An Undergraduate Internship/Project on The Steps NFT Lab

By

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Dissertation submitted in partial fulfillment for the degree of Bachelor of Science in Computer Science

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Attestation

Myself Md. Tariqul Islam, hereby certify that the report is completed by me 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 Ajmiri Sabrina Khan. I also certify that all my work is genuine which I have learned during my Internship.For any information, my internship supervisor, Md. Moniruzzaman Khan, at my company, Datasoft Systems Bangladesh Limited.

Signature	Date
Md. Tariqul Islam	
Name	

Acknowledgement

Firstly, I would like to thank the Almighty Allah for giving me the endurance and the ability to work hard, and for giving me the ability to write this report and for giving me the chance to be able to do my internship at Datasoft Systems Bangladesh Limited one of the biggest among the group of companies in Bangladesh. I would like to thank my honorable faculty and supervisor Ajmiri Sabrina Khan, 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. Then I would like to express my gratitude to Md. Moniruzzaman Khan, Project manager, for giving me the opportunity to complete my internship at Datasoft Systems Bangladesh Limited and my team members for their guidance and support in this period. The learning and experiences I have gathered here have helped me a lot in the next phase of life. I would also like to express my gratitude to all my colleagues for helping me throughout and making the Internship process so much enjoyable. Without them, this journey would have not been easy.

Letter of Transmittal

12 May 2022
Ajmiri Sabrina Khan
Lecturer
Department of Computer Science and Engineering
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Subject: Letter of Submission for Internship Report, Spring 2022.

With due honor and respect, I, Tariqul Islam, from Spring 2022, Section 12, 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. My internship was conducted from 5th Nov 2021 to date. I completed my internship at Datasoft Systems Bangladesh Limited. This report is based on my experience and the work I did at Datasoft Systems Bangladesh Limited during my internship. The primary goal for my internship was to gain experience in all the different technology related fields of the company, including research and development, documentation, 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 Datasoft Systems Bangladesh 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 would like to thank you immensely for all your guidance and support. I hope and pray that this report fulfills all the requirements and is up to your expectations.

Sincerely,
Md. Tariqul Islam
Email: 1830444@iub.edu.bd

Evaluation Committee

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Signature

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Name

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Supervisor

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Name

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Internal Examiner

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External Examiner

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Convener

Abstract

In our country many people can draw very good paint or pictures and some people like to photography but they cannot earn money from them because they cannot sell their paint or pictures at a good price or some artist want to sell their paint or pictures in NFT or other marketplace but they do not know how can do this using blockchain to make digital asset and they do not know how to sell NFT in NFT marketplace by using crypto currency which is more complicated. We try to make a web-based solutions where user can simply just upload the paint or pictures in this website using their device by the internet. After that our back-office team convert it into digital asset, make NFT and try to sell user paint or picture in different marketplace for artist than return money into user account. The back-office can sell the paint or pictures locally or internationally like NFT Marketplace (ex. Opensea).

Keywords— Blockchain, NFT, Crypto

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Chapter 1

Introduction

1.1 Background of the Work

Many artist in our country can draw very good paint or pictures but they cannot sell their paint or pictures at a good price or some artist want to sell their paint or pictures in NFT or other marketplace but they do not know how can do this using blockchain to make digital asset and they do not how to sell NFT in NFT marketplace by using crypto currency which is more complicated. The Steps NFT Labs comes to solve this problem where user can simply just upload the paint or pictures in this website using their device by the internet. After that our back-office team convert it into digital asset and try to sell user paint or picture in different marketplace for artist than return money into user account. The back-office can sell the paint or pictures locally or internationally like NFT Marketplace (ex. Opensea).
For this steps NFT Lab project we use React for frontend and Django for backend. We also use blockchain technology to make NFTs and solidity programming language to develop smart contract.

1.2 Objectives

The main purpose of this study is to sell the paint or photo locally or internationally like NFT Marketplace. This system is automatic system where user upload the photo in the NFT website. Specifically, objectives of the project will consist of:

- User can upload their paint and photo using this website
- User can check the uploaded image and image status
- user can check the image is accepted by Backoffice team or not
- user can claim money for sold photo or NFT
- BackOffice team can minting NFT (means upload the photo in NFT marketplace)
- Backoffice can team give Quality Check status in particular image

- User can see the guidelines how to upload image or use this website
- BackOffice team can see all image uploaded image

1.3 Scopes

Scope Of the project:

- User can upload their paint and photo using this website
- Home or landing page where user can see the instruction
- Image upload Image
- User dashboard where see image or photo status
- Login and Sign Up page
- Backoffice user see the minting page to upload NFT in market Place
- Backoffice user can see dashboard where they can give image status

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

List of courses that helped in the development process:
CSE 203, Data Structures: This is the most basic course that helped with the ideas of several data structures and their applications.
CSE 213, Object Oriented Programming: In the developing industry most of the data is represented as an object. It also taught how to write modular programs which made codes less repetitive and more reusable.
CSE 303, Database Management: This was the first course which taught how to design and plan a project and how can design relational database which helps to design database for my projects.
CSE 309, Web Application and Internet: This is the course where the development of web applications was taught. It covered very important technologies that are highly in demand in the industry, such as HTML, CSS, JavaScript. The tools and technologies learned from this course which helps to learn React easily also web application-built web technologies and it has a backend server which had to be deployed to the cloud server as well.
CSE 490, Special Topics in Computer where I learn Blockchain and Smart Contracts and solidity language.

2.2 Related works

The Up growing hype of NFT and artist want to sell their paint or pictures in NFT or other marketplace is the source of the idea to make an application for sell painting or picture.
Non-fungible token (NFT) that guarantees ownership of a unique digital asset which is a type of digital certificate built on a blockchain, usually Ethereum (CRYPTO:ETH) [1].
To convert physical art into an NFT the only process that will allow by taking a picture of it which eventually had to create a digital copy of particular physical art. All of us think Converting a painting into an NFT might sound like a funny idea, but the world is moving

towards the adaptation of NFTs as painting. We also convert painting into NFT, all we need to do is create a digital copy of your painting by clicking a photo[2].
We can mint NFT in the marketplace for sell. Minting digital assets (everything from art to music to articles) as an NFT is a way for artists to monetize their work. First of all, we need to open and then connect a crypto wallet to the NFT marketplace. Then we need to Create our first item upload a digital file and give particular NFT a name and other information , and which blockchain to base the NFT on like Ethereum or the Ethereum-based protocol (Polygon, Rinkedy etc.)After given all info than click complete your first NFT has now been minted and Selling an NFT (recording that a transaction has taken place between two parties on a blockchain) requires the network to do some computing. That transaction will cost some money, which is known as a "gas fee." Once you've minted your NFT, you're ready to sell it on the marketplace[1].

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure

The steps NFT lab the name of our project, we have produced Work Breakdown Structure (WBS) where we breakdown the project into smaller segments so that work is coordinated and makes the project more manageable. In our WBS, we have used the top-down approach.

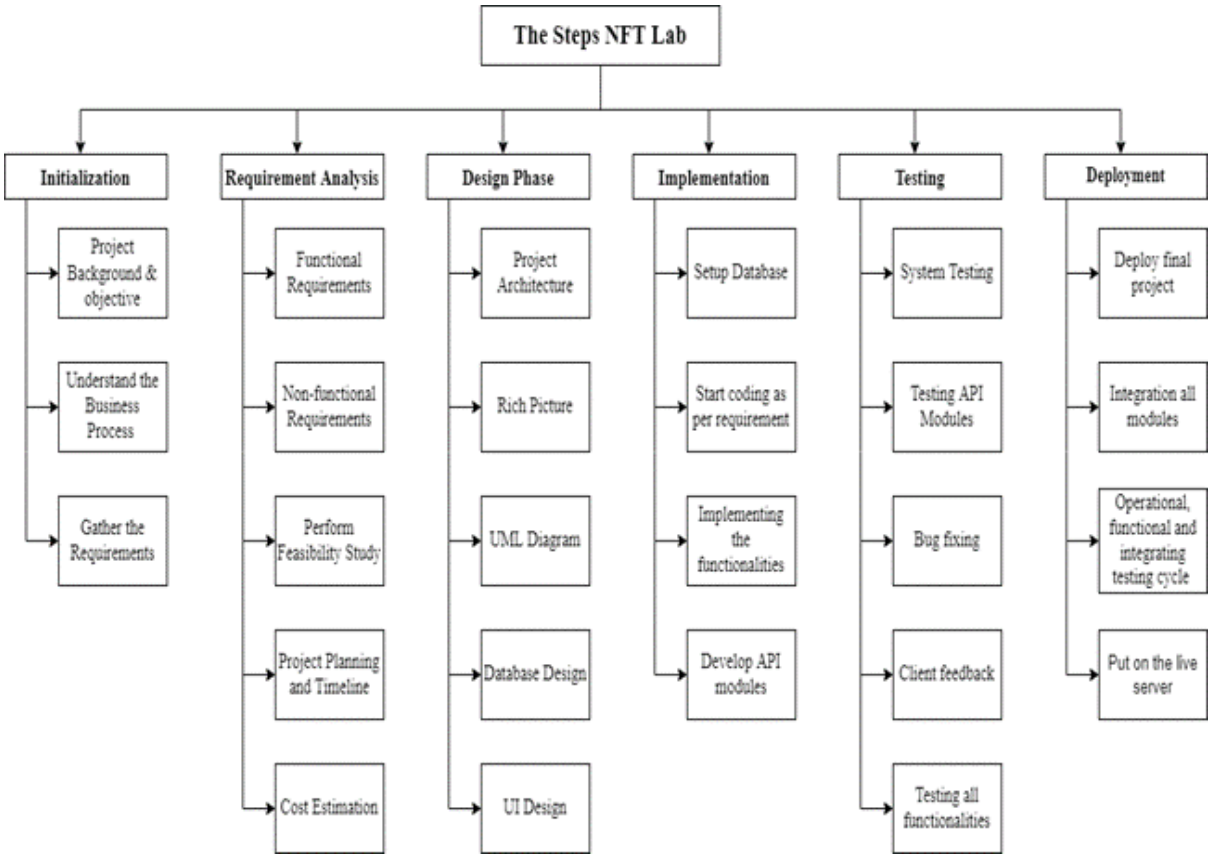

Figure 3.1: Work Breakdown Structure

3.2 Process/Activity wise Time Distribution

Task	Days	Work Percentage
Gather Info	11	5%
Understanding the Business	12	5%
Function Requirement	21	10%
Feasibility Analysis	9	10%
Project Planning and Architecture	10	10%
Database Design	26	10%
Design UI	31	5%
Development	12	15%
Deploy Api Modules	8	10%
Testing Api Modules	17	5%
Testing	7	5%
Main Development	28	10%
Total		100%

Table 3.1: Task wise time allocation

3.3 Gantt Chart

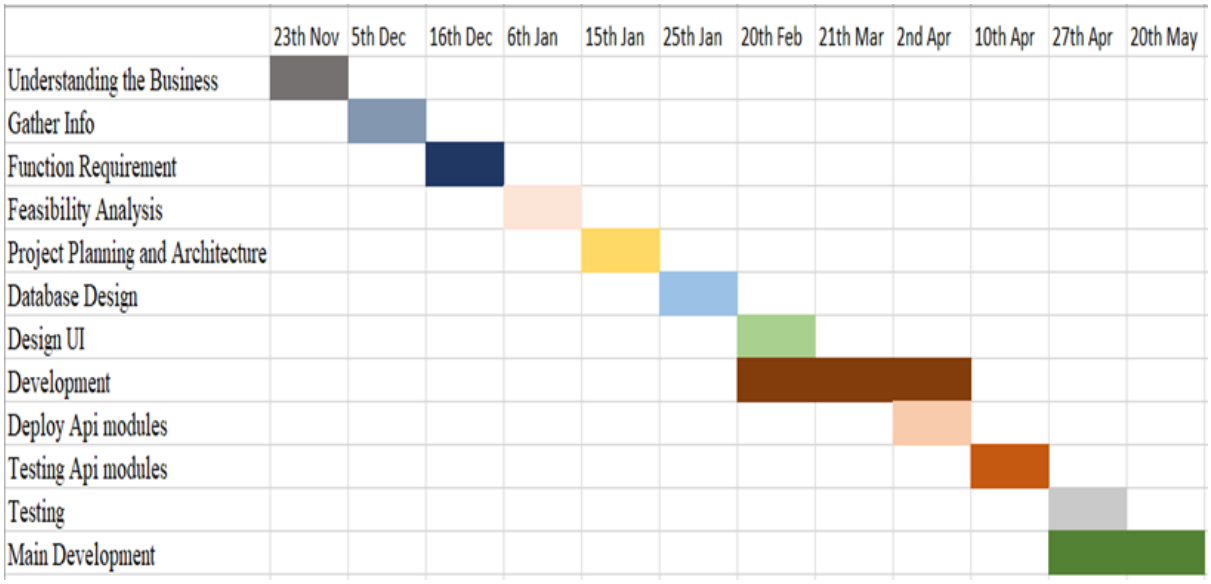

Figure 3.2: Grant Chart of Project

3.4 Process/Activity wise Resource Allocation

The steps NFT Labs is used by mainly used by the user who need to sell their painting or image in NFT market place or local market. Hence behind the scene is all the resource I was working is order to make this a reality. So, it was very important for us to allocate every resource needed for the project to fit in its position. The primary resource of the project are developers, then comes everything else need for development process, computer, server and client, response, business requirement, internet where they provide individuals IPs and VS code IDE for development. When we initiating the project the chairman of our company, client of our project proposed for The Step NFT Labs system and we, as a developer planed for generic product.

The chairman as a client tell the business then we worked on it and identify what the requirement is for the web application will be and is also a recourse. As a team we plan who the project works and the features and functionality of the system where we need to do feasibility analysis for that client helps us a lot which also a resource for us. Once we have the functional requirement than we started the implementation and after implementing some functionality we go for client feedback for that we need meeting with client then we go to next. Now the project is design on locally so we do not need the hosting and domain to live our project in initially. Our project manager thinks after doing the functionality locally than it was testing and deploy the final project and then live the project that time need hosting.

3.5 Estimated Costing

Work Description	Amount
Development Cost	
Domain and Hosting	
Subtotal	

Table 3.2: Estimated Costing

Chapter 4

Methodology

To deploy the system the company must follow a specific framework and methodology. We follow a waterfall methodology for our project development life cycle. We use a plan and set of structure where we use different tools, templets for implement project successfully. We also deploy entity relationship schema and flow charts which are involved in the methodology.
The most commonly we use waterfall methodology where at first, we gather the requirements from client and perform the feasibility analysis for is the requirements is doable or not the given time and also it is profitable or not. Then we design the system for development. After that at first, we develop the system locally where we focus only the functionality and after that we test the project and take client feedback than we add this functionality in the main development.

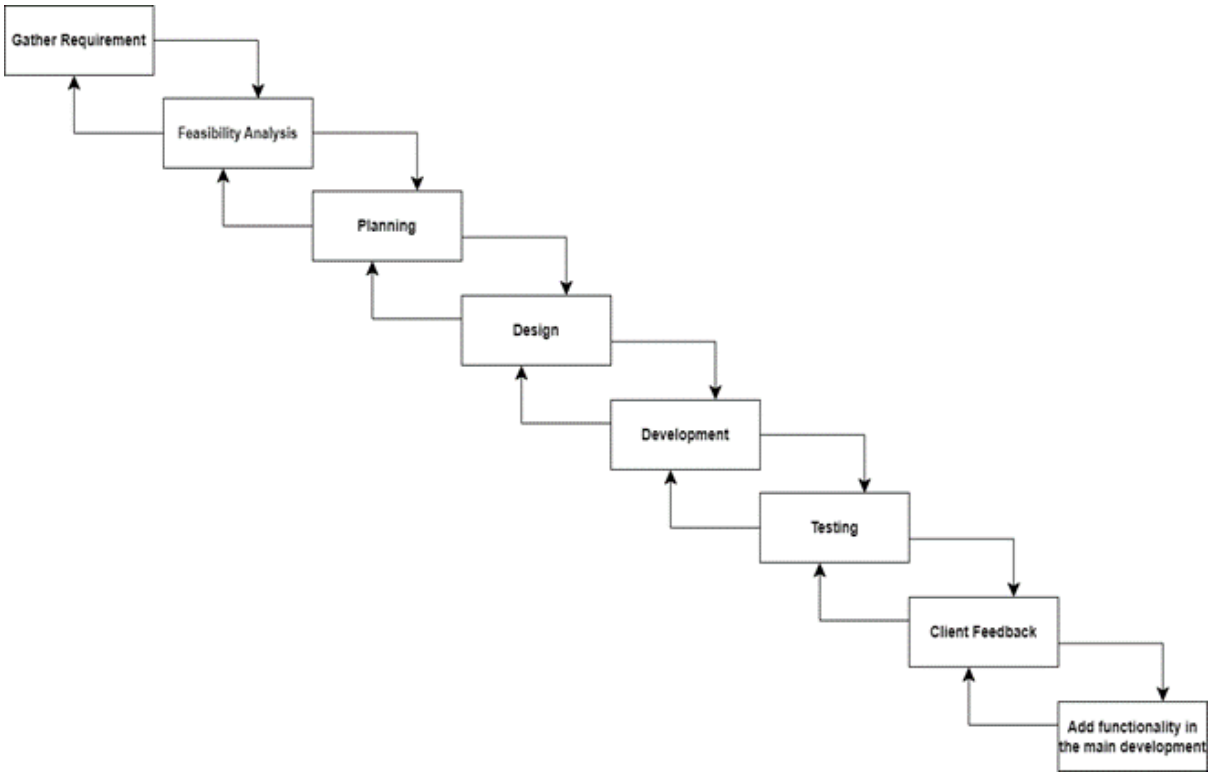

Figure 4.1: Development Methodology

We use this process mostly we develop the project locally because for blockchain transaction and generate contracts we need to pays gas fees to the miner to validate the transections, generate NFT smart contracts and add a block to the blockchain, we do it locally using test network so we do not need to pays reals ETH instead of this we use test net faucet for our testing.
We use waterfall method because we need to proceed sequentially from one phase to next and each phase is depending other phases so we need done one phase at a time so it is easy for us to maintain the project.

Chapter 5

Body of the Project

5.1 Work Description

The Steps NFT Lab web application to sell the paint or photo locally or internationally like NFT Marketplace. where user can simply just upload the paint or pictures in this website using their device by the internet. After that our back-office team convert it into digital asset and try to sell user paint or picture in different marketplace for artist than return money into user account. The back-office can sell the paint or pictures locally or internationally like NFT Marketplace (ex. Opensea). As a member of the development for the project, I had contributed to both the front end and the backend of the application. The front end was built with React, CSS3. Django Rest Framework was used for the backend. MySQL was used in the database. For write smart contract use solidity language. I also mostly worked in API integration's.

5.2 System Analysis

5.2.1 Six Element Analysis

Process	Human	Non computing hardware	Computing hardware	Software	Database	Communication Network
View Dashboard	Artist, BackOffice Users, Admin	N/A	Smartphone / Computer	Web Browser	MySQL	Internet

Log/ Register	Artist, BackOffice Users, Admin	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Check status of the image	Artist, BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Upload Image	Artist	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Upload Image In NFT Marketplace	BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
View uploaded Image	Artist, BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Can choose the image for local sell or International (NFT) market	Artist	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
See the image price	Artist, BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Can accept or reject Image	BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Give can QC status	BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Can upload file in Pinata	BackOffice Users	N/A	Smartphone / Computer	IPFS,	MySQL	Internet

Generate smart contract and upload NFT in opensea market-place	BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Give sell order with set price	BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Can cancel the sell order	BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Send money to the artist	BackOffice Users	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Withdraw money	Artist	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Create Back Office user account	Admin	N/A	Smartphone / Computer	Web Browser	MySQL	Internet
Assign Role	Admin	N/A	Smartphone / Computer	Web Browser	MySQL	Internet

Table 5.1: Six Elements Analysis of The Steps NFT Labs

5.2.2 Feasibility Analysis

We perform Feasibility analysis for our project to determine, the stakeholders will give me the requirement whether we can do proper implement or not that requirement in time and also whether there will be profitable or not. It also helps us to study precedes technical development and project implementation. Feasibility analysis is important because it gives the list in detail all the things, we need to make the business work Identify logistical and other business-related problems and solutions.

Technical feasibility, Operational feasibility, Economical feasibility are the different type of feasibility.

Technical Feasibility:

Technical Feasibility deals with the hardware as well as software requirements. For our proposed system, the technology we'll be using is React for frontend with Django for backend and MySQL for our Database. We need to use solidity programming language for writing the NFT smart

contracts. We use react because for blockchain technology It provides an easy solution to many web-based applications. It's one of the most trendy frameworks in the current World. The personnel are well trained with the technology so there's no need for hiring additional developers but we face difficulties in blockchain technology because this was new for us. It's also cross platform meaning it will support on either Windows, Linux or MacOS systems. Those technology does not require expensive Windows/Server licenses so therefore, rarely it would cause financial costs for proprietary windows/system licenses.

Operational Feasibility:

Operational feasibility is a measure of how well a proposed system solves the problems and satisfies system requirements. When the system will be run by the customer, what kind of operational challenge they will have and how the operational issue would be feasible and that is feasible or not. Our proposed system offers greater level of user-friendliness. The proposed system produces best results and gives high performance. It can be implemented easily. So, this project is operationally feasible.

Economic Feasibility:

Economic Feasibility deals about the economic impact faced by the organization to implement a new system the cost of conducting a full system, including software and hardware cost for the application. Though we have a system Analyst and Database Specialist we do not use them in this project which has cost us a lot less. For our project it's done by our team member as well as project manager. For this project they just use 2 programmer, 1 graphics designer, 1 intern and 1 UI designer. There is no additional manpower and hardware requirement. So, there is no additional cost involved in maintaining the proposed system.

5.2.3 Problem Solution Analysis

when we are working in the project as a team, we face many problems need to solve these problems at first, we try to understanding the problem and user needs, then we analyze the problem proposing solutions to meet this need so that it helps us to better.

Business requirement are not a specific:

The chairman of the company as a client of our project. There are no written a specific business requirement as a client. He just tells the business we need to do a lot more analysis to make it real. So, we need to arrange a meeting with the client again and again understand the business requirement and clarify with the client what we understood so far

Meeting scheduling issue:

As there are no specific business requirement need to arrange meeting for clarify the business to implement the functionality also need to client feedback. But the issue is client cannot give much more time because as chairman you are so busy. So, we go it pen and papers and take notes what we say it. something we also record what is state after hair the business we request clan give few minutes so we can discuss our shelf about the business and then present what is understand sofa moreover we use WhatsApp group where we communicate with the chairman.

Adapt new technology:

Smart contracts and blockchains are new technology for a developer. It was very difficult to

implement the blockchain. best technology and also reply the client is it double or not for how much efficient we can solve it when the client tell the business requirement so we request to the client we need more time for perform. the feasibility analysis Because that technology is newer. For us. In that specific time, we try to provide. solution of that problem.

Miner Gas fees:

In blockchain technology, we need to pays gas fee to validate transaction and generating valid contact add the block in the blockchain. The gas which we need to provide is in Ethereum cryptocurrency but the problem is when we do testing. who give those Ethereum or people can see so as a solution we use Rinkeby Test net because they give test net Ethereum faucet to testing.

5.2.4 Effect and Constraints Analysis

When we start working, we have some degree of restriction when we providing the solution. Constraints are we have limited development resources and sometime management restricts the way the development team develop a system.

Some of the constraints and its effects are described below:

Limited development resources:

Though the technology was new for our developer and the system analyst and database analyst was also not involved in this project, the functional requirement also not specific so we need more time because all of the work done by us where number of developers also not enough. As a result, we need more time to development.

Time and Budget:

Budget and time both constraints are interrelated to each other. Time strictly depends on the budget of the company for the project. As we do all research and analysis also need to learn the new technology with fewer number of employees we need more time and due to COVID-19 situations as some were infected. The project was given a time of 8 months but due to coronavirus pandemic and other reason the development will be delayed.

5.3 System Design

5.3.1 Rich Picture

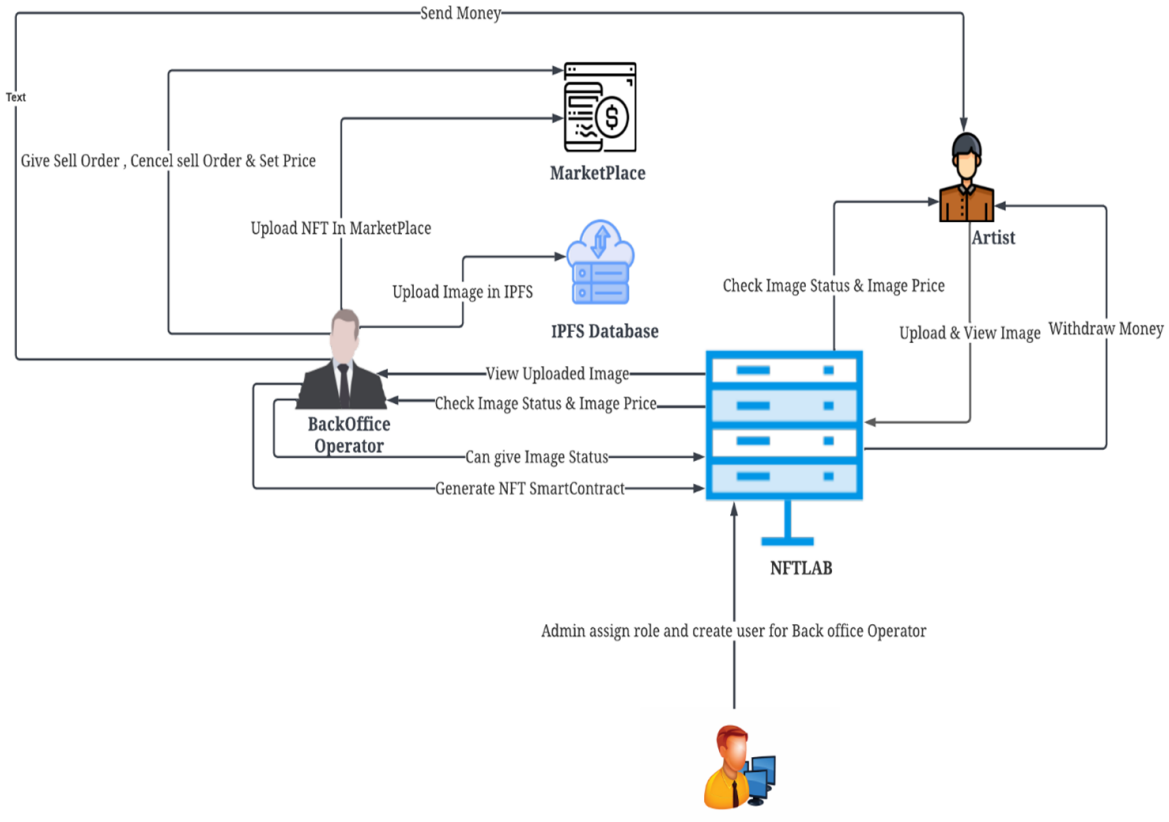

Figure 5.1: Rich Picture of the System

5.3.2 UML Diagrams

Use case Diagram

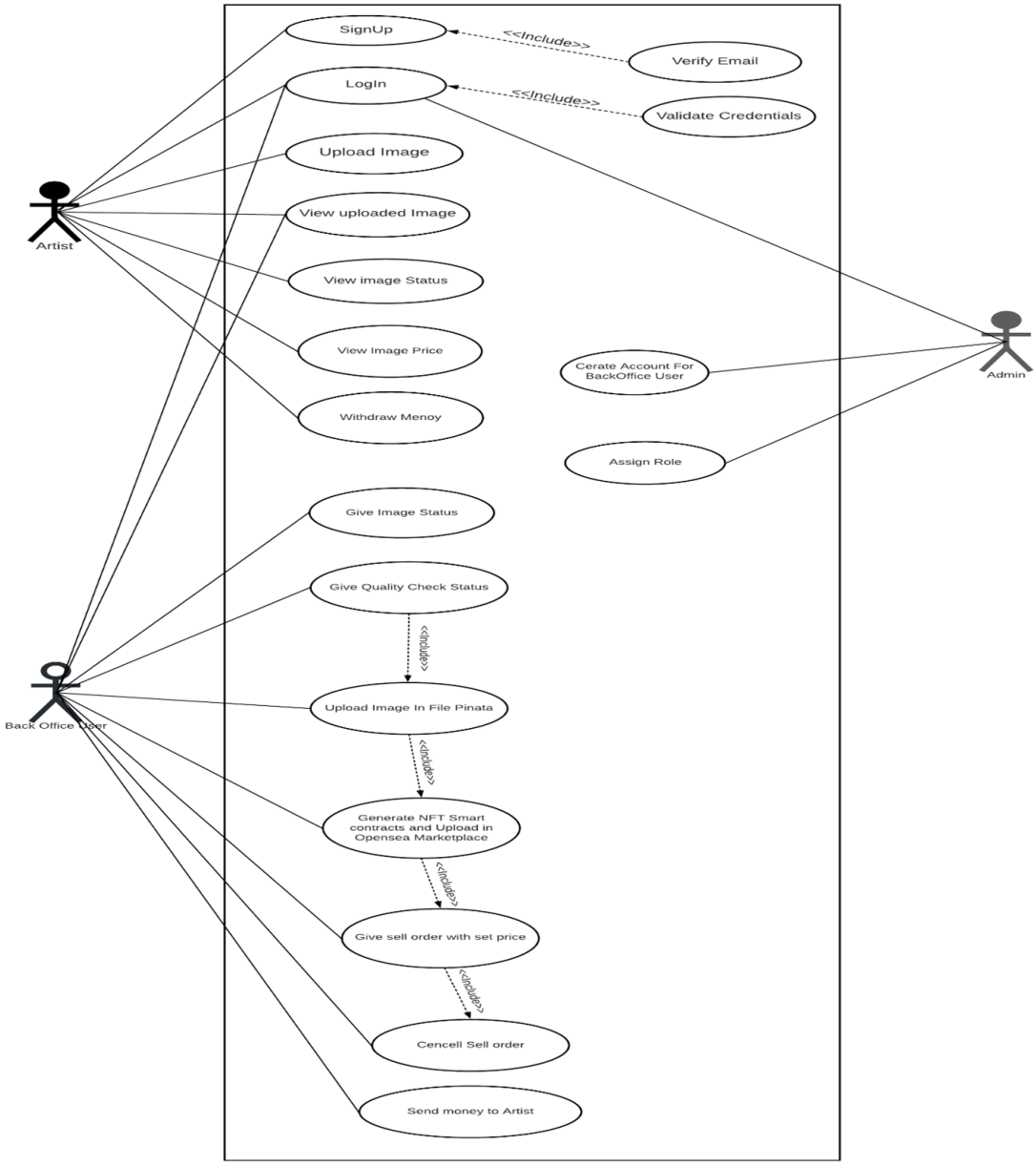

Figure 5.2: Use Case Diagram of the system.

Activity Diagram

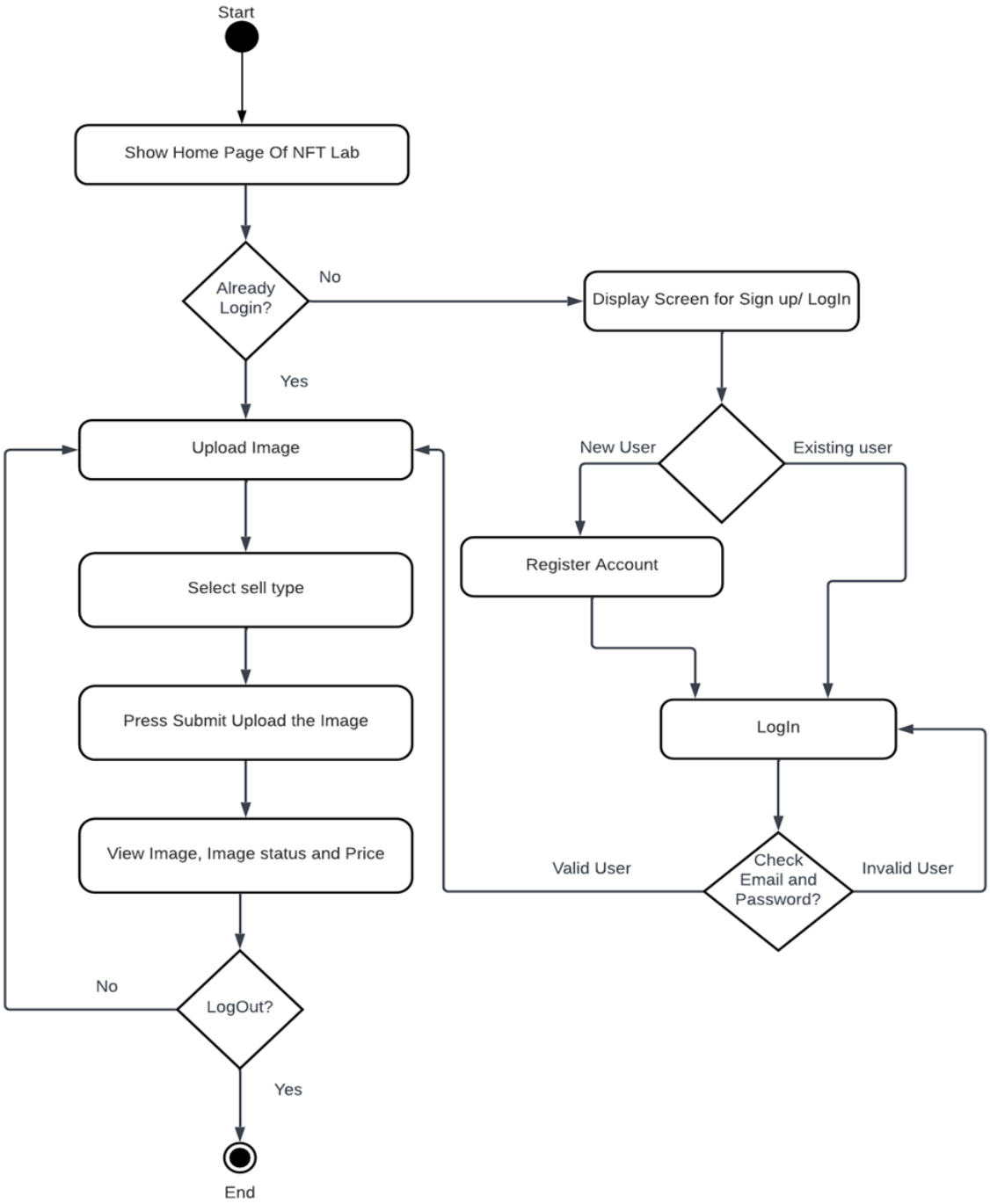

Figure 5.3: Activity Diagram for Artist.

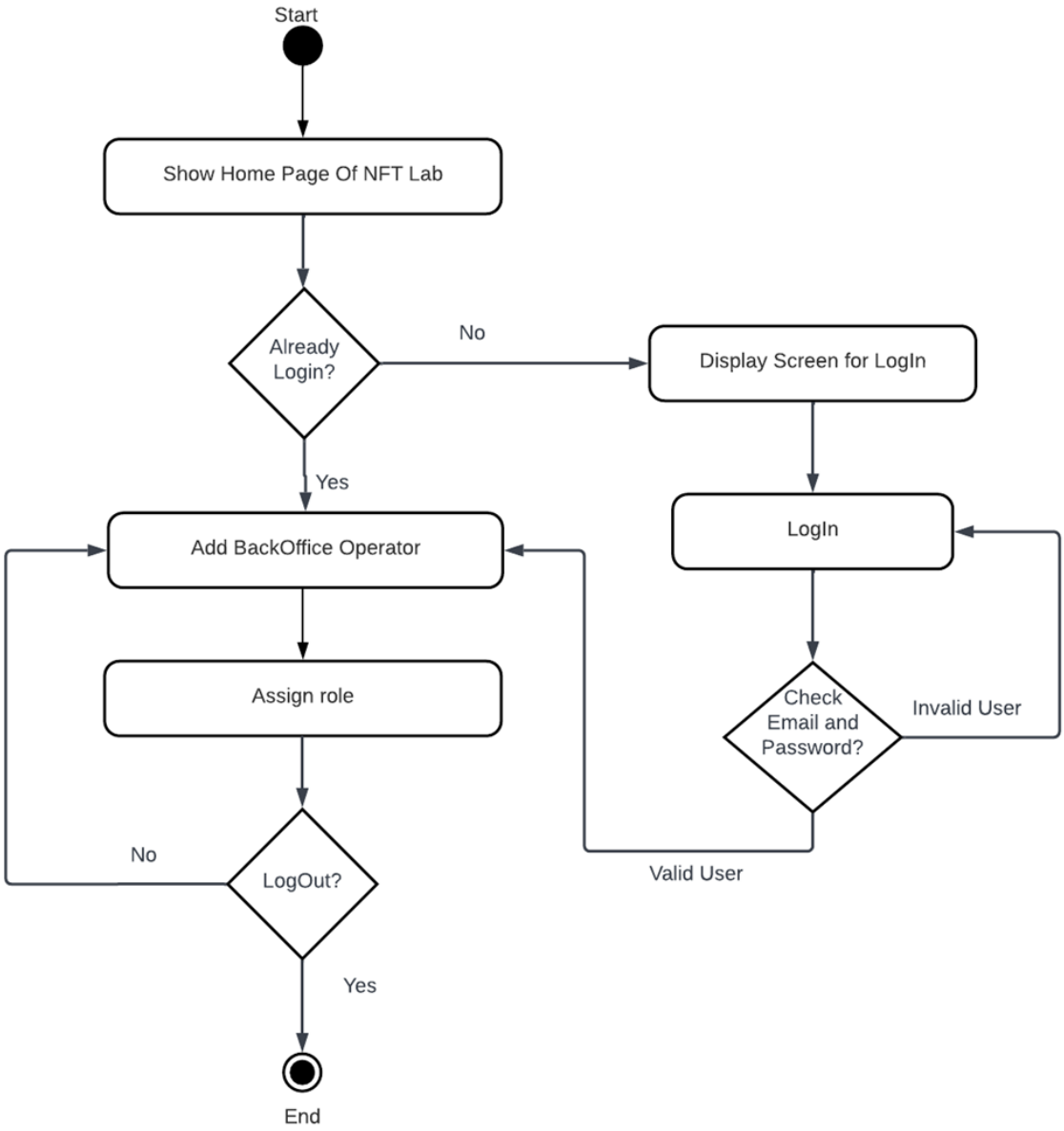

Figure 5.4: Activity Diagram for Admin.

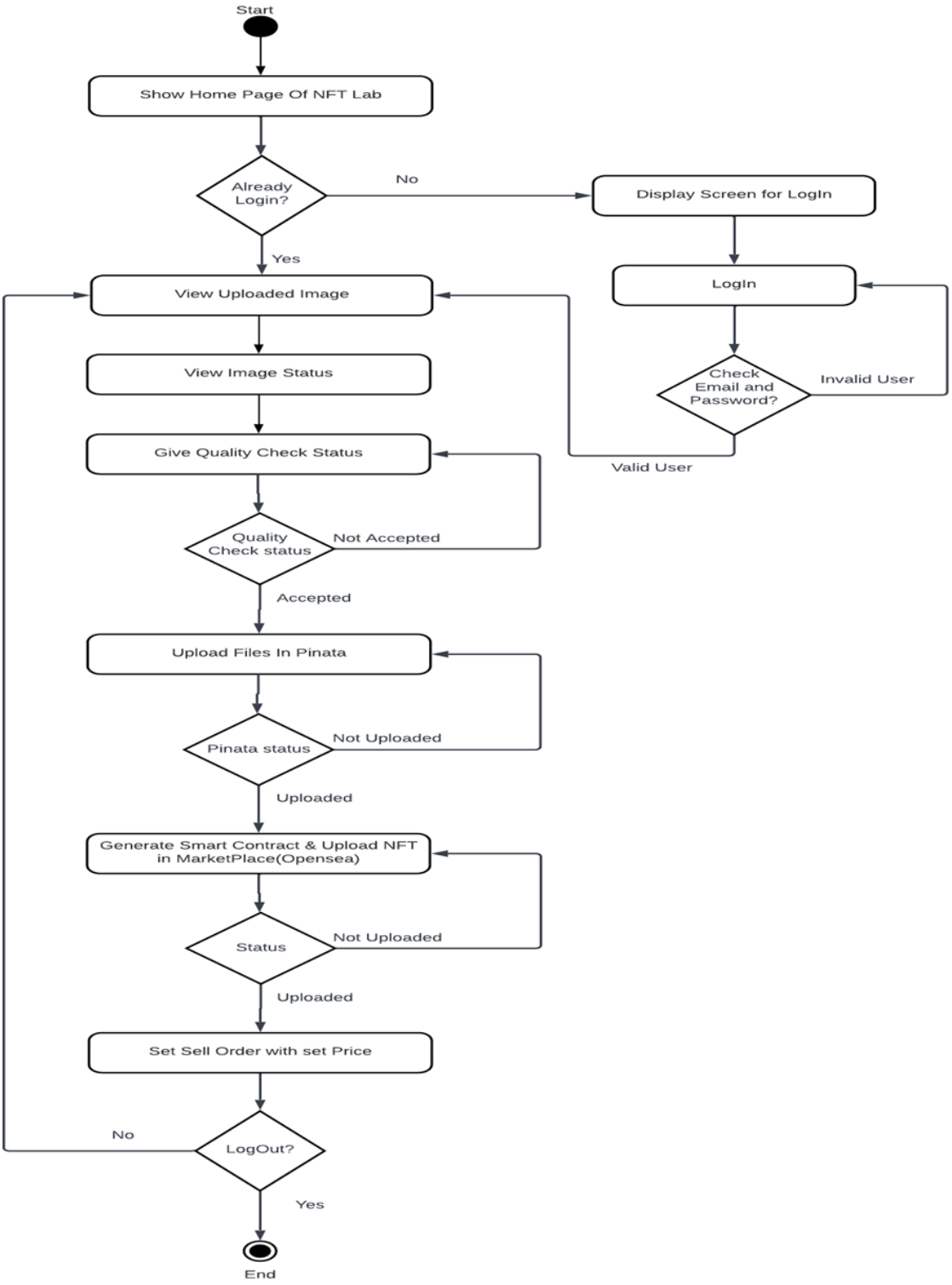

Figure 5.5: Activity Diagram for Backoffice Operator.

5.3.3 Functional Requirements

Name of the Function: User must be able to sign up.		
Input : • Enter Email, First Name, Last Name, password and confirm password • Click 'Register' button.	**Process :** • Call an API to server to save the user to the database	**Output :** • User will be created and a pop-up comes to verify email.
Precondition: Call an API to server to save the user to the database		
Post Condition: User will get a success message and show an email verification message.		

Table 5.2: Functional Requirement 1: Sign up

Name of the Function: BackOffice user can upload file in Pinata.		
Input : • Need to Click 'Upload Pinata' Button.	**Process :** • Call a Pinata (IPFS Database) upload file API and upload the image and json folder	**Output :** • If uploaded user can see the Contact ID of the folder which is provided by Pinata and show a status Uploaded.
Precondition: User must be connected to the internet and need to log-in the system. The image Quality Check status must be Accepted.		
Post Condition: N/A.		

Table 5.3: Functional Requirement 4: Upload File Pinata

Name of the Function: Artist must be able to Upload Image.

Input :	**Process :**	**Output :**
• Need to Click 'Image Upload'. • Choose the image and the sell type (local or International). • Click the submit button to upload the Image.	• Call an API and save the Uploaded Image to Database.	• User can see the uploaded Image once it was uploaded.
Precondition: User must be connected to the internet and need to log-in the system.		
Post Condition: N/A.		

Table 5.4: Functional Requirement 3: Upload Image

Name of the Function: BackOffice user can give Quality Check Status.		
Input :	**Process :**	**Output :**
• In QcAction column there are two buttons 'Accepted' and 'Further Info Required'. • User need to write a comment for each action • Click save button	• A pop-up modal show where user can write comment for the action. • After click save button call a API to save the comment and action perform.	• User can see the QcStatus and comments.
Precondition: User must be connected to the internet and need to log-in the system.		
Post Condition: N/A.		

Table 5.5: Functional Requirement 5: Quality Check Status

Name of the Function: User must be able to log in.

Input :	**Process :**	**Output :**
• Enter Email and password. • Click 'Log In' button.	• Call an API for check user is valid or not.	• User will be logged in.
Precondition: User must be connected to the internet and need to verify the given email		
Post Condition: User will redirect to the Homepage.		

Table 5.6: Functional Requirement 2: Log in

Name of the Function: Generate smart contract and upload NFT in Opensea marketplace		
Input :	**Process :**	**Output :**
• User need to click 'Generate' button.	• Call API where compile the contract and generate a NFT smart contract than add a block in Ethereum blockchain nad upload the NFT in the opensea marketplace	• User can see the contract address of the NFT.
Precondition: User must be connected to the internet and need to log-in the system. The image upload pinata status must be Uploaded.		
Post Condition: N/A.		

Table 5.7: Functional Requirement 6: Generate Smart Contact

Name of the Function: Give sell order with set price and cancel the sell order		
Input :	**Process :**	**Output :**
• User need to click generated contract address.	• Call API which take user in the opensea marketplace where NFT was uploaded.	• User can see the opensea interface where user can give sell order with set price and also cancel sell order.

Precondition:	User must be connected to the internet and need to log-in the system. The image must be Uploaded in NFT marketplace
Post Condition:	N/A.

Table 5.8: Functional Requirement 7: Give sale order with set price and cancel sell order

Name of the Function: Create BackOffice user account		
Input : • User need to click 'Add new user' • Enter Email, check the role or roles, password and confirm password • Click 'Register' button.	**Process :** • Call an API to server to save the user to the database.	**Output :** • User will be created and a pop-up comes to verify email.
Precondition: User must be connected to the internet and need to log-in the system.		
Post Condition: User will get a success message and show an email verification message.		

Table 5.9: Functional Requirement 8: Create BackOffice user account

5.3.4 Non-Functional Requirements

Performance: Performance Requirements is measured in terms of the output provided by the application and define how well the software system accomplishes certain functions under specific conditions. The steps NFT Lab should be able to utilize quick, optimized and respond according to the user's needs under extensive workload conditions with a large storage capacity.
Safety: In The steps NFT Labs there are lots which need to set up a daily or weekly updated backup database with limited access only given to top level management and dedicated stakeholders. In this system invalid users should be blocked from logging in otherwise that would be great threats for the systems.
Security: This non-functional requirement assures that all data inside the system or its part will be protected against malware attacks or unauthorized access. The Steps NFT Lab need to have perfect data integrity and also detect and block Unauthorized access to sensitive information (Data breach) and system configuration. The system needs to avoid and handle any data loss due to backend services such as database malfunction or unwanted deletion. It is essential for System Tester professionals to regularly conduct updated security checks on systems.
Availability: The Steps NFT Labs will be able to in all security aspects such as responsiveness, usability, and reliability. Here all features will be available for data backup functionality, all the

system data will be readily available during system outage.

Interoperability: The Steps NFT Labs will be able to communicate and act in tandem between the client side and the server side and solve certain informative and analytical tasks. It should also be able to handle semantic interoperability, as the data can be exchanged between two or more systems and also understood by each system.

Usability: The Steps NFT Labs will be able to communicate and act in tandem between the client side and the server is designed in an ease to use fashion for maximum user usability potentiality. The system should be able to handle all its user task requirements.

5.4 Product Features

5.4.1 Input

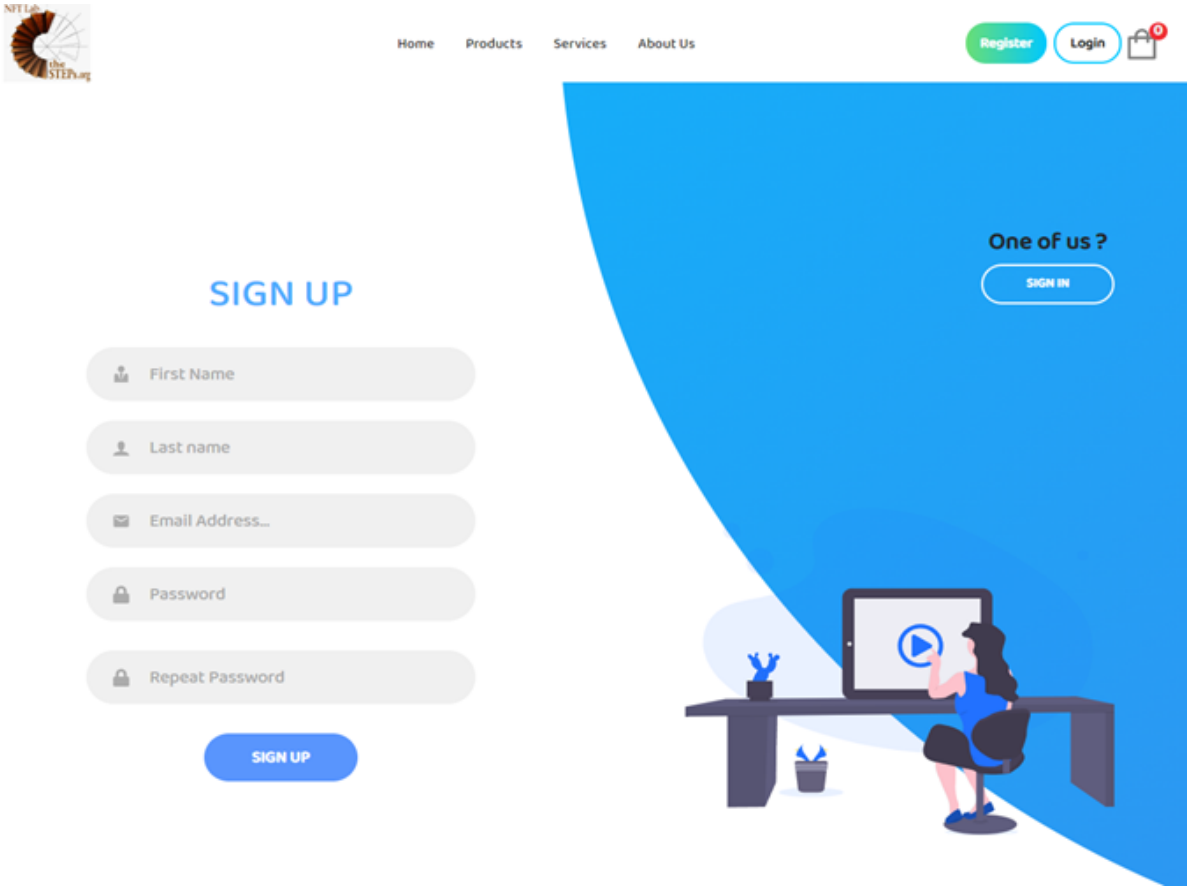

Figure 5.6: Sign Up page.

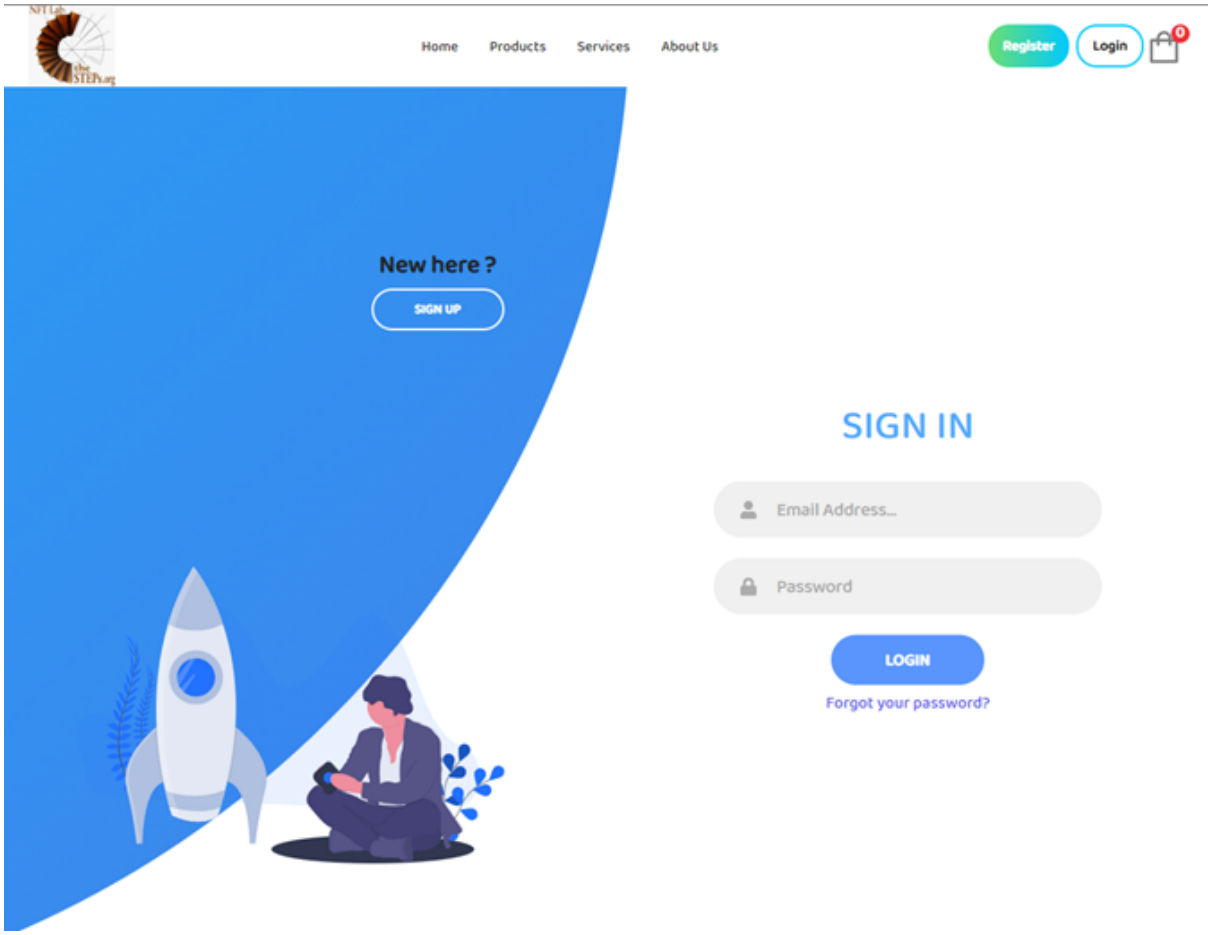

Figure 5.7: Log In page.

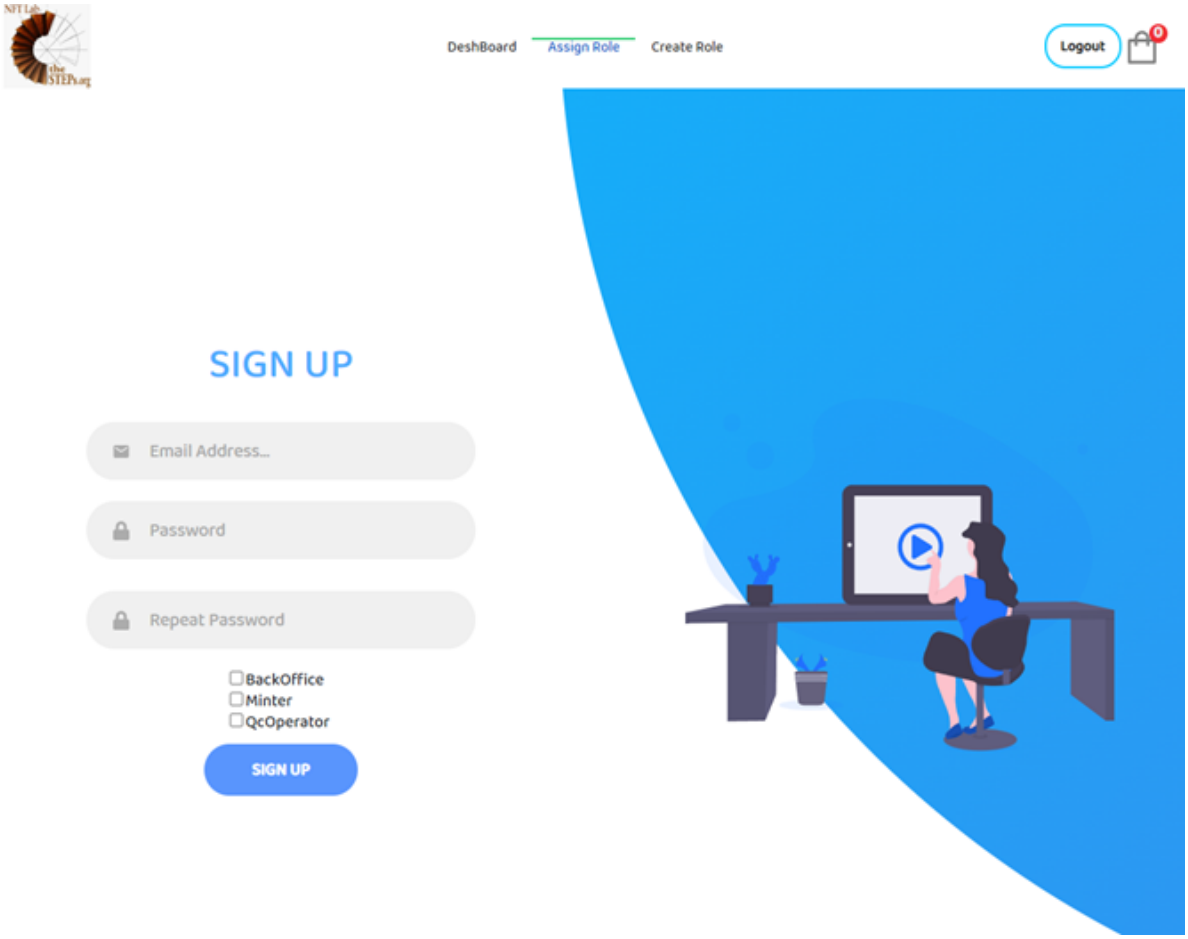

Figure 5.8: BackOffice User Register Page.

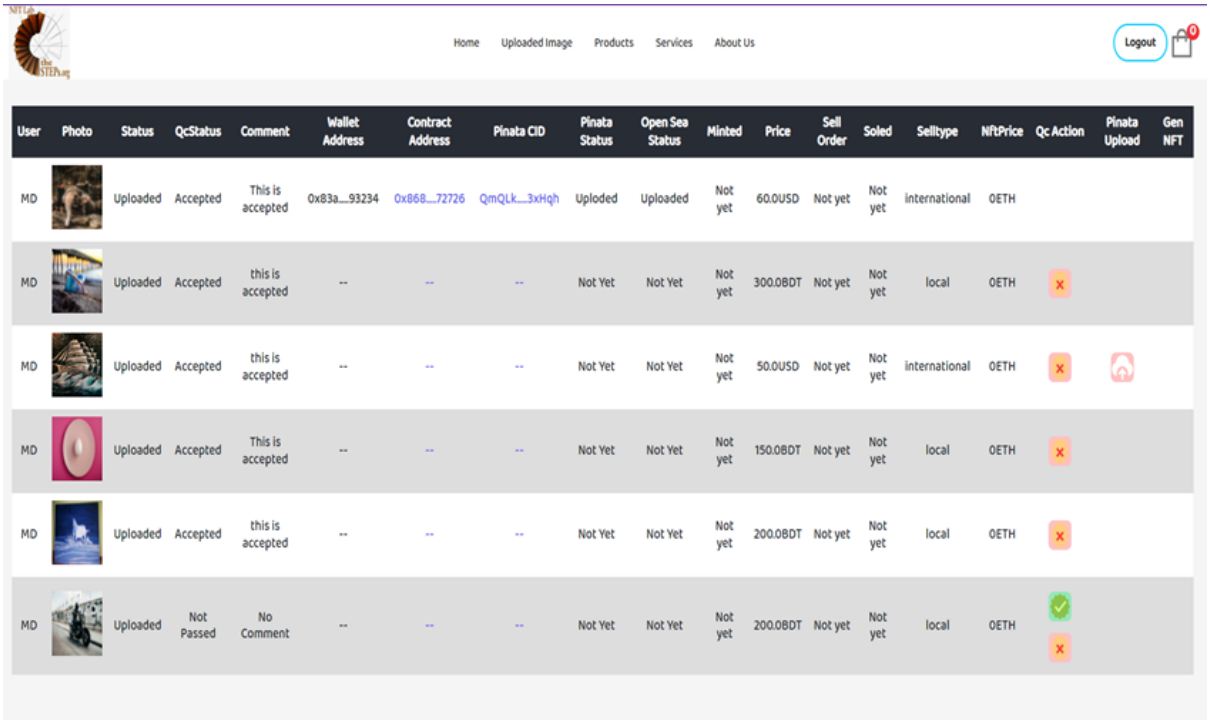

Figure 5.9: Generate NFT, Give QcStatus and Upload pinata.

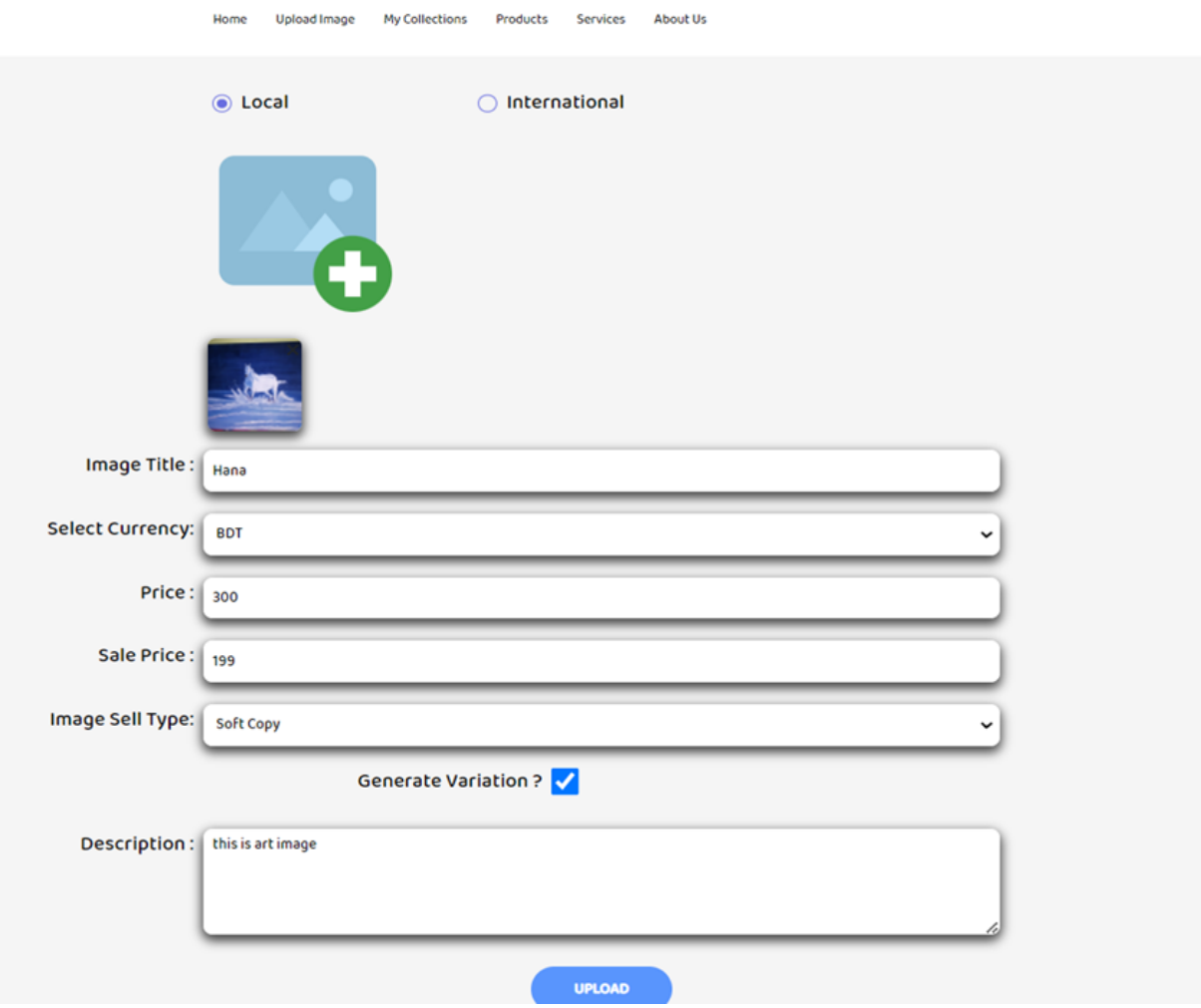

Figure 5.10: Image Upload.

5.4.2 Output

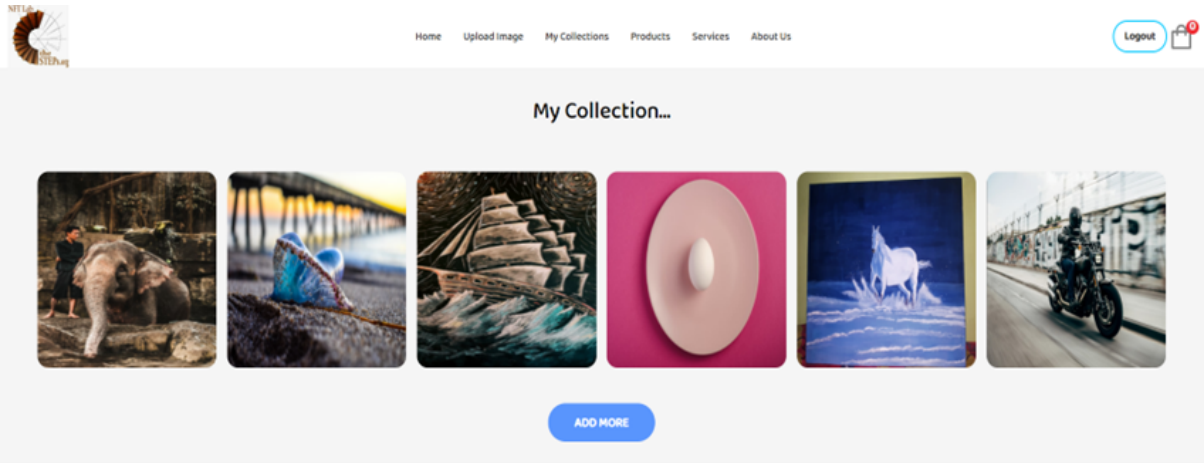

Figure 5.11: Own Collections.

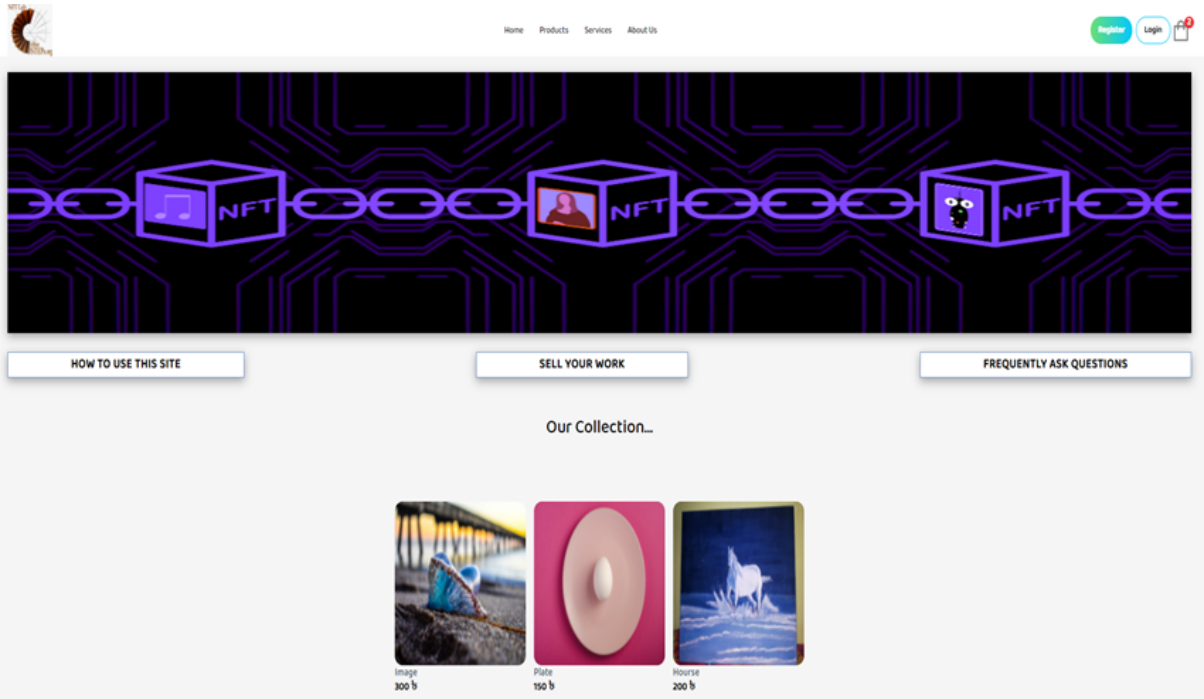

Figure 5.12: Home Page.

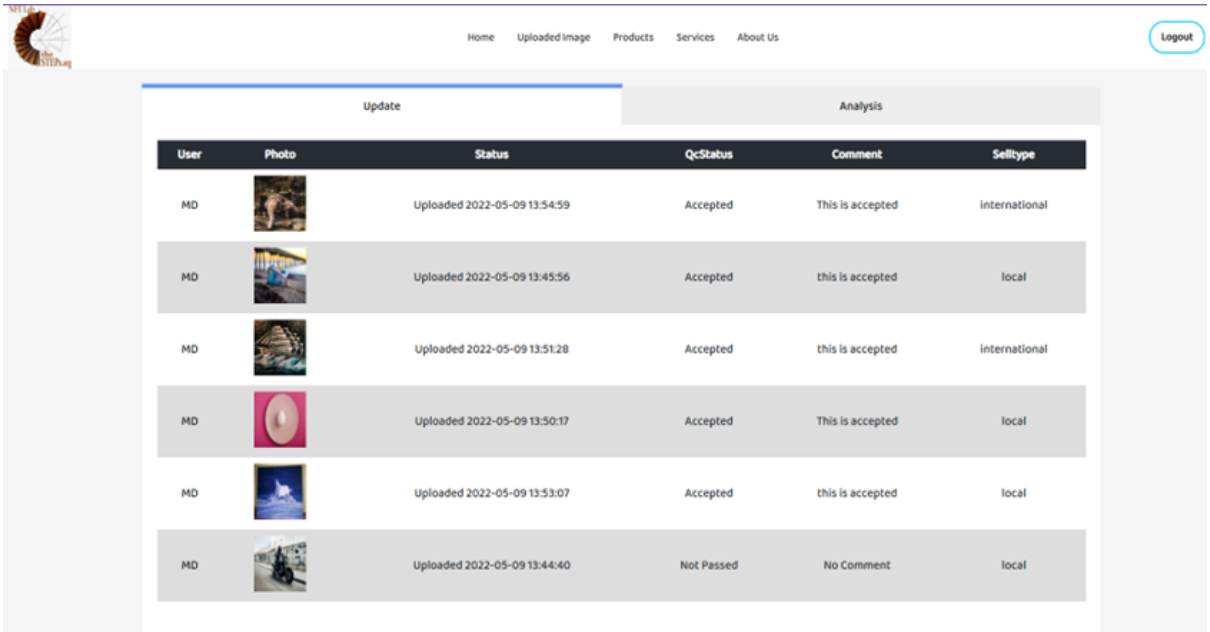

Figure 5.13: Image Status.

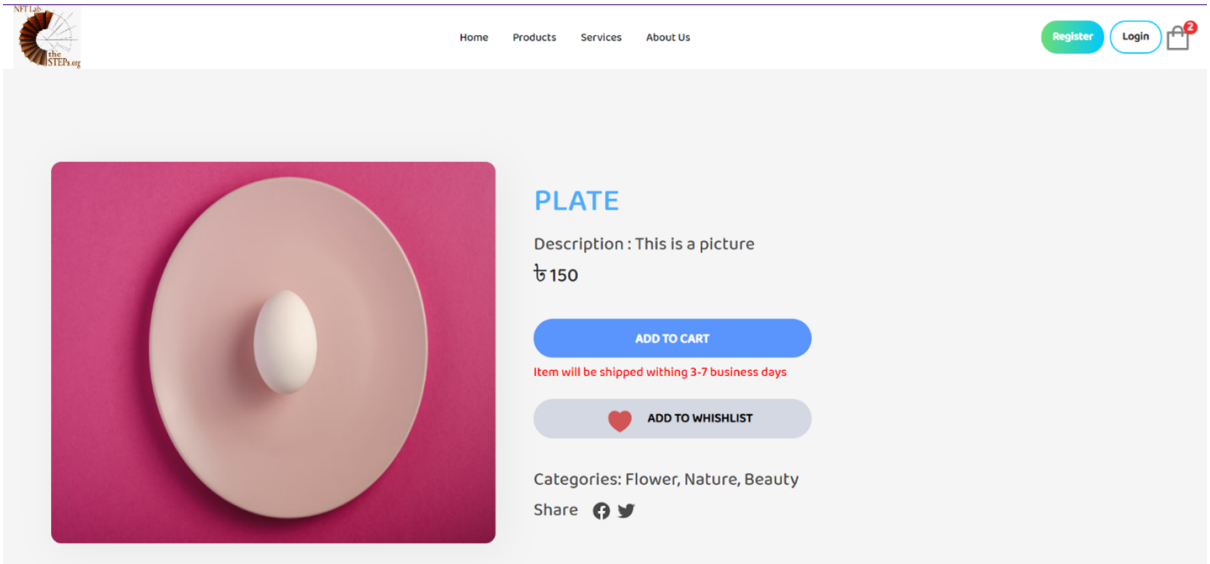

Figure 5.14: Single Image for Buy.

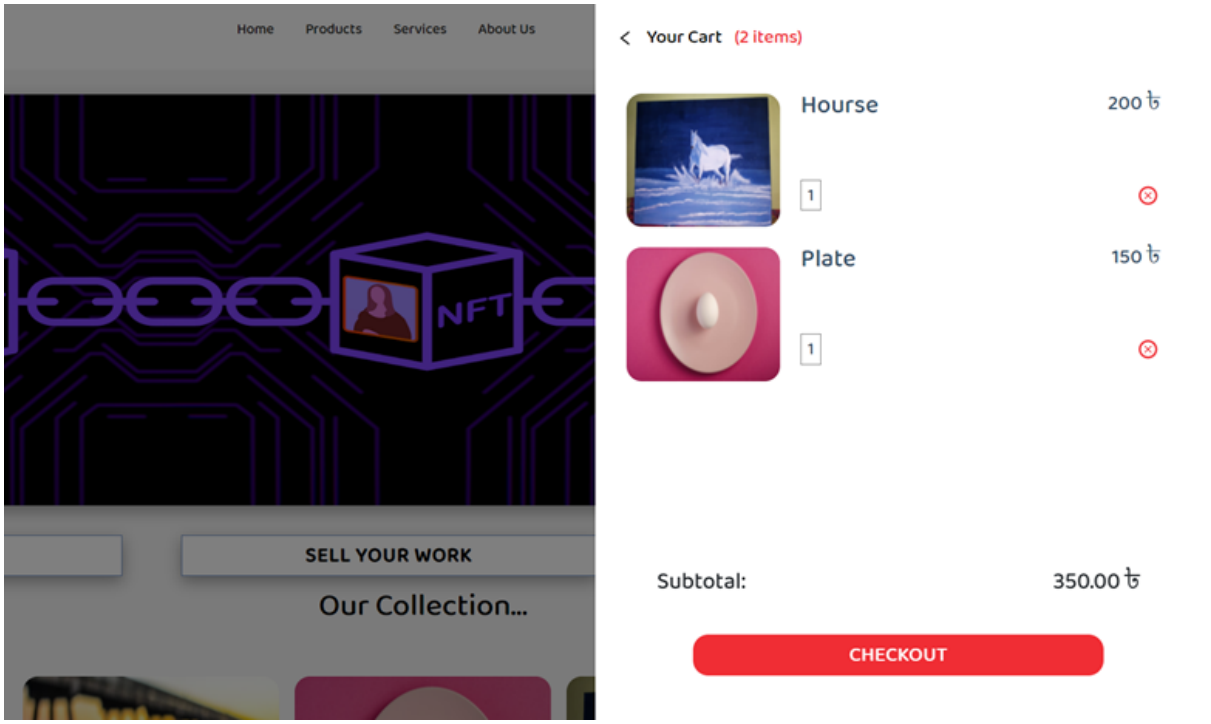

Figure 5.15: Cart Information.

5.4.3 Architecture

The Steps NFT Lab the collections of web pages. As it is a web app, we use client-server model as architecture. In this model there two actor's client and server. Where the client (Browser) sends request in The Steps NFT Lab and the server of The Steps NFT Lab returns a appropriate response to the client.

A client-side, the frontend of The Steps NFT Lab where user interaction take place and we use React, CSS for frontend.

A server-side, the backend of the project is written Django Rest Framework which control responds to HTTP request send the data to the client browser.

We use MySQL database to store the data for The Steps NFT Lab where we store user information's, uploaded Image, image status and price also much more.

For our project we also use API for data transference between backend, frontend and the server.

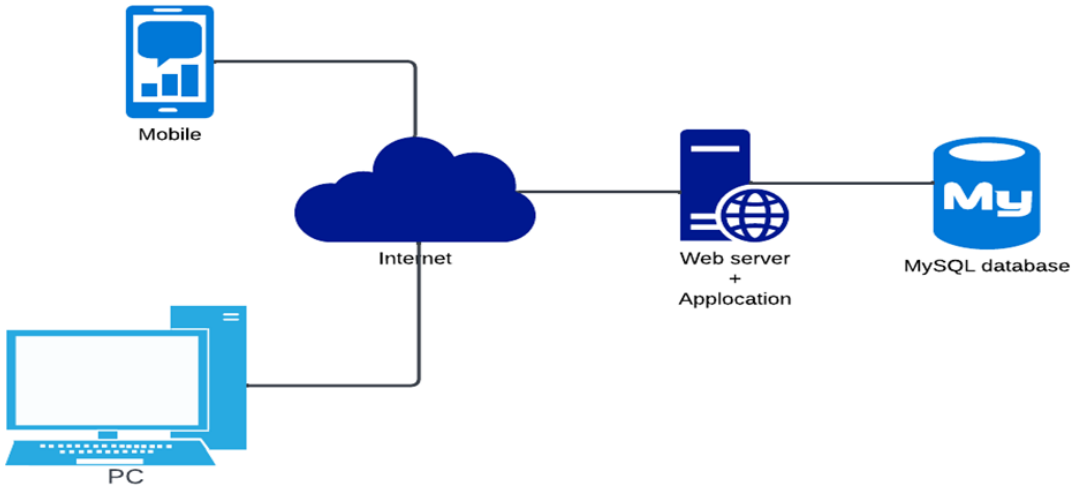

Figure 5.16: Web Application Architecture.

Chapter 6

Results & Analysis

The overall project work started acquiring the requirement gathering and feasibility analysis. We focused to build it as a generic product. As previously mentioned in Chapter 3, the application, the steps Nft Labs, is a full stack application developed using Reacts and Django.
This chapter contains screenshots of the application so it can be seen about how the actual application looks like:
Homepage: This is the landing page that all users will have access to upon opening the app. (See 5.12)
My collection: In this page user can see all of his/her uploaded image. (See Figure 5.11)
Single Image Page: This is the page users will have access to upon clicking a image. (See Figure 5.14)
Show all uploaded Image: In this page where Backoffice user can see all uploaded image and give quality check status. (See Figure 5.9)
Cart Information: Where user can see the cart items and the total price. (See Figure 5.15)

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

Sustainability of the product refers to its ability to be maintained and updated for its user base. After the deployment and official release of the application The Steps NFT Labs it is believed that it will have a strong user base since it is a unique idea about creating a community of artist to sell their paints. As the user base grows so will the community and hence it can be said that it is Sustainable in terms of Community The company is planning on making revenue from the project. After the project is completed, the sustainability will be standard as we estimated. After selling the image in NFT marketplace and local image they generate revenue.

7.2 Social and Environmental Effects and Analysis

The Steps NFT Labs aims to get more people interested into artist to art and painting and hopes to develop an online community of artist where they can sell art or painting. As a matter of the environment, this automation system does not do any harm to it. Moreover, artist just sell image from their home.

7.3 Addressing Ethics and Ethical Issues

There are some unspoken rules and ethics guidelines that need to be followed when working on creating and releasing a website. The developers made sure there was no breach of conduct and all the points were taken into serious consideration. The Steps NFT Labs does collect user data, but those are strictly and only relevant for the app. The only data that is being collected are the user's pantry information and preferences information that the user will only provide on their own accord.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

During the internship program I faced many problems during that time. It was tough for me to do five days office from 9:00 AM to 6:00 PM while continuing two other courses. I always tried to give my 100 percent during my internship periods. Adapting to the team: As this was my first time working in a work environment that everyone contributed to as a collaboration, it was hard to get used to everyone. Adapting to new technologies: This was my first time using the React and Django which was very difficult for me but I overcame the process through dedication and hard work. Identifying and Fixing Bugs: Resolving bugs was an issue as some of the bugs were very hard to find, even after the identification of bugs it would take a lot of time to resolve it.

8.2 Solution of those Problems

I faced above problems and tried to found ways of solutions. I undergo many hassles to adept new technology and understand the business requirement. Hence, I lose much of our times, and I finished as I could do at most and learnt how to solve problems and give a solution feedback. Sometime the team members also help to solve the problems.

Chapter 9

Future Work & Conclusion

9.1 Future Works

As the project is still evolving, the company plans on adding a lot more features and modules to the website to make it even more helpful for the client. Now the client can sell their art or image, but in future there will be features where user can sell their video, audio and other digital assets both local and international marketplace. Now the Steps NFT Lab is only web app but in future the company made mobile app also.

9.2 Conclusion

It was a wonderful experience working with Datasoft service Limited as an intern. During the internship period I have learnt many things. I was introduced to new technologies like React, Django and Blockchain etc. I have learned a lot about developing different kinds of applications also about various development styles. I was pushed to adapt to changes rapidly and come up with logical solutions. During my project, I cooperated with my team members and seniors to solve the challenges faced. Despite their workload, my supervisors were always there to answer any queries and help me. I would like to appreciate once again everyone who has made my life as an intern such a great experience. I had learnt to work in pressure and fulfill under the deadline.

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[2] N. D. Staff, "Nft desire." https://nftdesire.io/how-do-i-convert-an-image-to-nft. [Online: 28-January-2022].