# **NFT MARKETPLACE**

## (TY SEMESTER - V of III Year M.Sc.(CA&IT) (2022-23))

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Group Id:- 67

**Guided By: MR. MUKESH JOSHIYARA** 

Name Of Company: NVISIONIQ.

# Report Submitted To:-

K.S.SCHOOL OF BUSINESS MANAGEMENT

M.SC -Computer Application and Information Technology





This is to certify that below mentioned students of K. S. School of Business Management (CA & IT) college worked as an intern as part of his/her MSc (CA & IT) course of Gujarat University. The particulars of Project Trainee internship details are given below.

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PROJECT TITLE: NFT MARKETPLACE

CO FOUNDER, Parth Thakkar





## **Acknowledgement**

A Project is a learning experience for the student. We consider it a great opportunity to be part of the project. It has been a privilege to have new experience and learn from it all. A lot of hard work, dedication and research have gone into making of this project.

However, it would not have been possible without the kind support and help of many individuals and organizations I would like to extend my sincere thanks to all of them.

We are indebted to our college **K S SCHOOL OF BUSINESS MANAGEMENT** for their guidance and constant supervision as well as for providing necessary information regarding for the project and also for their support in completing the project.

We would like to express our gratitude toward our internal guide **MR.MUKESH JOSHIYARA** for theirkind co-operation and concouragement which helps us in completion of this project.

We would like to express our special gratitude and thanks to the people related to this field for providing us with valuable information and giving us such attention and time.

Group id:- 67

Yash Parmar (3138)

Parth Shah (3153)

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# **CHAPTER - 1 INTRODUCTION**

# 1.1 Organization Profile:-

Company name :-	NVISIONIQ.
Address:-	B-203, Infinity Towers, Corporate Rd, near Ramada Hotel, Prahlad Nagar, Ahmedabad, Gujarat 380015
Contact :-	+91 95374 58511 +91 79356 45255
Manager name :-	Parth Thakkar
E-mail :-	info@nvisioniq.com

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## 1.2 System Details:-

## 1.2.1 Existing System:-

Yes, there is existing system like us. which are given below.

#### 1) Opensea:-

The world's first and largest digital marketplace for crypto collectibles and non-fungible tokens (NFTs). Buy, sell, and discover exclusive digital items.

#### 2) Rarible:-

Trade NFTs from major marketplaces with 0% Rarible fees on aggregated listings.

## 1.2.2 Proposed system:-

- Our current system and proposed system are very different.
- We are adding new functionality in existing system and add new creativity of our minds.
- We are changes the whole system structure and Blockchain technology implies that all NFT transactions are visible in a distributed database.
- NFTs use blockchain technology, much like cryptocurrencies. It is also true for non-fungible token marketplaces.
- As a result, all the blockchain's advantages apply to your digital platform for NFT sales. Let's take a look at the main benefits.
- Another benefit of building an NFT marketplace is the chance to earn your users' loyalty and trust.

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## 1.3 Scope of System:-

- This marketplace only from client side because it is immutable, decentralized, and transparent and no one can change it.
- Blockchain technology implies that all NFT transactions are visible in a distributed database. You can think of it as a book of all transactions, which displays all the actions on your marketplace in real-time.
- Developing an NFT marketplace means building a decentralized platform where users can trade assets freely and not depend on traditional financial institutions, regulators, etc. This decentralization is possible through the use of blockchain technology..
- Another benefit of building an NFT marketplace is the chance to earn your users' loyalty and trust. A non fungible token is a publicly accessible record of ownership that may be checked if necessary. As a result, an NFT is impossible to forge.

## 1.4 Objectives Of System:-

- Faster and more accurate retrieval of information.
- Storefront is the most significant element of your marketplace.
- This feature will come in handy when your users need to find the token quickly.
- Allow users of your marketplace to create listings...
- No E-Commerce NFT platform development is complete without the function of buying and placing bids.
- It would help if you also integrated a wallet into your marketplace.
- The auction is a fascinating feature even for those users who are not yet ready to trade on your marketplace.

#### CHAPTER - 2

## PROPOSED SYSTEM REQUIREMENTS GATHERING

## 2.1 Stackholder Of System:-

#### Admin:-

We are going to develop a NFT Marketplace. NFT Marketplace developed over a blockchain network for the trading of digital collectibles in the form of NFTs. This marketplace only from client side because it is immutable, decentralized, and transparent and no one can change it.

#### Seller:-

Signup your account with Metamask or any other wallets. Mint your digital asset as NFT in the marketplace. List your NFT on the platform in auction or openbid. Sell your NFT for the best price your buyer offered.

## **Buyer:-**

Create your account with your crypto wallet and Add necessary info. Search out the NFT of your interest with the filters. Bid the amount for the NFT you wish to buy on the platform. Once the seller accepts the bid NFT is transferred to your wallet.

## 2.2 Requirement gathering techniques used :-

There are four techniques used for gathering requirements.

- 1) Questionnaire
- 2) Interview
- 3) Public opinion
- 4) Documentary

We have prepared a list of questions.

## **Questions to Ans:-**

#### Q.1) What is NFT marketplace?

An NFT marketplace is a platform where NFTs can be bought and sold. Some popular NFT marketplaces include OpenSea, Rarible, and Waxpeer.

#### Q.2) What makes an NFT valuable?

The value of an NFT comes from the property it represents, which is generally something that exists in the digital world like an original piece of art or digital memorabilia.

#### Q.3) How you want your system designed made?

We want our system to be user friendly and create less redirection pages. And there should be Category wise Equipment list, so one can search the product easily. For example, Category in that SubCategory and in that Products.

#### Q.4) What's the connection between NFTs and cryptocurrency?

NFTs aren't cryptocurrencies, but they are built using technology similar to Ethereum and Bitcoin.

#### Q.5) Are NFTs the future of art and collectibles?

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It depends on whom you ask. Artists, musicians, athletes, celebrities, and others find NFTs attractive because they offer a new and unique way to sell their wares.

#### Q.6) What are the risks of NFTs?

Some risks associated with NFTs include that they are subject to volatility and scams and that they may not be compatible with all wallets and exchanges.

#### Q.7) How do I buy an NFT?

NFTs can be bought using traditional methods like PayPal and credit cards or through cryptocurrency exchanges.

#### Q.8) How do I sell an NFT?

NFTs can be sold using traditional methods like PayPal and credit cards or through cryptocurrency exchanges.

#### Q.9) What is an NFT wallet?

An NFT wallet is a digital wallet that can be used to store NFTs. Some popular NFT wallets include MetaMask, Trust Wallet, and Coinbase Wallet.

#### Q.10) How do I store an NFT?

NFTs can be stored in an NFT wallet or on an NFT marketplace.

#### Q.11) What is an NFT token?

An NFT token is a type of NFT that represents a digital asset. NFT tokens can be used to represent ownership of digital assets like artwork, video games, and even virtual real estate.

#### Q.12) What is an NFT smart contract?

An NFT smart contract is a type of NFT that represents a physical asset. NFT smart contracts can be used to represent ownership of physical assets like tickets, loyalty points, and memberships.

#### Q.13) What is an NFT minting service?

An NFT minting service is a platform that allows users to create and manage their own NFTs. Some popular NFT minting services include Mintable, Nifty Gateway, and OpenSea..

#### Q.14) What is an NFT creator?

An NFT creator is a person or entity that creates NFTs. NFT creators can be anyone from individual artists to large corporations.

#### Q.15) How do I invest in an NFT?

There are a few different ways to invest in an NFT. One way is to buy an NFT on an NFT marketplace. Another way is to invest in an NFT fund.

#### Q.16) Can NFT be exchanged for cash?

Yes, NFTs can be exchanged for cash. However, the process of exchanging an NFT for cash can vary depending on the NFT and the platform it is traded on.

## 2.3 Consolidated List Of Requirement:-

List of Requirements:-

There are different requirement are gathering technique.

- Signup or Login authentication using crypto wallet.
- The company requirement are maintained the valuable details on blockchain.
- Advance Token search available.
- Easy to get an information and details about the digital assets.
- Search & filter the products.
- Auction, Bidding, Buying, Selling is also available on the platform.
- AI support & Multiple wallet.
- Manage and update the information regarding the registed users.

#### 2.4 Project definition:-

#### **TITLE :- NFT MARKETPLACE**

- This project is all about connection between buyers and seller.
- As the human life is become very fast and speedy so no one have time to go and purchase anything.
- When a user puts an NFT for sale, the ownership of the item will be transferred from the creator to the marketplace contract.
- When a user purchases an NFT, the purchase price will be transferred from the buyer to the seller and the item will be transferred from the marketplace to the buyer.
- The marketplace owner will be able to set a listing fee. This fee will be taken from the seller and transferred to the contract owner upon completion of any sale, enabling the owner of the marketplace to earn recurring revenue from any sale transacted in the marketplace.
- Blockchain technology implies that all NFT transactions are visible in a distributed database. You can think of it as a book of all transactions, which displays all the actions on your marketplace in real-time.

# CHAPTER – 3 SYSTEM MANAGEMENT AND PLANNING

- Project planning is part of project management, which relates to the use of schedules such as Gantt charts to plan and subsequently report progress within the project environment.
- Initially, the project scope is defined and the appropriate methods for completing the project are determined.
- Following this step, the durations for the various tasks necessary to complete the work are listed and grouped into a work breakdown structure.
- The project schedule may be optimized to achieve the appropriate balance between resource usage and project duration to comply with the project objectives.

## 3.1 Feasibility Study:-

- A feasibility study is carried out to select the best system that meets performance requirements.
- The main goal of the feasibility study activity is to determine whether it would be financially and technically feasible to develop the product.
- The feasibility study activity involves the analysis of the problem and collection of all relevant information relating to the product such as the different data items which would be input to the system, the processing required to be carried out on these data, the output data required to be produced by the system as well as various constraints on the behavior of the system.

## 3.1.1 Technical Study:-

- The technical feasibility study compares the level of technology available in the software development company and the level of technology required for the development of the product.
- Here the level of technology consists of the programming language, the hardware resources, other software tools etc. Internet is required to use the system.

  Our system consists of,
- The facility to produce outputs in a given time.
- Response time under certain conditions.

- Facility to communicate data to distant locations.
- It just requires window operating system and normal browser to use our system. Hence, the proposed system is technically feasible.

## 3.1.2 Economical study:-

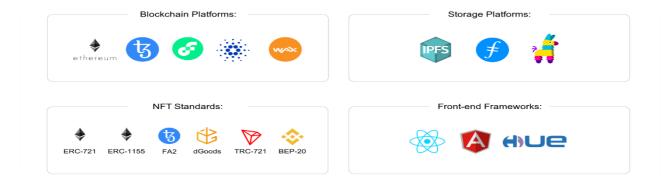
- The economic feasibility study evaluate the cost of the software development against the ultimate income or benefits gets from the developed system. There must be scopes for profit after the successful Completion of the project.
- Our system is not much costly to develop.
- It is easy to use and understand therefor there is no need to appoint any operator to use the system.
- Organization is ready to invest in proposed system because it is being developed in latest technology and will be very fast for the users to transfer or share the information using the system.

## 3.1.3 Operational study:-

- Operational feasibility study tests the operational scope of the System to be developed. It is checked that if the system is actually can be useful when implemented. Our system is operationally feasible in the following ways:
- An effective catalyst for customer feedback is a portion of an operational system.
- It is very easy to operate, so, that the admin can easily use it.
- Our system is very easy so user use it without any training.

## 3.2 Hardware-Software Requirements:-

## 3.2.1 Software Specifications:-



# 3.2.2 Hardware Requirements:-

Processor	Minimum Core i3 or Higher
RAM	Minimum 2 GB or Higher
Hard Disk	Minimum 200 MB or Higher

## 3.2.3 Software Requirements:-

os	Windows 10 or higher
Browser	Chrome, Brave



#### 3.3 System Planning:-

## **3.3.1 Steps**

#### 1. Focus on your Niche

To begin with, your custom NFT marketplace design must fit your selected niche could be based on digital artwork, game content, sports memorabilia, other collectibles, or even a soundtrack.

#### 2. Select the right Blockchain Network

As we all know, a blockchain is a distributed database that keeps track of all NF transaction data.

Some of the most sought-after blockchain networks you can consider include blockchains like Ethereum, Solana, Tezos, and more. Among all these Ethereum is one of most popular blockchain networks.

#### 3. Choose the Most Advanced, Top Notch Features

Ensure to implement all the top-notch features in your NFT platform and optimize its functionality.

#### 4. Build an Intuitive User Interface

An engaging, intuitive, and straightforward interface is a must have for your NFT Marketplace. This is important to ensure the secure and hassle free trading of NFTs without glitches and bugs.

Moreover, a great UI can create a good impression for your NFT Marketplace.

#### 5. Build IPFS & Database Storage

The next thing you should do is build an immutable and secure database.

This database is responsible for holding all the sensitive and private data of the user and admin profile.

IPFS allows NFTs to represents data of any format and size in a secure and distributed way that can stand the test of time.

#### 6. Integrate other Third-party Service

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A successful NFT marketplace needs to be integrated with payment gateways.

Crypto wallets, social media, and also email services.

#### 7. Build Smart Contracts

At this stage you should build smart contracts to initiate transactions and mint NFTs automatically when sales conditions are met.

There are several reasons why smart contracts must be built. First, they are backed by trustworthiness and reliability.

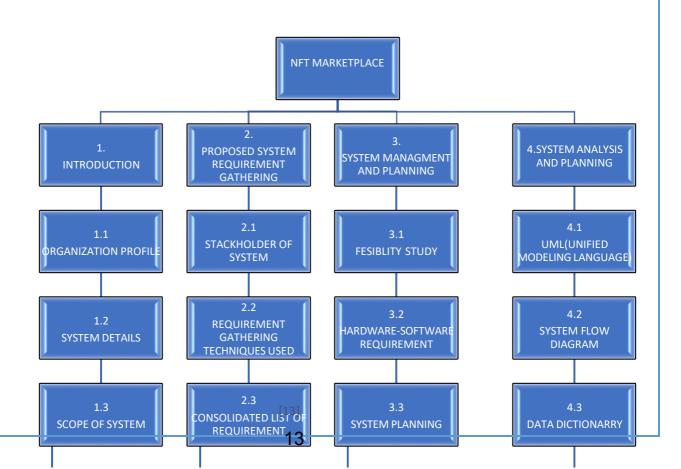
#### 8. Testing and Deploying

Bugs and errors tend to disrupt the user experience on a platform, so testing is a crucial phase that ensures a hassle-free user experience.

As your NFT platform is ready for use, you can perform testing on different parameters. For example, you can test the usability, functionality and other elements of you NFT marketplace with the help of quality testers.

A Thoroughly-tested product is ready for launch and eliminates any expected and unexpected real-time discrepancies and loopholes.

#### 3.3.2 Work Break Down Structure:-



#### 3.3.3 Gantt chart :-

Activities	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Scope								
Research								
Requirement								
Gathering								
Analysis								
Planning								
Designing								
Coding								
Testing								

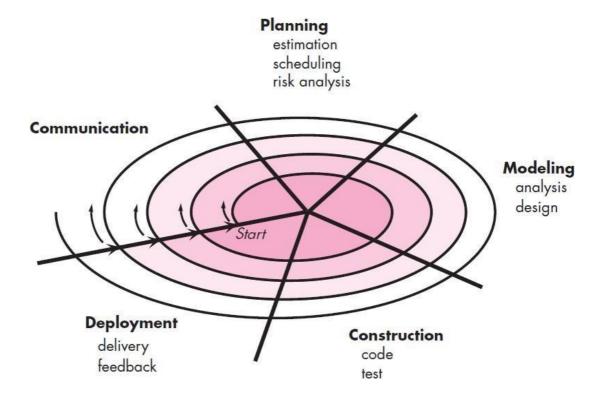
#### 3.4 Process Model:-

- We would be following the incremental model because the nature of this system as the requirements are not concrete. Many features can be added after the development of the system that serves the main purpose.
- The hardware we use is a little costly for prototyping so we go iteration and develop the final product. In this model ONE AFTER THE ANOTHER follows.

## 3.4.1 Spiral Model:-

We are following the Spiral Model because the nature of this system as the requirements are not concrete. Many features can be added after the development of the system that serves the main purpose. The hardware we use is a little costly for prototyping so we go iteration by iteration and develop the final product. The spiral

- model combines the idea of iterative development with the systematic, controlled aspects of the waterfall model. This Spiral model is a combination of iterative development process model and sequential linear development model.
- It provides the potential for rapid development of increasingly more complete versions of the software. The spiral development model is a risk-driven process model generator that is used to guide multi-stakeholder concurrent engineering of software intensive systems. It has two main distinguishing features. One is a cyclic approach for incrementally growing a system's degree of definition and implementation while decreasing its degree of risk. The other is a set of anchor point milestones for ensuring stakeholder commitment to feasible and mutually satisfactory system solutions.
- Using the spiral model, software is developed in a series of evolutionary releases.
- A spiral model is divided into a set of framework activities defined by the software engineering team. Each of the framework activities represent one segment of the spiral path illustrated in above figure.
- Risk is considered as each revolution is made. Anchor point milestones a combination of work products and conditions that are attained along the path of the spiral are noted for each evolutionary pass.
- The Spiral Model is widely used in the software industry as it is in sync with the natural development process of any product, i.e. learning with maturity which involves minimum risk for the customer as well as the development firms.
- When there is a budget constraint and risk evaluation is important.
- For medium to high-risk projects.
- Long-term project commitment because of potential changes to economic priorities as the requirements change with time.
- Requirements are complex and need evaluation to get clarity.
- New product line which should be released in phases to get enough customer feedback.
- Significant changes are expected in the product during the development cycle.



## 3.4.2 Why it is suitable for our system?

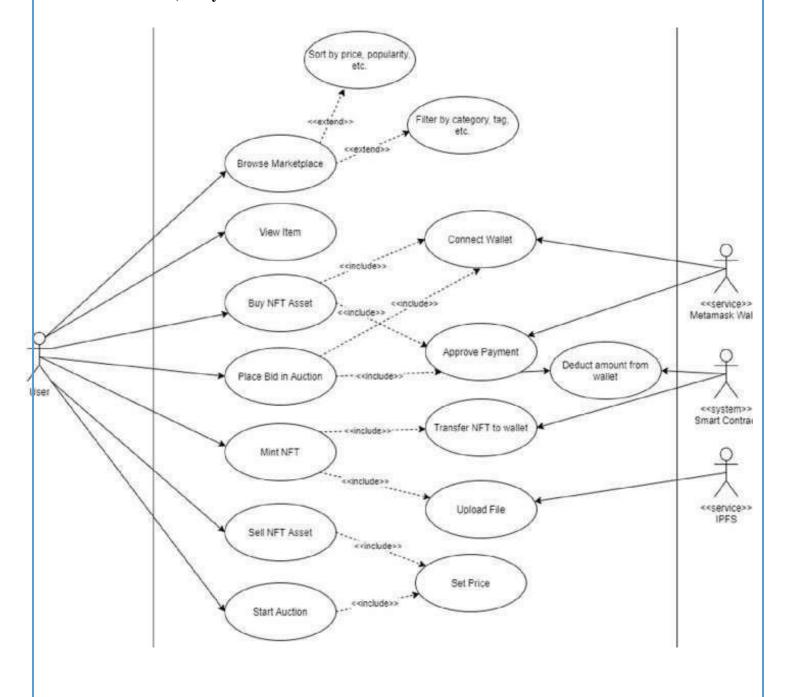
- Requirement for the complete system are clear.
- There are chances that some details can be evolved with time.
- There is need to get the project in market quickly.
- New technology is being used.
- Multiple independent deliveries are identified.

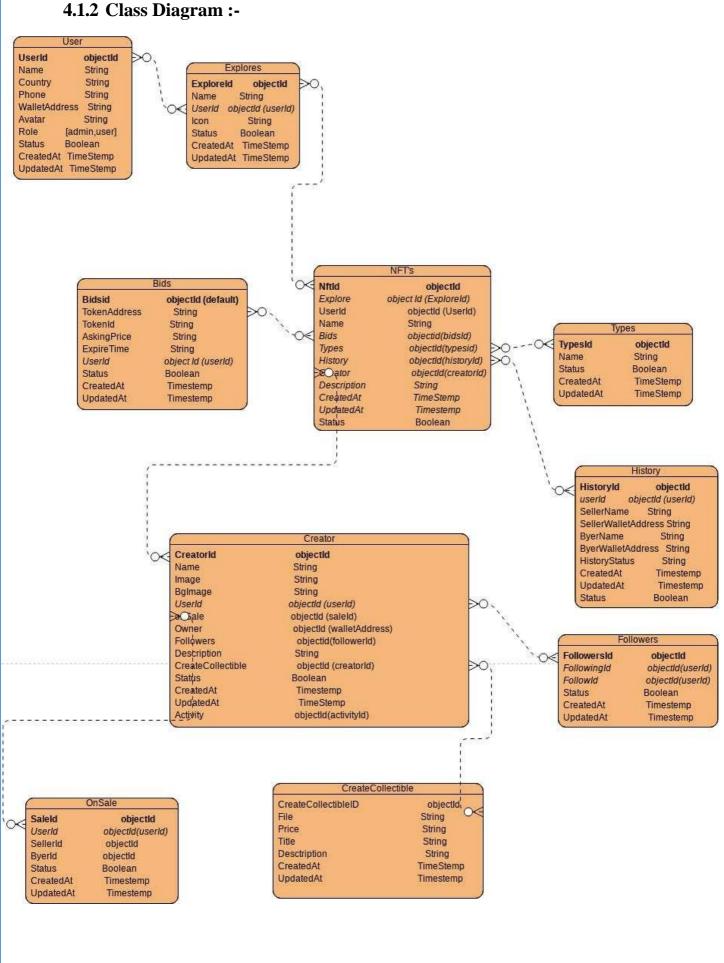
# CHAPTER – 4 SYSTEM ANALYSIS AND DESIGN

## **4.1 UML (Unified Modeling Language)**

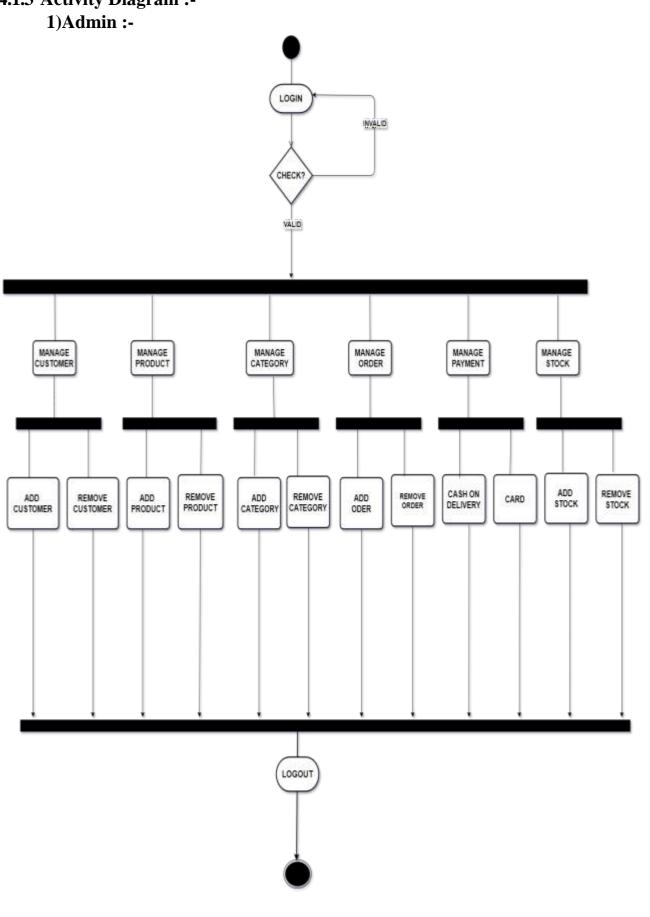
## 4.1.1 Use-Case Diagram:-

## 1) **Buyer** :-





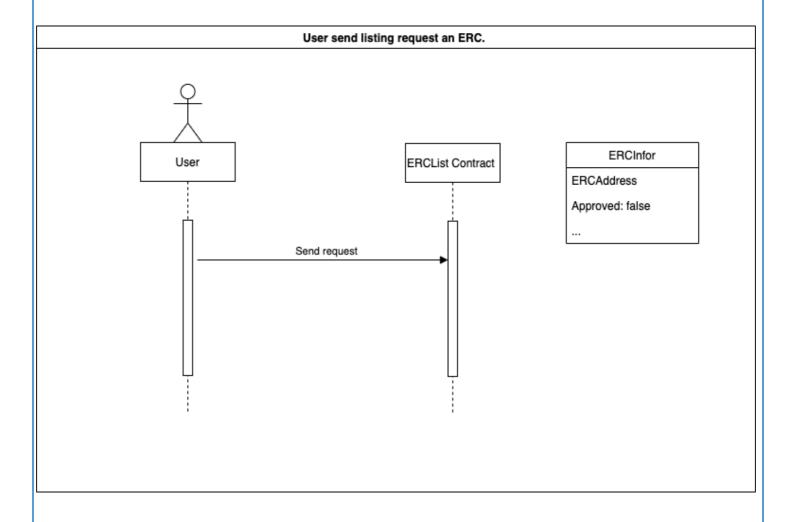
# 4.1.3 Activity Diagram:-



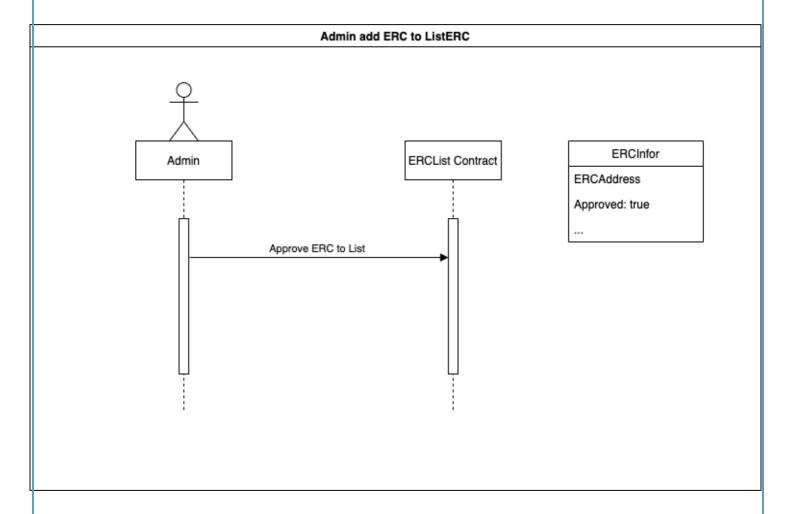
# 2) Customer:-REGISTATION NOT REGISTERD LOGIN INVALID CHECK? SIGN UP VALID VIEW / SERCH PRODUCT ORDER PRODUCT GIVE PAYMENT MANAGE CART MANAGE PROFILE CASH ON DELIVERY ADD ORDER CANCEL REMOVE CART ADD CART CARD LOGOUT

# 4.1.4 Sequence Diagram:-

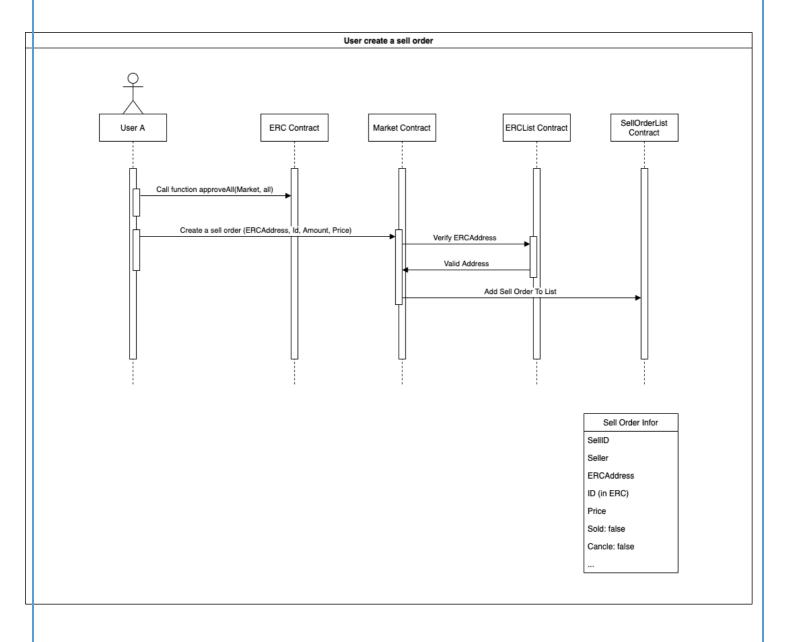
1) User send listing request an ERC:-



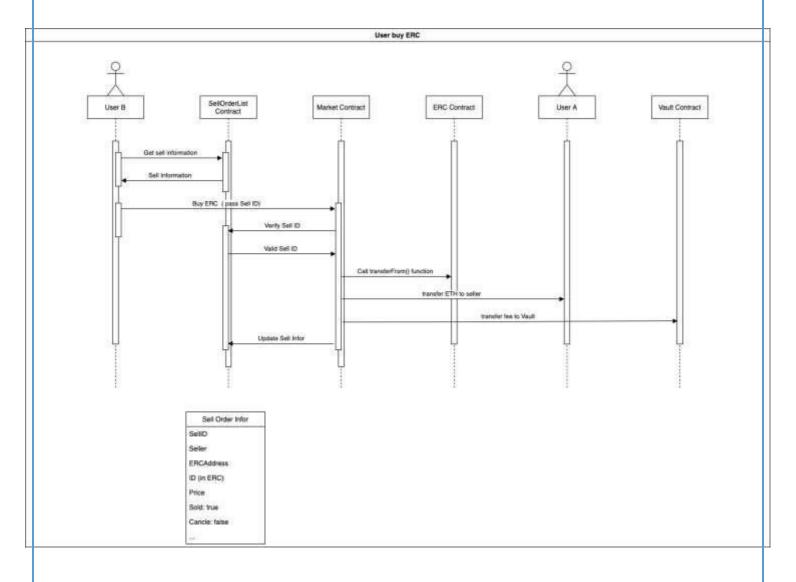
## 2) Admin add ERC to ListERC:-



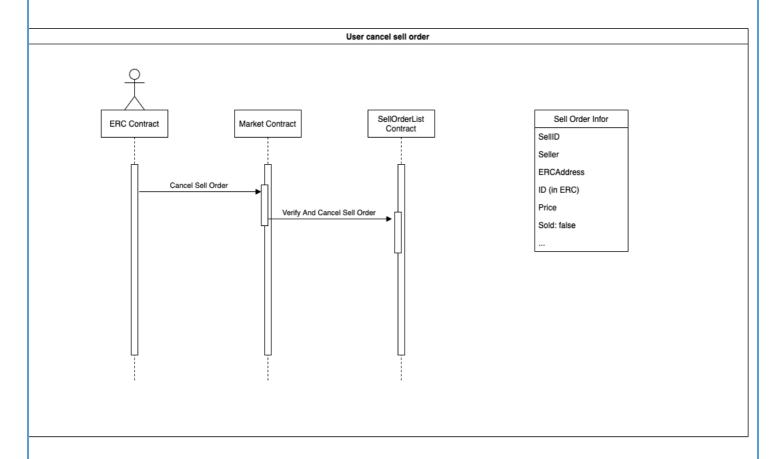
# 3) User create a sell order :-



# 4) User buy ERC:-



## 5) User cancel sell order:-



AddressesProvider Contract act as a ProxyAdmin

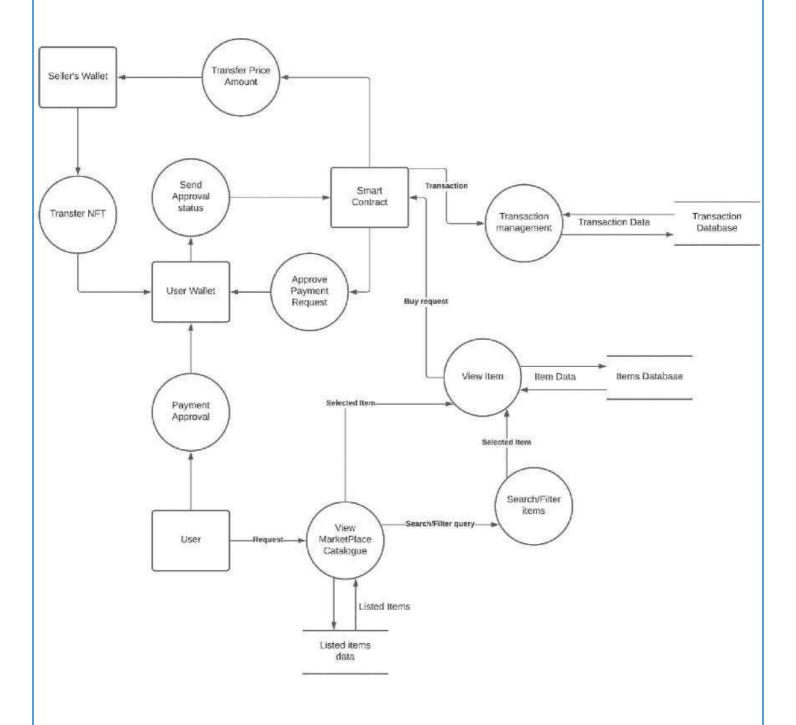
ERCListAddress

SellOrderListAddress

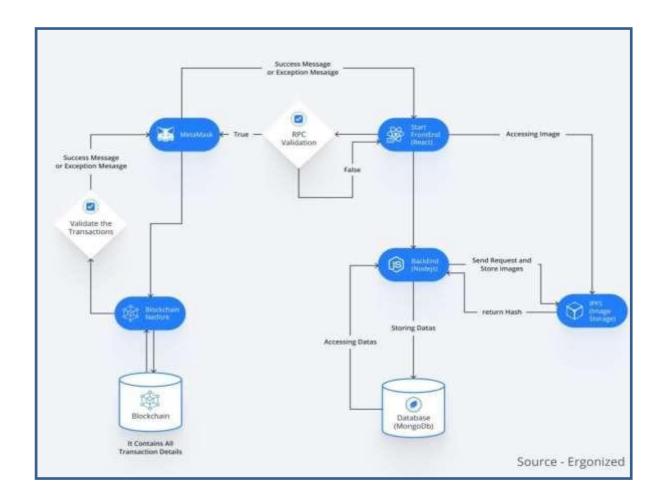
MarketAddress

VaultAddress
...

# 4.2 System Flow Diagram:-



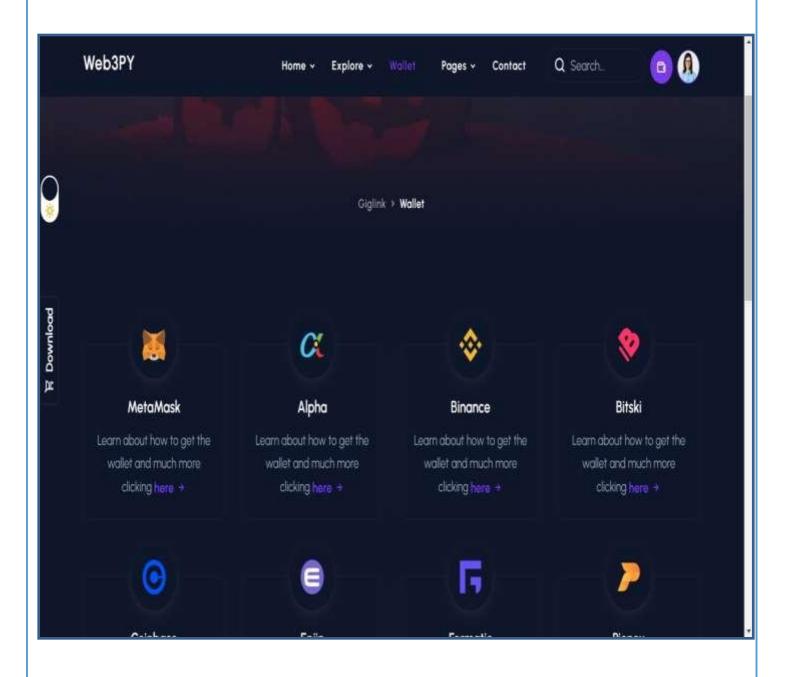
# **Activity Diagram**



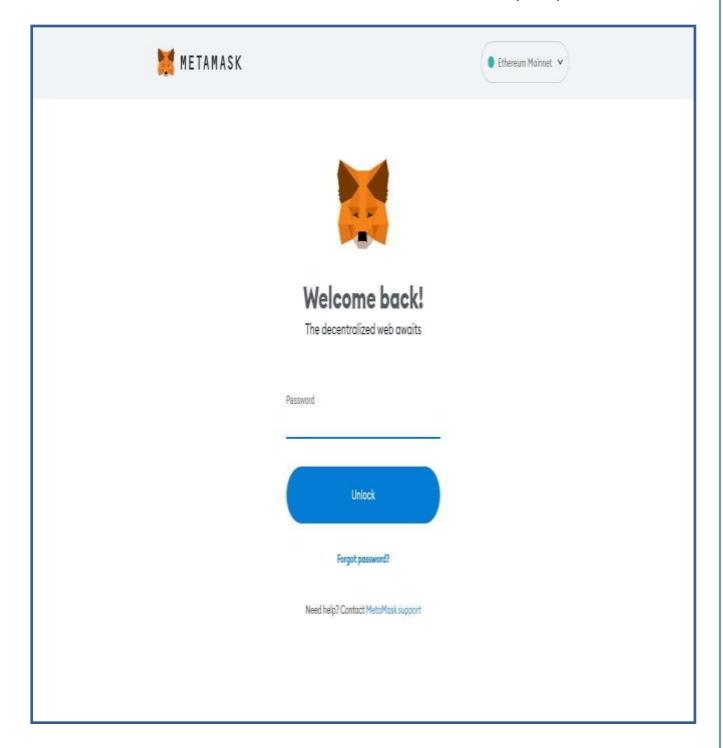
NO

## 4.4 User Interface :-

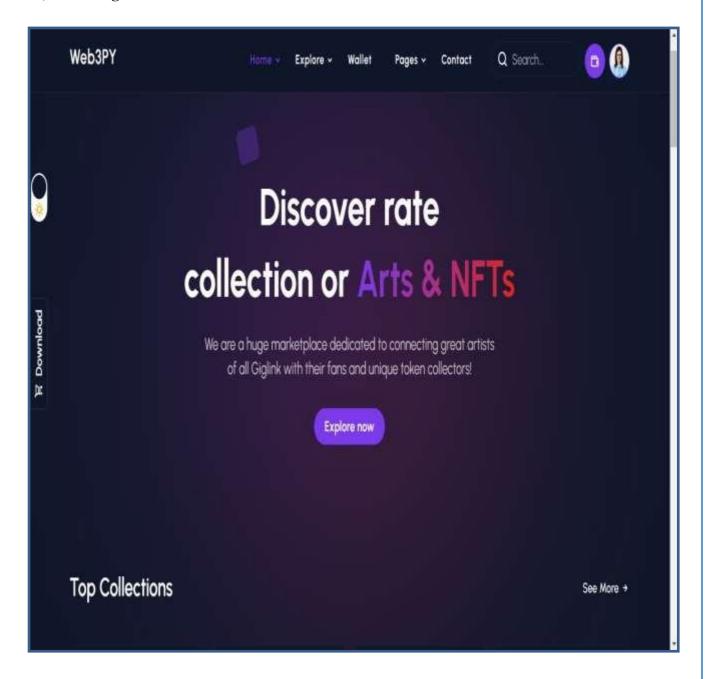
## 1) Authentication Page:-



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#### 2)Home Page:-

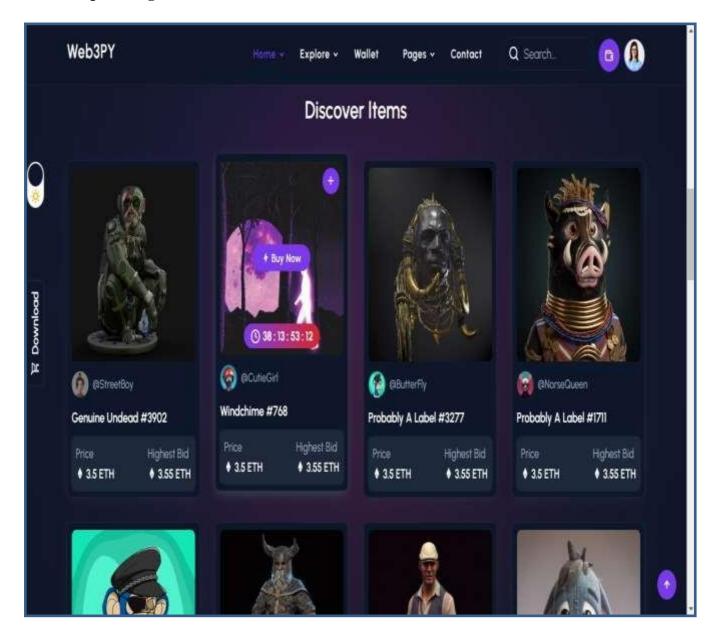


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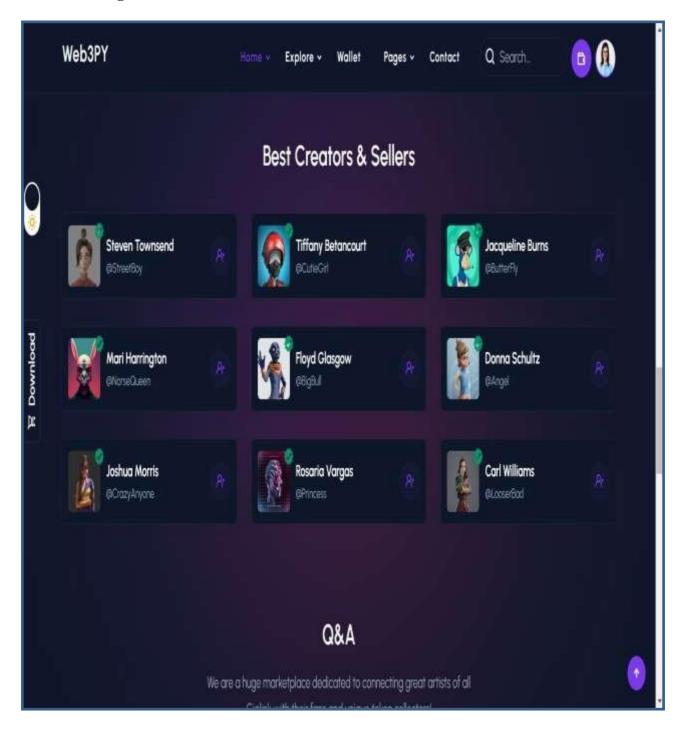
## 3)NFT Page:



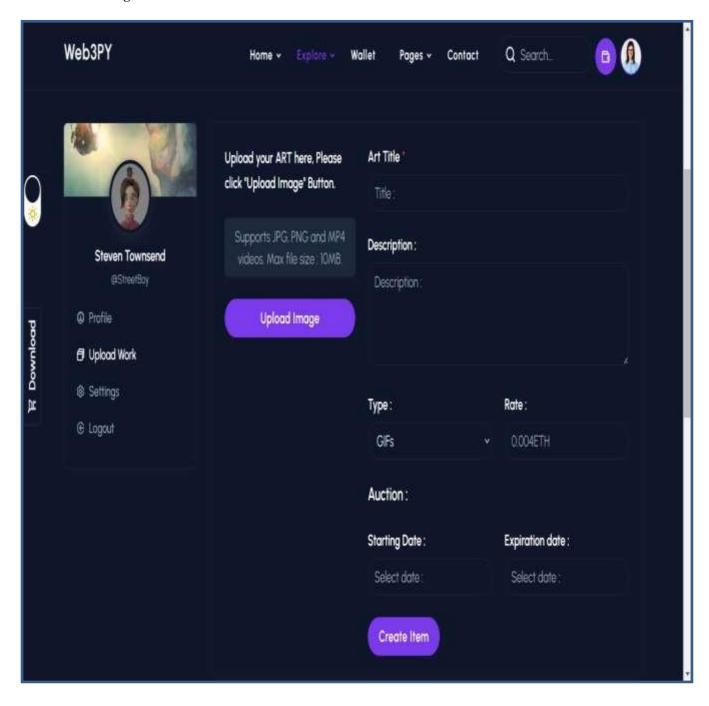
## 4)Explore Page :-



## 5) Creators Page

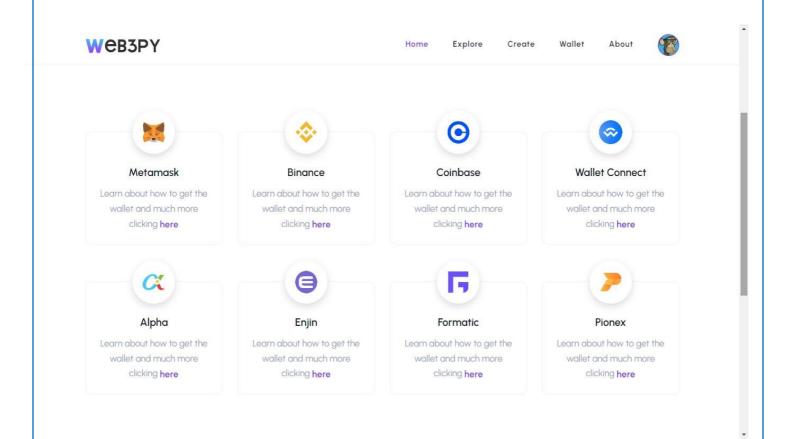


## 6. Create NFT Page

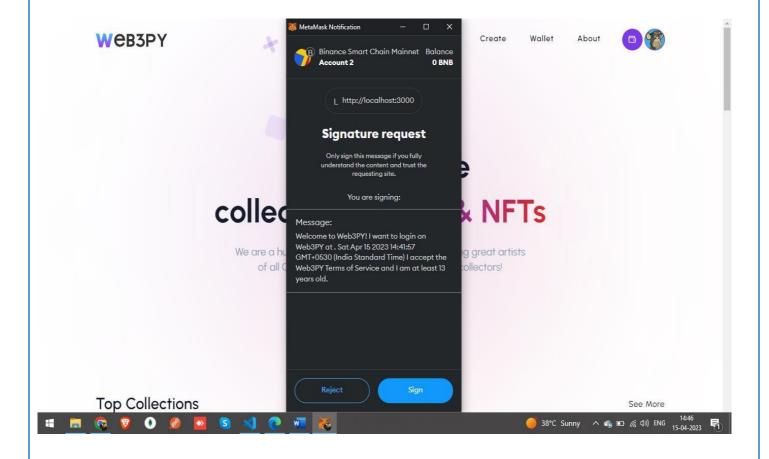


## CHAPTER – 5 INPUT / OUTPUT DESIGN

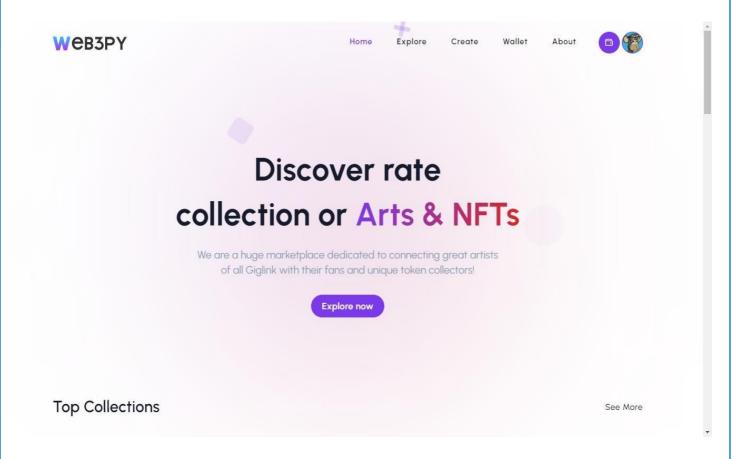
- CLIENT SIDE:-
  - 1) Crypto wallet authentication :-



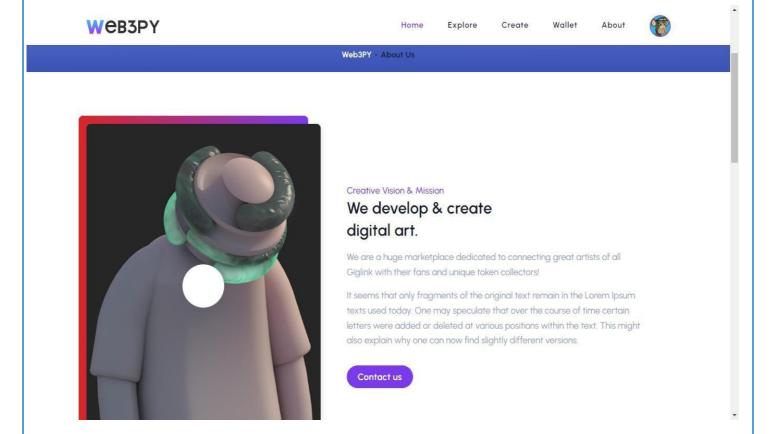
### 2) Wallet Sign Process :-



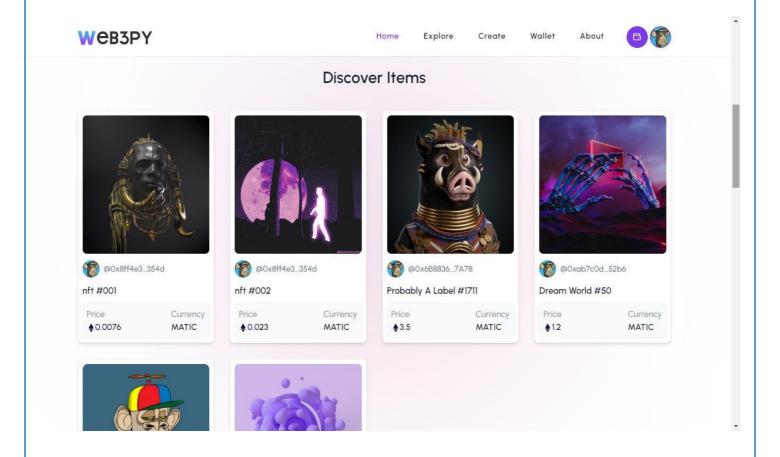
## 3) Homepage:-



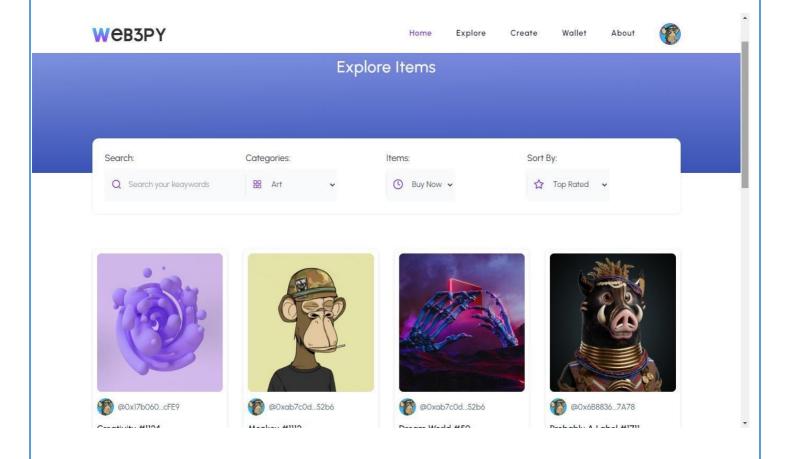
## 4) About Us:-



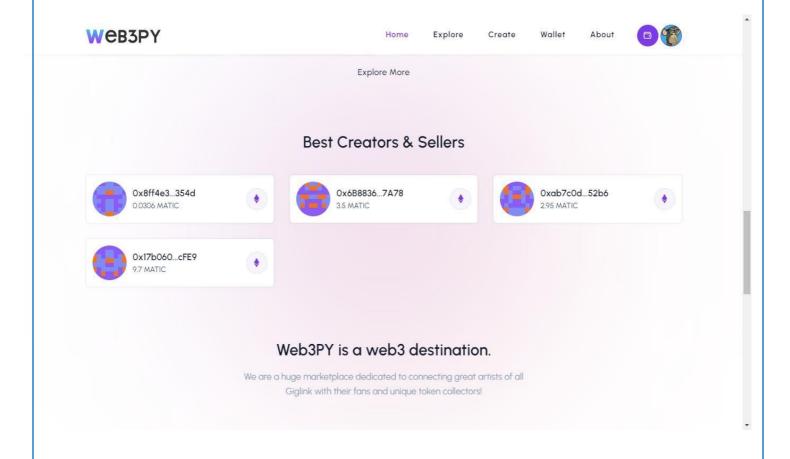
## 5) All Discover Items :-



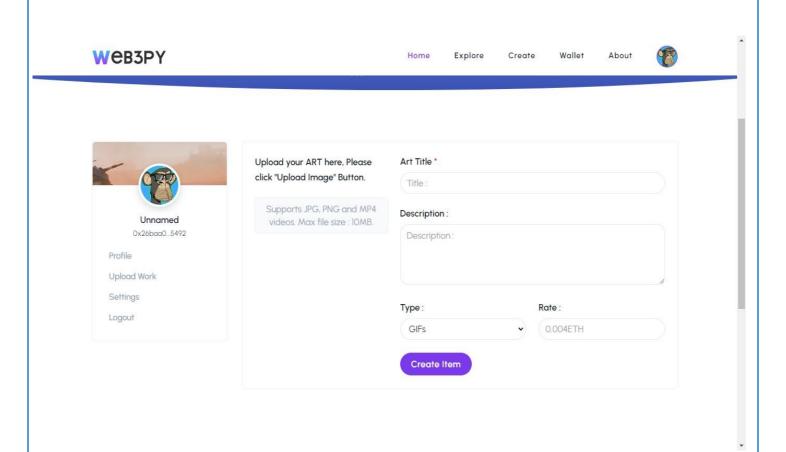
## 6) Explor NFTs:-



## 7) Best Seller Section:-



8) Create NFT:-



## 9) Single NFT Information :-





Contract Address

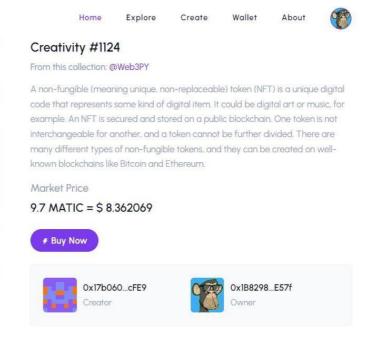
Ox1882985Cf6349d2fA7EAOa4139D3f0978eE2E57f

Token ID

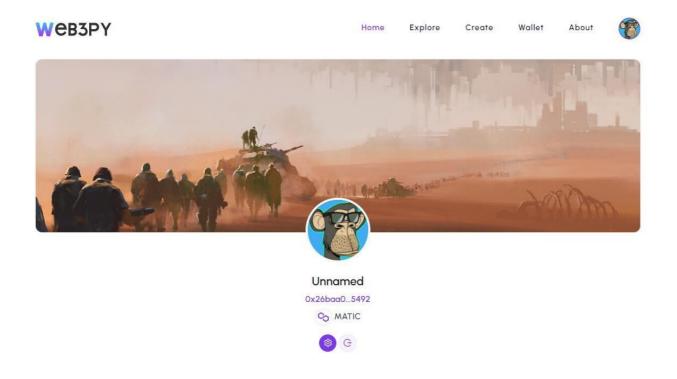
6

Blockchain

Polygon Mumbai



## 10) <u>User Profile Page:-</u>



No NFTs Owned!

## 11) Team Details :-



#### Our Minds

## Management Team

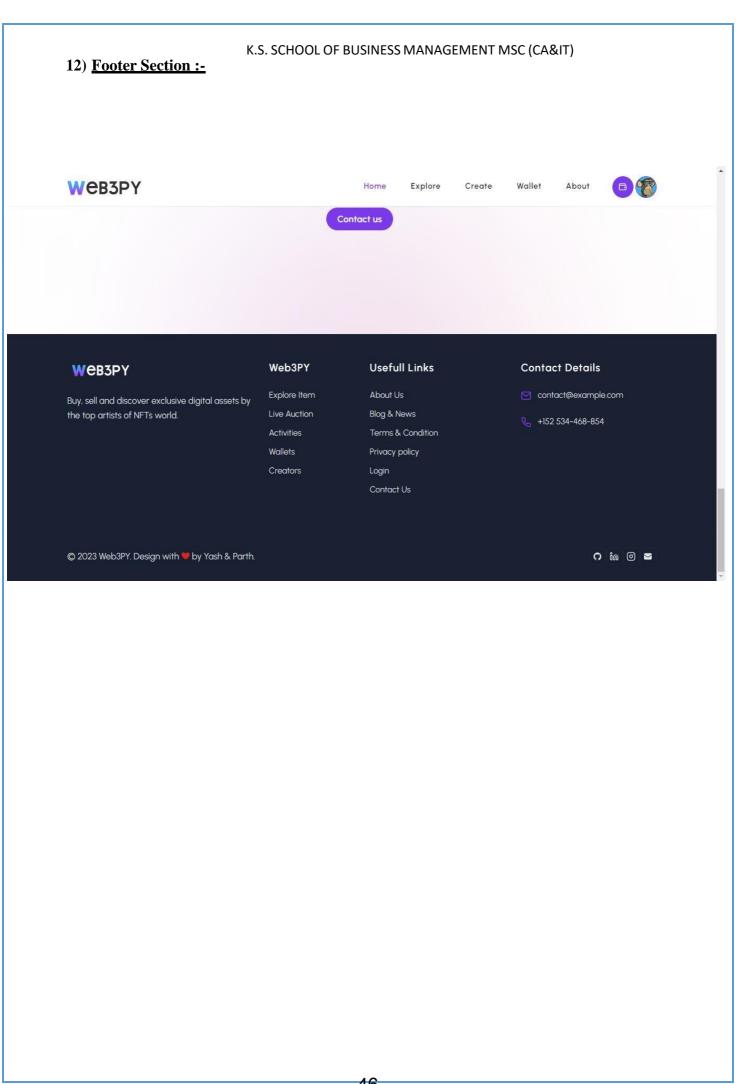
We are a huge marketplace dedicated to connecting great artists of all Giglink with their fans and unique token collectors!



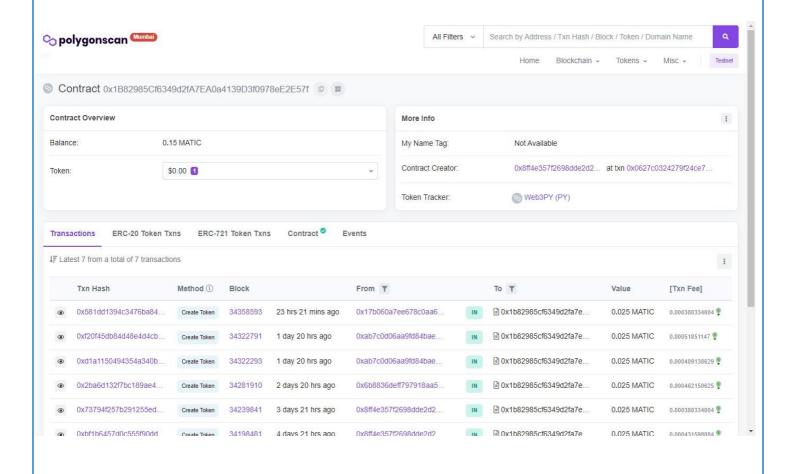
Yash Parmar



Parth Shah Developer

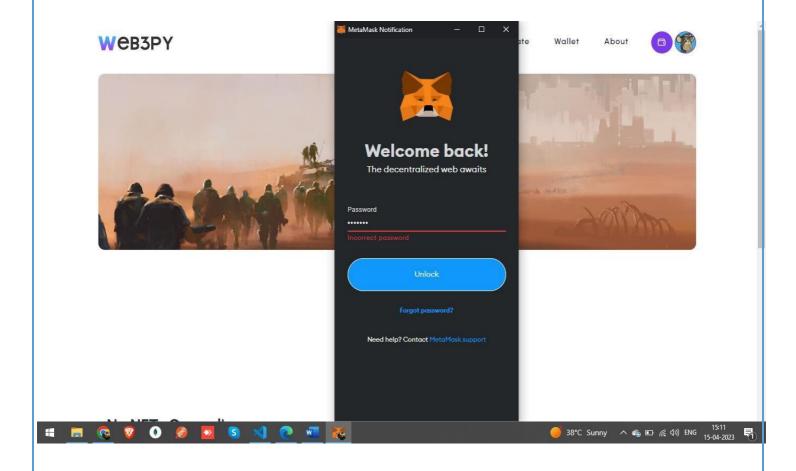


### 13) Transaction Details :-



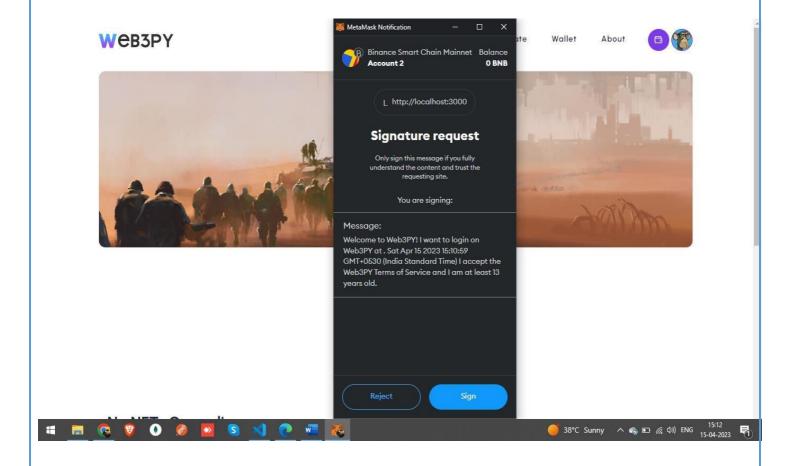
# CHAPTER = 6 TESTING

## 1) TEST CASE

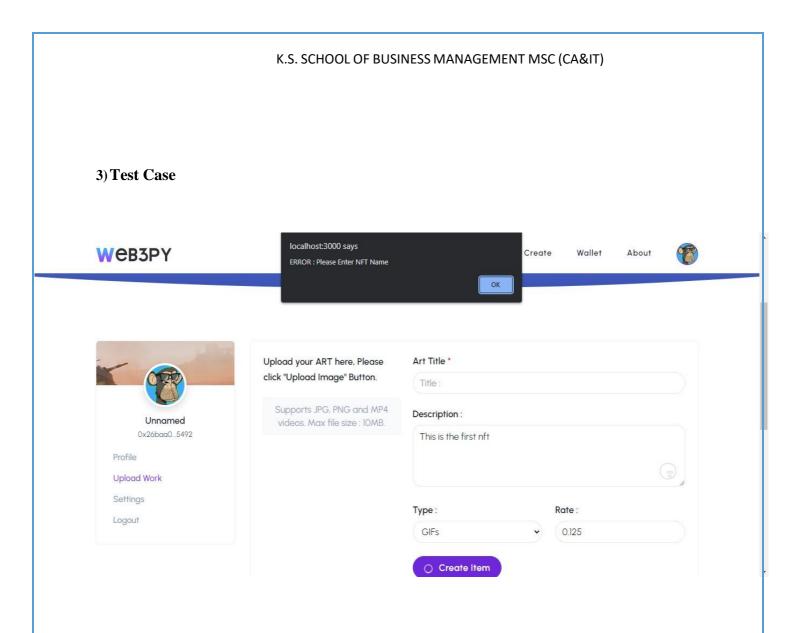


**Description :** This test case verifies that an error message is displayed when a user enters an invalid password while attempting to log in to an NFT marketplace.

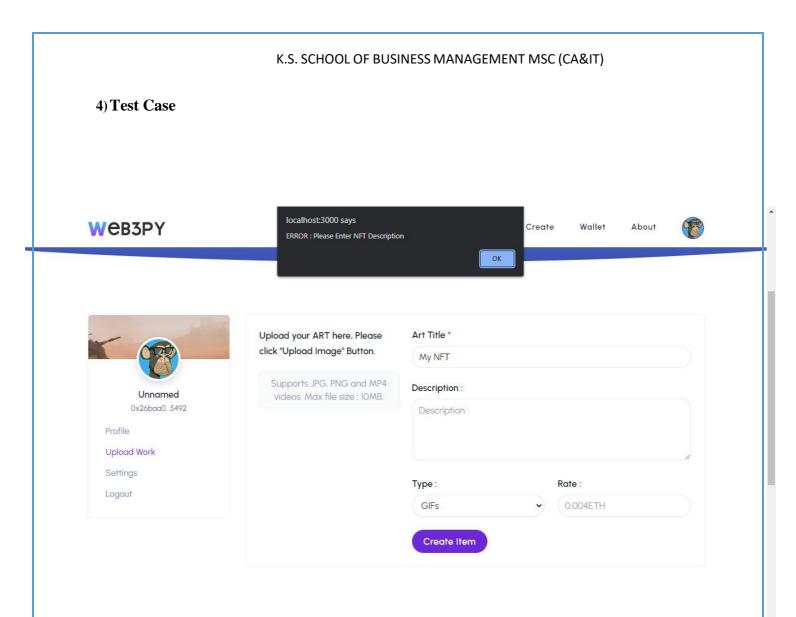
### 2) Test case



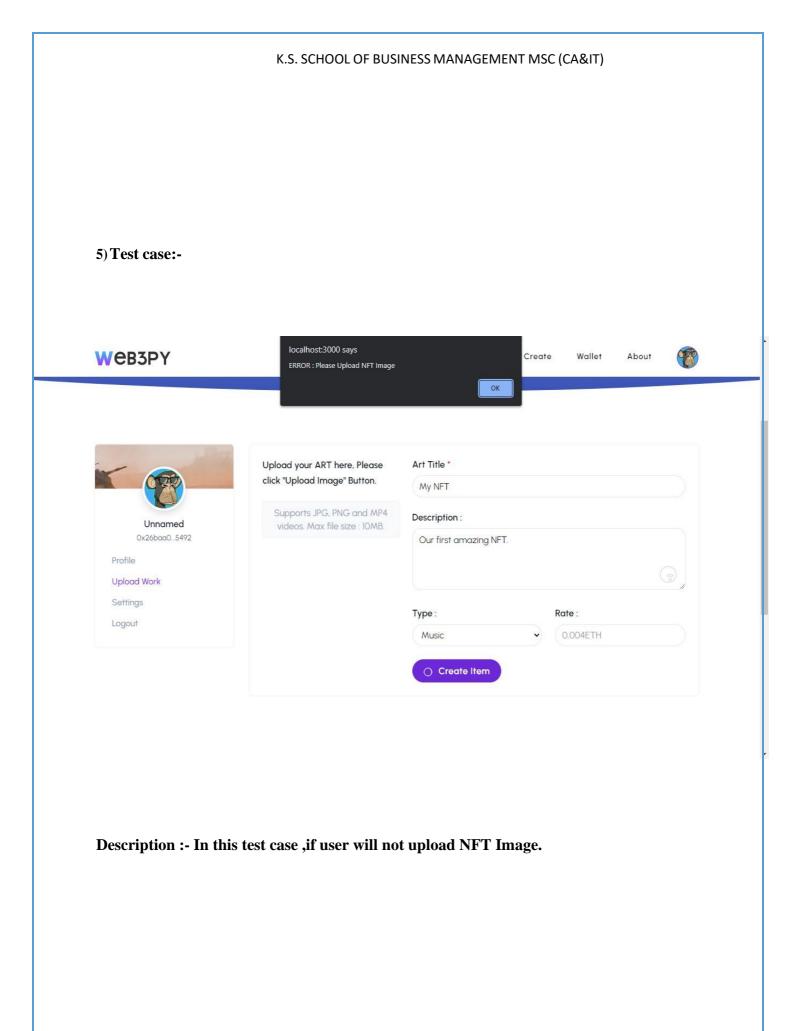
**Description :** This test case verifies that an error message is displayed when a user's sign-up request is rejected on an NFT marketplace..

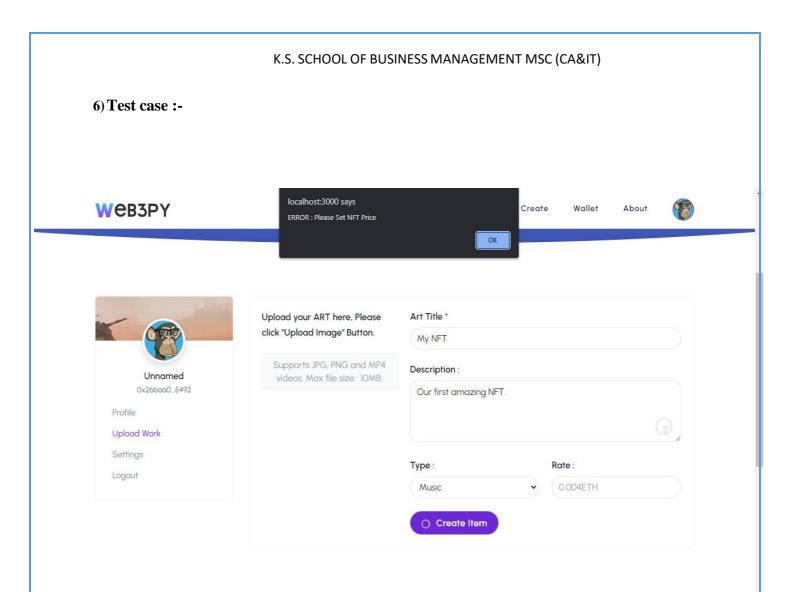


Description:-In this test case, if user will not enter NFT name.



Description:- In this test case ,if user will not enter NFT Description.





Description In this test case ,if user will not set NFT Price.

## CHAPTER – 5 SUMMARY

## 5.1 Assumption:-

- Project is an NFT marketplace.
- ➤ Users can buy, sell and trade unique digital assets on a blockchain-based platform.
- ➤ User-friendly and accessible interface.
- Easy browsing and searching for NFTs.
- > Users can create and manage their own collections.
- ➤ Robust security features to protect user's assets,including multi-factor authentication and encryption.

#### 5.2 Limitation:-

- ➤ Limited adoption : NFTs and blockchain technology are still relatively new and not yet widely adopted, which may limit the user base of NFT marketplace.
- ➤ Technical barriers: The technical knowledge required to use blockchain technology may be a barrier for some users, which could limit adoption.
- ➤ High transaction fees: Transaction fees on the blockchain can be high, which may deter some users from buying or selling NFTs.

#### 5.3 Conclusion:-

- ➤ NFT marketplaces offer a new way for creators to monetize their digital assets and for buyers to own unique, digital items.
- ➤ Blockchain technology provides a secure and decentralized platform for NFT marketplaces, but technical barriers, high transaction fees, and environmental concerns are limitations that need to be addressed.
- ➤ Despite these limitations, the growing interest in NFTs suggests that there is significant potential for NFT marketplaces to become a significant part of the digital economy.
- As the technology and regulatory landscape evolves, NFT marketplaces will

K.S. SCHOOL OF BUSINESS MANAGEMENT MSC (CA&IT) need to adapt and innovate to stay relevant and meet the needs of their users.

➤ Overall, an NFT marketplace project can be a promising opportunity for entrepreneurs and investors who are interested in the intersection of blockchain technology and the creative economy.

## 5.4 Future Scope:-

- > We will proved facility of navigation for easier to reach their destination.
- ➤ Increased adoption: As blockchain technology becomes more mainstream, more people may become familiar with NFTs and adopt them as a way to buy and sell unique digital assets.
- ➤ Integration with other platforms: NFT marketplace may integrate with other platforms, such as social media or gaming platforms, to offer more opportunities for creators and buyers to interact.
- ➤ Fractional ownership: NFT marketplaces may enable fractional ownership of NFTs, allowing buyers to purchase a share of an asset rather than the whole thing.
- ➤ Enhanced functionality: NFT marketplace may add new functionality, such as the ability to lend or borrow NFTs, or to use them as collateral for loans.
- ➤ Interoperability: NFT marketplaces may become more interoperable with other blockchains and platforms, allowing for greater flexibility and utility for users.
- Expansion of use cases: NFT marketplace may expand beyond digital art and collectibles to other areas, such as virtual real estate or digital identity.
- Regulatory clarity: As regulatory frameworks around NFTs become clearer, NFT marketplaces may be better able to operate and grow in a stable and predictable environment.

THANK YOU....!