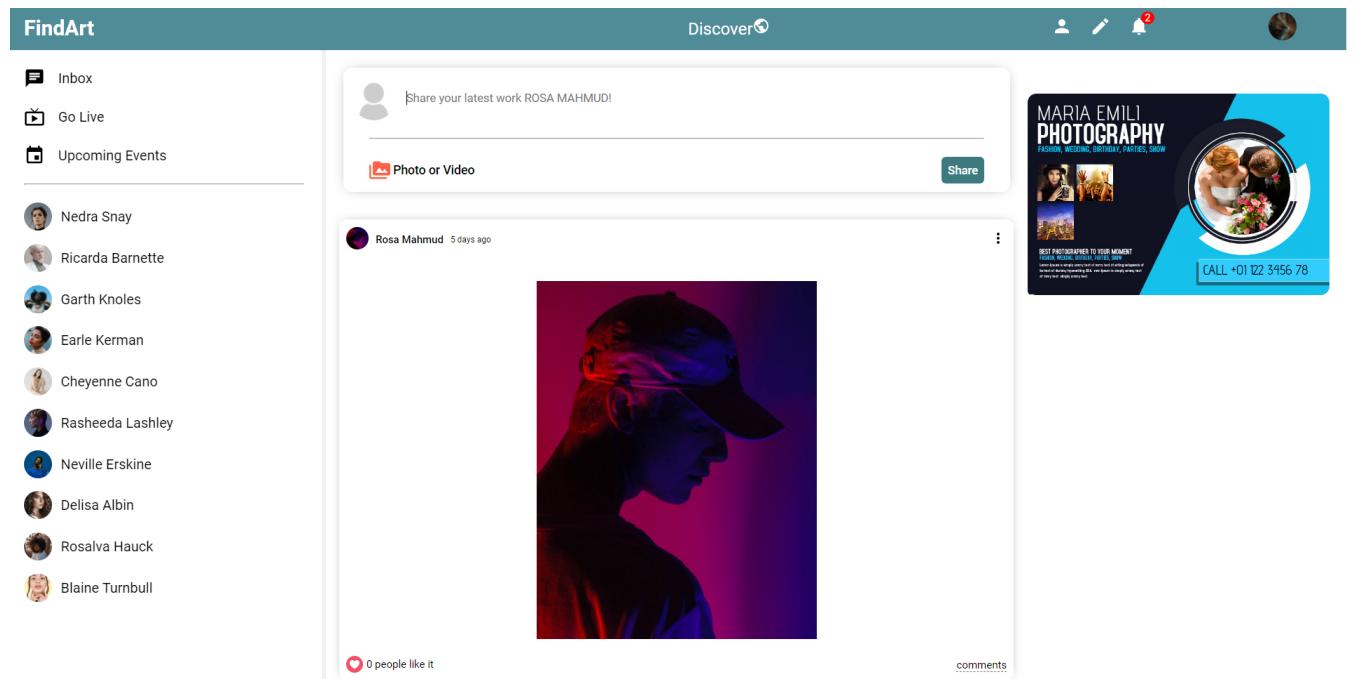


Figure 5.11: Artists' home page

This is the artists' home page where they can see their own posts and the posts of other artists they follow. The left bar shows the list of artists a user follows and the right bar shows ads of artists who want to promote their account.

### 5.4.3 Architecture

MVC is a design pattern for structuring user interface code it is a pattern followed in the application code of the project. MVC architecture is triangular: the view sends updates to the controller, the controller updates the model, and the view gets updated directly from the model.

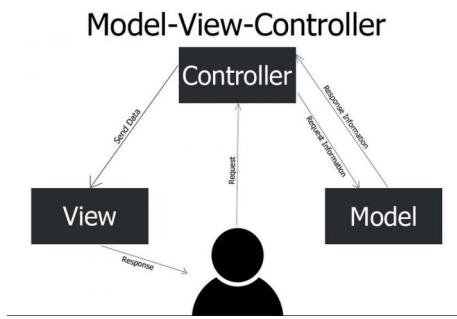


Figure 5.12: Model - View - Controller (MVC) pattern

In “FindArt”, the MVC architectural pattern was implemented. React.js was used in the view part (Client side), the server contains routes and controllers, the mongoose models contain the business logic in the model part.

# Chapter 6

## Results & Analysis

'FindArt' was made to make it easier for clients to find their desired artists and for artists to find more work. The goal was to make this system different from the other social media websites and to give more power to the artists than the clients. Here, I have given the results of the modules that I worked on. All the modules are tested on local hosting. After completing the project, more changes will be made if necessary.

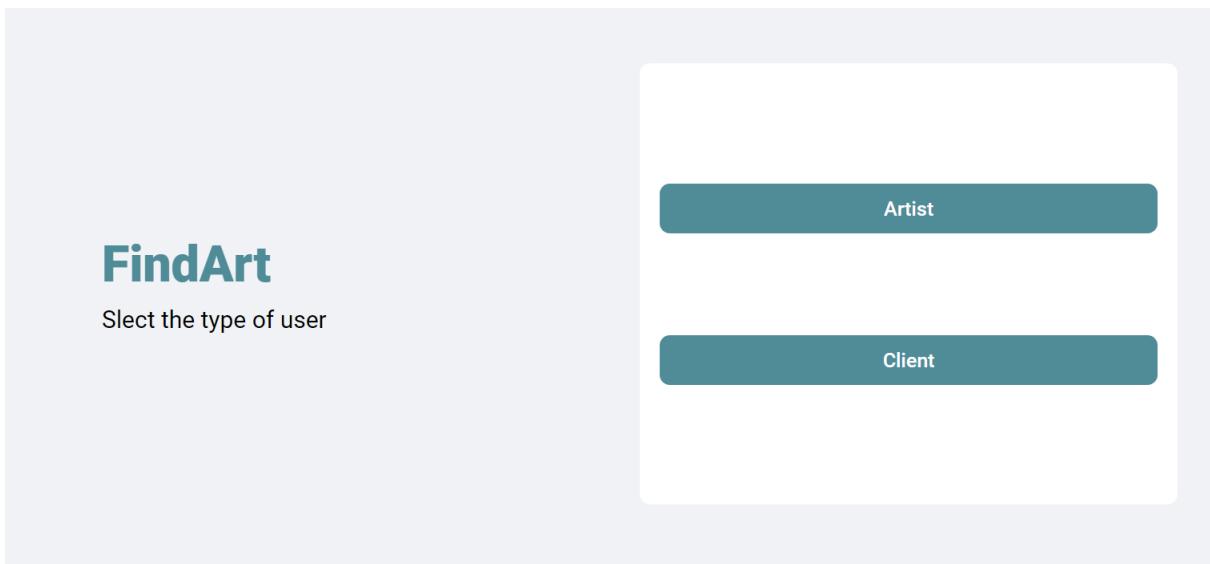


Figure 6.1: Page to choose user type

Figure 6.1 shows the screenshot of the page where the user needs to select the type of user for creating an account. If the user clicks on Artist, the user will be taken to a different registration page than that of the client. Creating accounts from the different registration page will create different users with different functionalities.

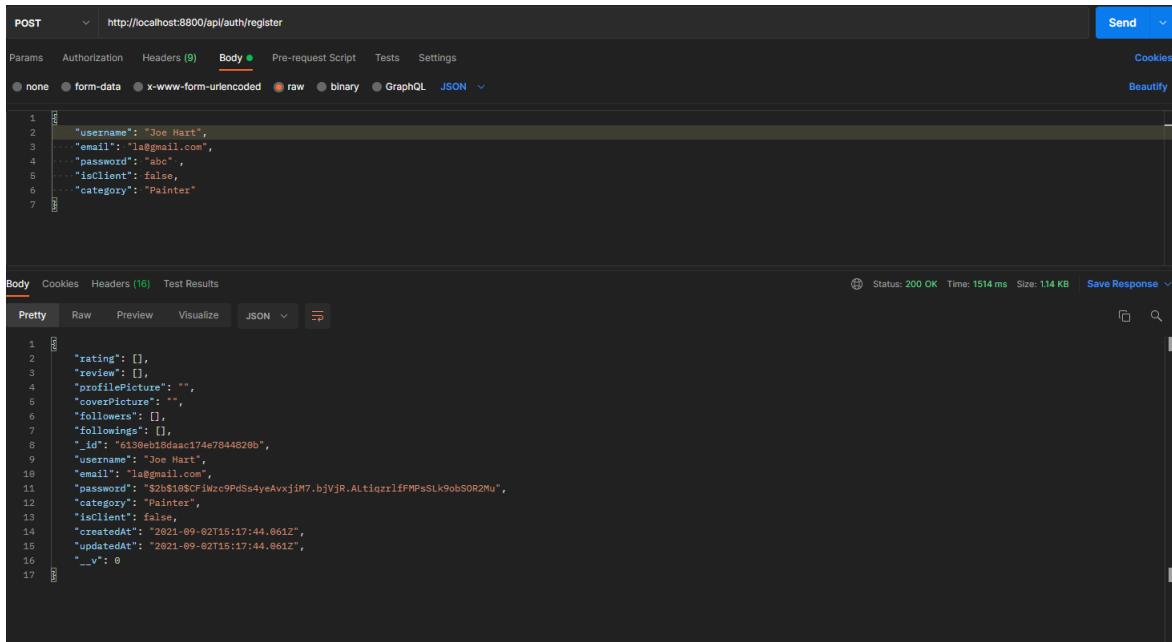


Figure 6.2: Artist registration API

Figure 6.2 shows the API call for registering an artist. From our analysis, we can see that the server responded with status 200, which means it was successful. It also shows the response time which is 1514ms. This value is less than 2 seconds.

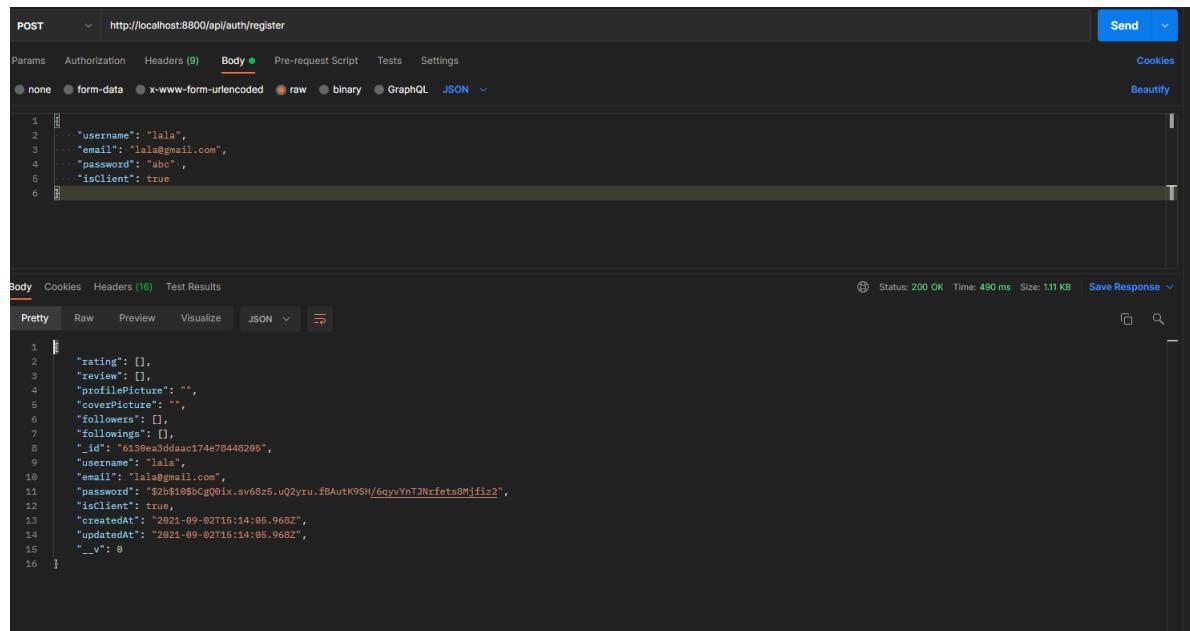


Figure 6.3: Client registration API

In figure 6.3, we made a similar API call, but it was for clients. We can see that the server responded with status 200 and the respond time is 400ms. We made multiple API calls, and all of them had an average response time of 500ms. We later concluded that artist's registration

has more response time than that of client as the artist has more data to be stored.

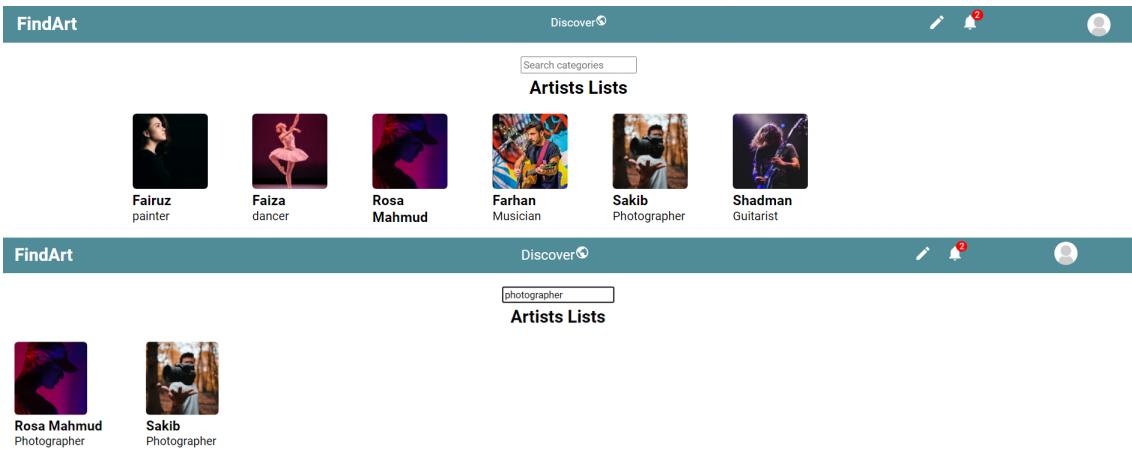


Figure 6.4: Working of category search

Figure 6.4 shows how category search works. The first image is the page that shows when a user clicks on discover. Here, the user can see all the artists registered in the system. There is an input field where the user can either type the name or the category of artist the user is searching for. On the second image, it shows that the user has typed the word 'photographer'. As a result, only the artist who registered as photographers in the system can be seen now.

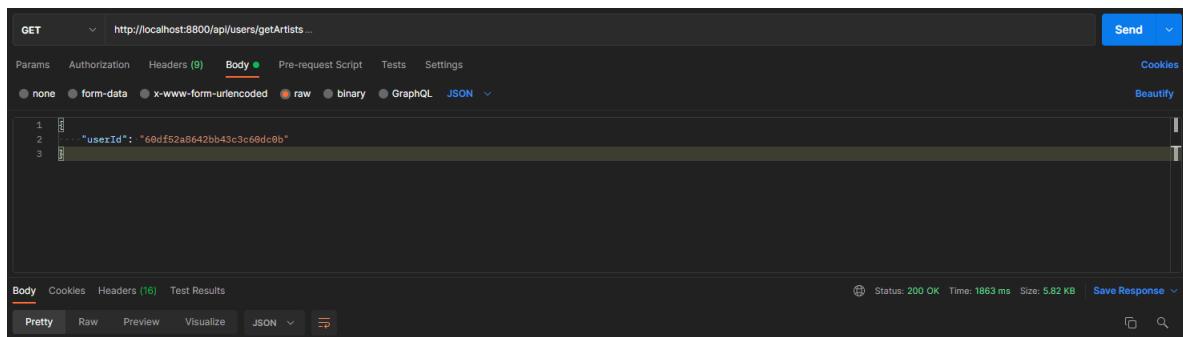


Figure 6.5: API for fetching all the artists

In figure 6.5, we can see the API call for fetching all the artists registered in the system. It shows that it took less than 2 seconds to fetch all the artists registered in the system. According to our analysis, this API call takes the longest time to respond as it is fetching all the artists from the database and sending it to the client's side.

With the system we have built, we inserted some dummy data to predict what kind of reports we can get. To our prediction, we can see that viable reports can be generated. Below are two charts representing some sort of data visualization.

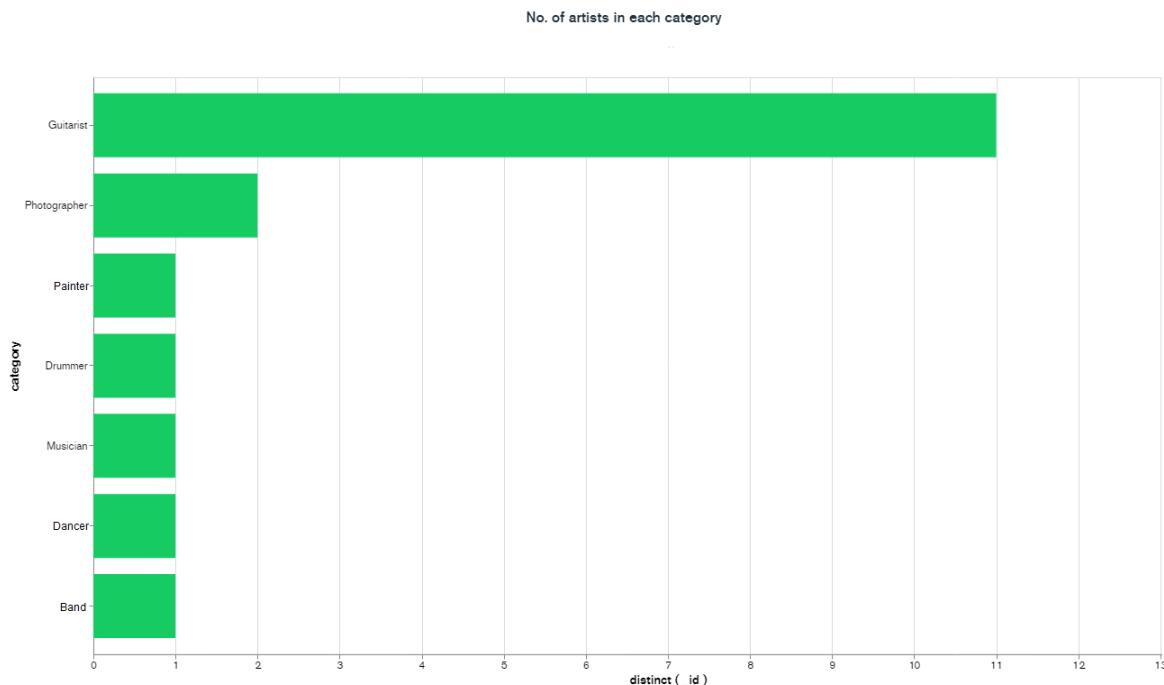


Figure 6.6: Number of artists registered in each category

This figure shows the number of artists registered in each category. Among the categories of artists, we can see that the highest number of users are guitarists.

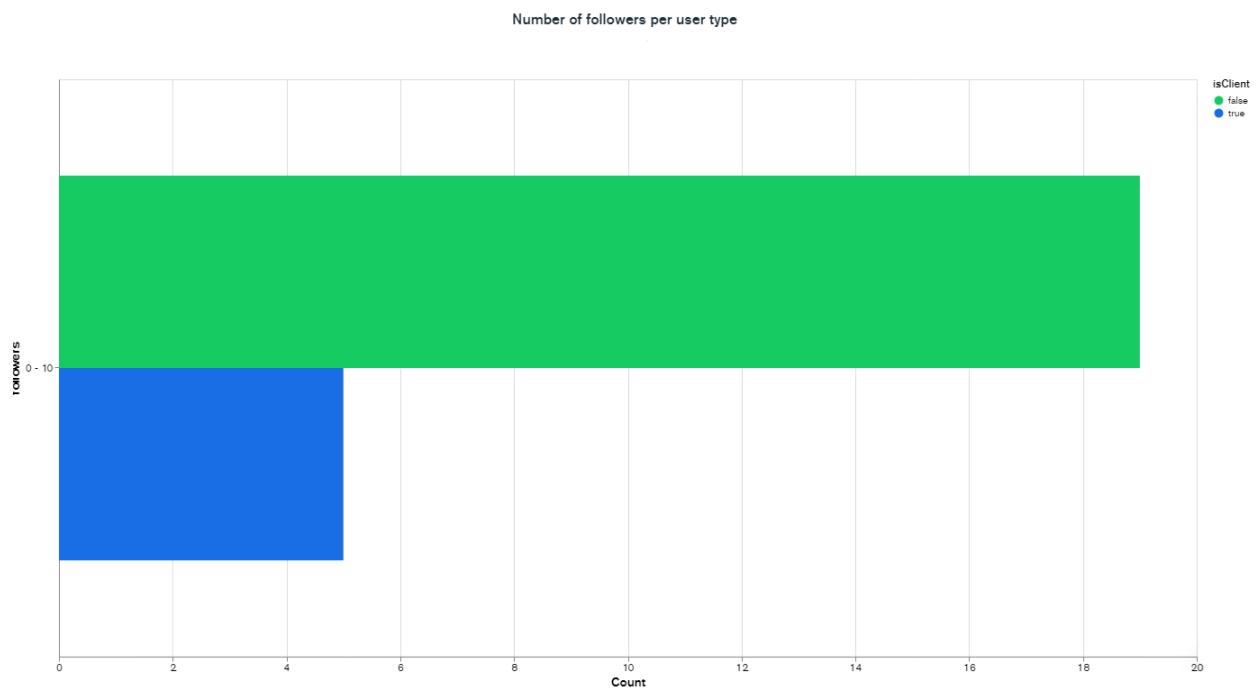


Figure 6.7: Number of followers per user type

This chart shows that the clients in the system has fewer number of followers than artists.

# Chapter 7

## Project as Engineering Problem Analysis

### 7.1 Sustainability of the Project/Work

Sustainability of the product [7] refers to its ability to be maintained and updated. In the modern world, every application being released needs to be maintained and continuously updated for its user base.

A product can be sustainable in three main categories:

- **Community Sustainability:** This means how actively the users will support the system. They can support it in many ways such as by using this application, recommending other people to use it etc. After the deployment and official release of the web application 'FindArt', it is believed to have a strong user base as it is a unique idea about creating an artist community. It will help both the general users and the artists of all kinds. As the user base grows, so will the community and hence it can be said that it is sustainable in terms of community.
- **Financial Sustainability:** This refers to how the cost of the application will be maintained after it has been released. It should also generate an acceptable amount of profit. Initially, this system will be free for all. However, artists can promote their accounts if they want to. If artists promote their accounts, their profile will be suggested to random users in the system. Later, users will have the option to make their account premium with monthly subscription. This will help generate revenue from the system.
- **Organizational Sustainability:** It relates to how the organization will continue to operate after the release of the application. Usually organizations update their project by adding new features. 'FindArt' has a lot of scope to add new features. This application will be maintained and will be updated constantly with adding new features and functionalities after their initial release. Hence, it can be said that the application is organizationally sustainable.

## 7.2 Social and Environmental Effects and Analysis

**Social Effect:** This system aims to grow the artist community and bring the underrated artists into the spotlight. It will help the struggling artists to grow and it will give them a chance to make a career path from their passion. Since this system offers a reacting and commenting feature for artists' posts, this allows artists to get validation for their work which is good for their mental growth and also boost their self confidence. It will also make it easier for the general users to get their work done within the budget.

**Environmental Effect:** This website and artist's directory is a resource for anyone searching for nature-loving artists who give through their art. Participating artists support their favorite environmental nonprofits with pledges. In this way, everything an artist makes and sells helps fund work to save endangered wildlife and their habitats. Artists get exposure for their artwork and the environmental work they support. It's a win-win opportunity!

## 7.3 Addressing Ethics and Ethical Issues

Nowadays everything depends on technology. Although technology has made everyone's life easier, it has some disadvantages. Data can be collected easily, personal life can easily be invaded and of course, there is cyber crime. There are some rules and ethical guidelines that should be followed and maintained while working on an application. The developers of FindArt made sure that the application does not breach any code of conduct of application release and development as all of them have been taken into serious concern. Some of them are:

- **Collecting only relevant User data:** The application collects only the user data that is relevant for the system. It does not require any personal information that a user does not want to provide.
- **Data Storage Security:** Only the lead developer and the owner of the web application has access to the server and the database. AS they are hosted in the cloud and can only be accessed via lead developer's and the owner's login credentials; the data stored can be deemed as safe and secure.
- **No Discrimination or Favoritism Policy:** FindArt does not discriminate of any kind based on race, sexuality, gender, religious beliefs, color, language, political or other opinion, national or social origin, property, birth, or other status.
- **Not Sharing or Selling any User data:** User data will not be sold or shared with any other third party or companies that want to buy user data.
- **Clean Advertisement:** The advertisements that will be running in FindArt will only be the ones that are clean and clear which will have no negative impact on its users. Advertisements that will be filtered and the ones that contain violence, nudity, blood and gore, injury, disturbance, etc. will be strictly prohibited in this system.

# **Chapter 8**

## **Lesson Learned**

### **8.1 Problems Faced During this Period**

Throughout the internship, I gained a lot of knowledge and experience. But it was not all easy. I faced some difficulties along the way which I had to overcome. I had to meet multiple weekly deadlines for my internship report. Along with those deadlines, I also had to manage my studies for other courses and as well as complete the tasks given by my company. I had to learn how to use different tools for creating diagrams, tables and charts such as gantt chart to represent statistical data visually. I also had to compile my internship report on a tool that I have never used before, called overleaf where creating tables was a challenge for me. Overall, overleaf was a bit difficult for me to get the hang of.

During the early days of my internship program, I had to learn git so that I could collaborate with other developers. It proved a bit difficult at first, because this was something new for me. As part of my work for my company, I had to learn JavaScript from scratch. After that, I had to learn the basics of MERN stack which consisted of four different technologies: MongoDB, Express js, React js and Node js. I also learned what to do and what not to do in a professional workplace. I had to be punctual to attend work meetings. As my internship was done remotely, initially it was a bit difficult for me to interact with the employees of the company.

## 8.2 Solution of those Problems

To meet the deadlines properly, I kept constant track of my submissions and the courses. I created a routine for myself which I maintained strictly, so I could meet all my deadlines along with study for my other courses. I used third party tools such as lucid chart to create figures easily. As the use of latex was completely new to me, I had to watch a lot of YouTube tutorials to get the hang of it. To get a grasp of git and the basics of MERN stack, I had to go through multiple online resources and also have daily sessions with my mentors where they showed me practical implementations of the technologies and how to use them. This helped me greatly and I quickly got an idea of how to implement them. Through constant meetings, I got to learn about my peers and eventually we got very friendly with each other. They accepted me as a part of their development team.

# Chapter 9

## Future Work & Conclusion

### 9.1 Future Works

The system we are working on has huge potential going forward. At its current stage, there are certain features that can be implemented in the foreseeable future. They are as follows:

**Mobile application:** Currently the system is a web application. It can be implemented as a mobile application which can be developed on react native. Since the current application is built on react, adapting it to react native will be easier for development. It will be more convenient for users as nowadays everyone has smartphones.

**Hosting live events:** There will be a feature where artists will be able to go live and users can join in to see them perform or see what they have to say if the artist wants to make any sort of special announcement. If artists want, they can also collaborate with other artists and go live together.

**Booking system:** In the future, when the artists and the clients come to an agreement for an event, the system will allow to create bookings. After a booking has been successfully completed, both the users will be prompted to rate and review each other so that the other users have an idea of how the concerned artists or clients are.

**Reminder system:** This will be an additional functionality for the booking system. After a booking is made, both the users will get periodic reminders of the events which could be a day before and also a week before the event.

## 9.2 Conclusion

This internship was a really good experience for me. I have learned a lot of new things which I thought I could never do, let alone implement it in a professional working environment. Before joining this internship program, I had very little idea about full stack applications. I got to learn about java script and many of its libraries. I gained new knowledge and learned new skills. I did not know about MERN stack earlier, but during my internship period I learned how to implement it in projects.

This internship has also helped me in boosting up my self confidence. I was not that confident in my coding skills before and was not sure if I want to pursue my career in this sector. While working on my project, my coding skills got better and I steadily gained confidence to pursue a career in the development sector.

I also learned how to behave properly in a professional work environment, how to address my peers and supervisors whenever I had to ask something from them. I also learned the chain of command that works in a work environment. It made me more responsible than I was before joining the program. I learned time management so I could meet my deadlines properly.

I am very grateful for this opportunity as it improved my skills and helped me grow as a person. I feel more confident than I ever was and I am looking forward for what the future entails for me.

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