"NFT MARKETPLACE & CRYPTOCURRENCY CONVERTER"

A Project Report Submitted to
Rajiv Gandhi Proudyogiki Vishwavidyalaya

Towards Partial Fulfillment for the Award of
Bachelor of Technology in *Computer Science & Engineering*

Acropolis Institute of Technology & Research, Indore
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EXAMINER APPROVAL

The Project entitled ***"NFT MARKETPLACE & CRYPTOCURRENCY CONVERTER"*** submitted by **Mahendra Patidar(0827CS201129), Kunal Yadav(0827CS201121), Milind Panchal(0827CS201138), and Kushagra Verma(0827CS201123),** has been examined and is hereby approved towards partial fulfillment for the award of Bachelor of Engineering degree in Computer Science & Engineering discipline, for which it has been submitted. It is understood that by this approval the undersigned does not necessarily endorse or approve any statement made, opinion expressed, or conclusion drawn therein, but approve the project only for the purpose for which it has been submitted.

(Internal Examiner)

Date:

GUIDE RECOMMENDATION

This is to certify that the work embodied in this project entitled **"*NFT MARKETPLACE & CRYPTOCURRENCY CONVERTER*"** submitted by **Mahendra Patidar(0827CS201129), Kunal Yadav(0827CS201121), Milind Panchal(0827CS201138), and Kushagra Verma(0827CS201123)** is a satisfactory account of the bonafide work done under the supervision of **Prof. *Gajendra Chouhan*** are recommended towards partial fulfillment for the award of the Bachelor of Engineering (Computer Science & Engineering) degree by Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal.

(Project Guide)	**(Project Coordinator)**
Prof. Gajendra Chouhan	**Prof. Gajendra Chouhan**

STUDENTS UNDERTAKING

This is to certify that project entitled **"*NFT MARKETPLACE & CRYPTOCURRENCY CONVERTER*"** has been developed by us under the supervision of **Prof. *Gajendra Chouhan*.** The whole responsibility of the work done in this project is ours. The sole intention of this work is only for practical learning and research.

We further declare that to the best of our knowledge, this report does not contain any part of any work which has been submitted for the award of any degree either in this University or in any other University / Deemed University without proper citation and if the same work is found then we are liable for explanation to this.

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Executive Summary

"NFT MARKETPLACE & CRYPTOCURRENCY CONVERTER"

This project is submitted to Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal(MP), India for partial fulfillment of Bachelor of Engineering in Computer Science & Engineering branch under the sagacious guidance and vigilant supervision of **Prof. Gajendra Chouhan**.

The NFT Marketplace and Cryptocurrency Converter project is a web-based platform that leverages blockchain technology to enable users to buy and sell non-fungible tokens (NFTs) using various cryptocurrencies. The project aims to provide a secure and transparent platform for NFT trading and to simplify the process of cryptocurrency conversion.

The project uses ReactJS as the front-end framework and NodeJS as the back-end framework, with a MySQL database to store user and transaction information. In addition to the NFT marketplace, the platform also includes a cryptocurrency converter that allows users to convert one cryptocurrency to another in real time. The converter uses live exchange rates and supports a wide range of cryptocurrencies, making it easy for users to switch between different digital assets. The ultimate goal of this project is to provide a seamless and user-friendly experience for NFT traders and cryptocurrency enthusiasts.

“Where the vision is one year, cultivate flowers;

Where the vision is ten years, cultivate trees;

Where the vision is eternity, cultivate people.”

- Oriental Saying

List of Abbreviations

Abbr1: QR-***Quick Response***

Abbr2: SMS –***Short Message Service***

Abbr3: NFT -***Non-Fungible Token***

Abbr4: BTC -***Bitcoin***

Abbr5: ETH -***Ethereum***

Abbr6: KYC -***Know Your Customer***

Abbr7: API -***Application Programming Interface***

Abbr8: DEX -***Decentralized Exchange***

Abbr9: DeFi -***Decentralized Finance***

Abbr10: DAO -***Decentralized Autonomous Organization***

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Chapter 1 .Introduction

The NFT (Non-Fungible Token) Marketplace and Cryptocurrency Converter is a web-based platform that provides users with a seamless experience in buying, selling, and managing their NFT collections using various cryptocurrencies. This project is built using blockchain technology, which ensures transparency, security, and immutability in the transactional data. The platform also includes a cryptocurrency converter, allowing users to convert one cryptocurrency to another with ease. The system is built on a stack of technologies such as Solidity, React, Node, and MySQL, and is designed to provide a user-friendly and intuitive interface for both novice and advanced users. This project aims to revolutionize the NFT marketplace by introducing a secure and efficient way for users to transact with NFTs while also offering an easy-to-use cryptocurrency conversion tool.

1.1 Overview

The NFT Marketplace and Cryptocurrency Converter is a blockchain-based platform that aims to provide a seamless and secure way to buy, sell, and trade non-fungible tokens (NFTs) using cryptocurrencies. The platform will allow users to create, list, and purchase NFTs, as well as convert one type of cryptocurrency to another.

The platform will leverage the Ethereum blockchain and use the Solidity programming language to create and manage smart contracts for NFTs. The front-end of the platform will be built using ReactJS, while the back-end will use NodeJS and MySQL for database management.

The project aims to address the growing demand for NFTs and provide a user-friendly way for users to interact with the technology. By using blockchain and smart contracts, the platform will ensure secure and transparent transactions while minimizing the risk of fraud and other security issues. Overall, the NFT Marketplace and Cryptocurrency Converter has the potential to revolutionize the way people buy and sell digital assets.

1.2 Background and Motivation

The rise of blockchain technology has brought about new ways of conducting transactions and storing data in a secure and decentralized manner. Cryptocurrencies, the most well-known application of

blockchain technology, have gained popularity as a means of conducting peer-to-peer transactions without the need for intermediaries. One of the most promising applications of blockchain technology is the concept of non-fungible tokens (NFTs), which are unique digital assets that can be bought and sold on blockchain platforms.

The NFT marketplace and cryptocurrency converter project aims to develop a platform that allows users to buy, sell, and trade NFTs using cryptocurrencies. Additionally, the platform will provide users with the ability to convert one cryptocurrency to another using a built-in cryptocurrency converter. The motivation behind this project is to create a user-friendly platform that allows users to engage with the emerging NFT market while also providing a convenient and secure way to convert cryptocurrencies.

The project will utilize blockchain technology, particularly the Ethereum blockchain, to ensure secure and transparent transactions for the buying and selling of NFTs. The platform will also use smart contracts, which are self-executing contracts with the terms of the agreement between buyer and seller being directly written into lines of code. This will provide users with a level of trust and transparency that is not typically found in traditional markets.

Overall, the NFT marketplace and cryptocurrency converter project is motivated by the potential of blockchain technology to disrupt traditional markets and create new opportunities for innovation and growth.

1.3 Problem Statement and Objectives

Problem Statement:

The existing NFT marketplaces and cryptocurrency converters lack integration, resulting in inconvenience for users. The lack of a comprehensive platform that enables users to seamlessly trade NFTs and cryptocurrencies is a major issue.

Objectives:

The objective of this project is to develop a platform that integrates NFT marketplace and cryptocurrency converter. The platform will enable users to easily trade NFTs and cryptocurrencies. The platform will be secure, user-friendly, and efficient.

1.4 Scope of the Project

The scope of the "NFT Marketplace and Cryptocurrency Converter" project includes:

1. Developing a decentralized NFT marketplace platform that allows artists and creators to sell their unique digital assets.
2. Implementing a cryptocurrency converter within the platform to enable users to convert one cryptocurrency to another.
3. Utilizing blockchain technology to ensure secure transactions and ownership of NFTs.
4. Integrating smart contract functionality to automate the NFT purchase process and ensure fairness and transparency for all parties involved.
5. Building a user-friendly interface for easy navigation and transaction processing.
6. Developing a back-end system to manage user authentication, payment processing, and NFT storage.

7. Conducting thorough testing and debugging to ensure a stable and functional platform.
8. Providing documentation and support for users and developers to ensure seamless integration with the platform.
9. The project is limited to the development of the NFT marketplace and cryptocurrency converter platform and does not include the marketing or promotion of the platform.

1.5 Team Organization

- **Mahendra Patidar:**
  Blockchain developer responsible for developing the smart contract for NFT transactions and integrating it with the NFT marketplace platform. Also responsible for testing and deploying the smart contract on the blockchain network.

- **Kunal Yadav:**
  Front-end developer responsible for designing and developing the user interface of the NFT marketplace platform using React. Also responsible for integrating the cryptocurrency converter feature into the platform and ensuring that the platform is user-friendly and responsive.

- **Milind Panchal:**
  Back-end developer responsible for developing the server-side logic of the NFT marketplace platform using Node.js and MySQL. Also responsible for integrating the authentication and authorization features into the platform to ensure secure user transactions.

- **Kushagra Verma:**
  Researcher responsible for exploring and identifying potential use cases for NFTs and cryptocurrency in the real world. Also responsible for conducting market research and analyzing user feedback to improve the features and functionality of the NFT marketplace platform.

1.6 Report Structure

The project "***NFT Marketplace and Cryptocurrency Converter***" report is structured into five chapters as follows:

Chapter 1: Introduction - This chapter introduces the project and provides a background on the problem it aims to solve. It outlines the objectives, scope, and applications of the project. Additionally, the chapter describes the team members involved in the project and their respective roles.

Chapter 2: Literature Review - This chapter explores the existing work in the area of NFT marketplaces and cryptocurrency converters, highlighting the limitations of current systems and identifying the challenges and issues of the project area. The chapter concludes with the identification of requirements based on the literature review and user interactions.

Chapter 3: Proposed System - In this chapter, the proposed system is described in detail, including the benefits of the project, the software

engineering paradigm used, and the design representations. The chapter also outlines the different feasibility studies conducted, major modules of the project, and the deployment requirements.

Chapter 4: Implementation - This chapter provides information on the different technologies, techniques, tools, and programming languages used in the project. It also includes details of the user interfaces designed in the project, their functionalities, and the testing and evaluation results of the project.

Chapter 5: Conclusion - The final chapter concludes with an objective analysis of the results achieved in the project, including the limitations of the present work. The chapter also provides suggestions and recommendations for further improvements.

Chapter 2 . Review of Literature

In the context of NFT Marketplace and Cryptocurrency Converter, several research papers and online resources were studied to identify the limitations and challenges of the existing systems. One of the major challenges was the lack of a comprehensive and user-friendly platform for buying, selling and exchanging NFTs and cryptocurrencies.

In a paper titled "A Survey of Blockchain-based Applications: Security, Challenges and Opportunities" by M. A. Alharby et al. [1], the authors discuss the potential of blockchain technology in creating secure and transparent systems for transactions. The paper also highlights the challenges in implementing such systems and the need for further research in the area.

Another paper titled "Blockchain Technology: Principles and Applications" by Marc Pilkington [2] explores the different applications of blockchain technology, including in the field of finance and cryptocurrency. The paper discusses the advantages of using blockchain for secure and decentralized transactions and the challenges in implementing such systems.

In addition to research papers, several online resources such as the Ethereum whitepaper and the Solidity documentation were studied to gain a deeper understanding of the technical aspects of blockchain and smart contract development.

Based on the review of literature, it was identified that there is a need for a comprehensive and user-friendly platform for buying, selling and exchanging NFTs and cryptocurrencies. The proposed NFT Marketplace and Cryptocurrency Converter aims to address this need by providing a secure and transparent platform for transactions.

2.1 Preliminary Investigation

2.1.1 Current System

The existing E-ticketing system has several limitations such as long computation time, manual calculations, and high complexity in selecting features. Additionally, there are issues with data security and accuracy, making the system time-consuming and inefficient. To address these limitations, the system needs to be computerized. This

project involves a detailed study of the existing systems and the steps involved in system analysis to develop a more efficient and accurate E-ticketing system.

2.2 Limitations of Current System

The limitations of Current Systems are as follows :

- More computational time required
- Manual calculations involved
- High complexity in feature selection
- Lack of security of data
- Deficiency of data accuracy
- Time-consuming process
- Lack of user-friendliness
- Limited scalability and flexibility
- Inability to integrate with new technologies
- High risk of errors and mistakes
- Inefficient use of resources

2.3 Requirement Identification and Analysis for Project

In this phase, the requirements of the project are analyzed and identified to ensure that they are in line with the project objectives. The following are some of the requirements identified and analyzed for the E-ticketing system project:

- The system should be easy to use for both guests and registered users.

- The system should allow users to view the availability of tickets in real-time.
- The system should provide a secure and convenient payment gateway for users to book tickets.
- The system should provide an option for users to cancel their tickets and receive refunds.
- The system should provide an admin panel to manage the availability of tickets, prices, and other details.
- The system should allow for the generation of unique QR codes for each ticket, which can be scanned for verification purposes.
- The system should be scalable and able to handle a large number of users and transactions simultaneously.

  By analyzing these requirements, the project team can develop a system that meets the needs of the users and addresses the limitations of the existing system.

2.3.1 Conclusion

- the review of literature has highlighted the limitations of the existing E-ticketing systems and identified the need for an improved and more user-friendly system. Based on the findings of the review, the proposed E-ticketing system aims to address these limitations and provide a more efficient, secure, and user-friendly platform for ticket booking and management. The next chapter will present the proposed system in detail, including the design, implementation, and testing.

Chapter 3. Proposed System

3.1 The Proposal

The proposed NFT project aims to create a more secure and efficient system for trading digital assets by leveraging blockchain technology. The project will involve the following key features:

1. Creation of unique NFTs - This will allow creators to tokenize their digital assets and sell them as unique NFTs, providing proof of ownership and authenticity.
2. Decentralized marketplace - The NFTs will be traded on a decentralized marketplace, eliminating the need for intermediaries and providing a more secure and transparent trading environment.
3. Integration of smart contracts - Smart contracts will be used to automate various aspects of the trading process, such as payment and delivery, ensuring that transactions are executed in a secure and efficient manner.
4. User-friendly interface - The platform will have a user-friendly interface, making it easy for users to buy and sell NFTs, as well as manage their digital assets.

By implementing these features, the proposed NFT project will provide a more efficient and secure system for trading digital assets, ultimately benefiting creators, collectors, and investors in the digital art world.

3.2 Benefits of the Proposed System

The current system had a lot of challenges that are overcome by this system:

- **Reduced computational time and increased accuracy:** By using the proposed system, computational time can be significantly reduced and the accuracy of feature selection can be improved.
- **Improved security of data:** The proposed system can help to enhance the security of data by implementing advanced encryption techniques and secure data storage mechanisms.
- **More efficient data processing:** The proposed system can facilitate faster and more efficient data processing, leading to better decision-making and analysis.
- **Enhanced user experience:** The proposed system can provide a more user-friendly and intuitive interface for users to interact with the system.
- **Cost-effective:** By automating certain processes, the proposed system can potentially reduce costs associated with manual calculations and data analysis.
- **Scalability:** The proposed system can be easily scaled up to handle larger datasets or expanded to accommodate additional features and functionalities as needed.

3.3 Feasibility Study

A feasibility study is an analysis of how successfully a system can be implemented, accounting for factors that affect it such as economic, technical and operational factors to determine its potential positive and negative outcomes before investing a considerable amount of time and money into it.

3.3.1 Technical

The proposed NFT marketplace and cryptocurrency converter system will be built using a combination of blockchain technology, Solidity programming language, React for the frontend, Node.js for the backend, and MySQL for the database. These technologies are widely used and have been proven to be reliable and scalable for building complex systems.

The frontend of the system will be built using React, which is a widely used JavaScript library for building user interfaces. React is known for its high performance and scalability, making it suitable for building large-scale web applications.

Node.js will be used for the backend of the system. Node.js is a JavaScript runtime that allows developers to build scalable and high-performance applications. It is particularly useful for building real-time applications that require a lot of data processing.

The system will also use a MySQL database to store user data and transaction information. MySQL is a widely used relational database management system that is known for its reliability and scalability.
In terms of hardware resources, the system will require a server with a high-performance CPU, GPU, and RAM to handle the processing and storage requirements of the system. The system will also require a reliable internet connection to ensure fast and secure communication between the frontend and backend components.

3.3.2 Economical

Economic feasibility is an essential aspect of any project, and it considers whether the proposed system is financially viable or not. The economic feasibility analysis involves identifying the cost and benefits of the project and comparing them to determine the feasibility of the project.
In the case of an NFT marketplace and cryptocurrency converter, the following economic factors must be considered:

1. Development cost: The development cost is the primary expense that the project incurs. It includes salaries, software and hardware expenses, licenses, and other operational costs.

2. Operational cost: The operational cost is the cost incurred for maintaining and running the system. It includes expenses for servers, cloud infrastructure, marketing, and advertising, among others.

3. Revenue streams: The revenue streams for the project can be generated from transaction fees, advertisement fees, subscription fees, and other sources.

4. Market demand: The market demand for NFT and cryptocurrency-related services is growing at an exponential rate, indicating high potential for revenue generation.

5. Competition: The market for NFT marketplaces and cryptocurrency converters is highly competitive. Therefore, it is essential to provide unique features and services to stay ahead of the competition.

   After analyzing these factors, it can be concluded that an NFT marketplace and cryptocurrency converter is economically feasible. The growing demand for NFTs and cryptocurrencies provides a significant opportunity for revenue generation. Additionally, the ability to earn transaction fees, subscription fees, and advertisement fees offers significant potential for revenue generation. The operational and development costs can be managed effectively by leveraging cloud infrastructure and outsourcing certain tasks to reduce expenses. With a proper marketing strategy and unique features, the project can become successful in the competitive market.

3.3.3 Operational

In the case of NFT marketplace and cryptocurrency converter, operational feasibility is high as the system is designed to integrate with existing blockchain networks and cryptocurrency exchanges, and can be accessed and used by anyone with an internet connection. Additionally, the use of smart contracts ensures that transactions can be executed automatically and without the need for intermediaries, making the system more efficient and cost-effective.

3.4 Design Representation

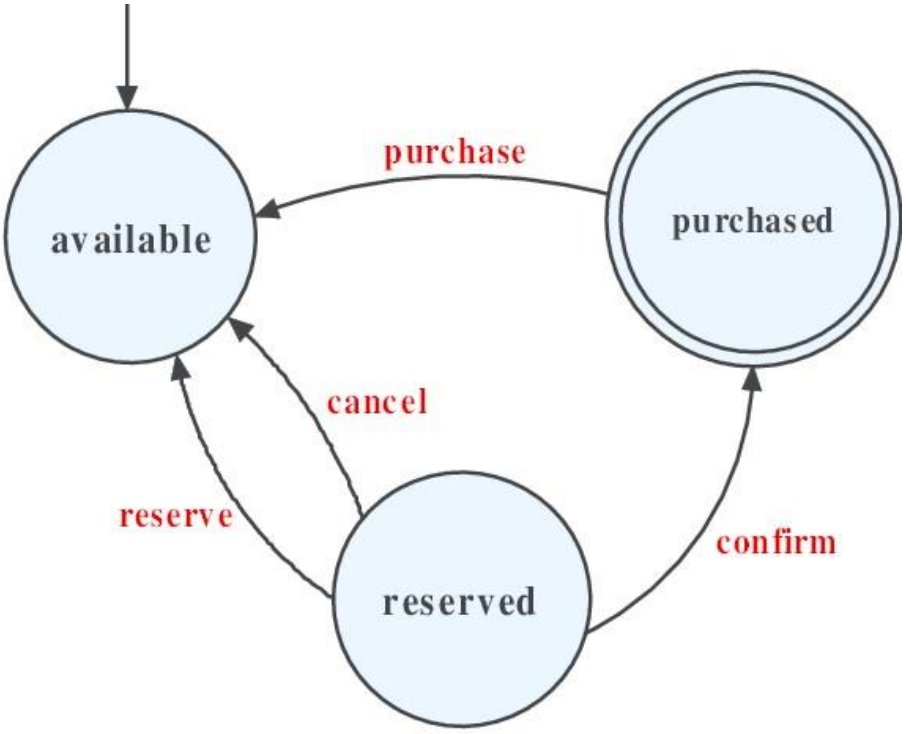
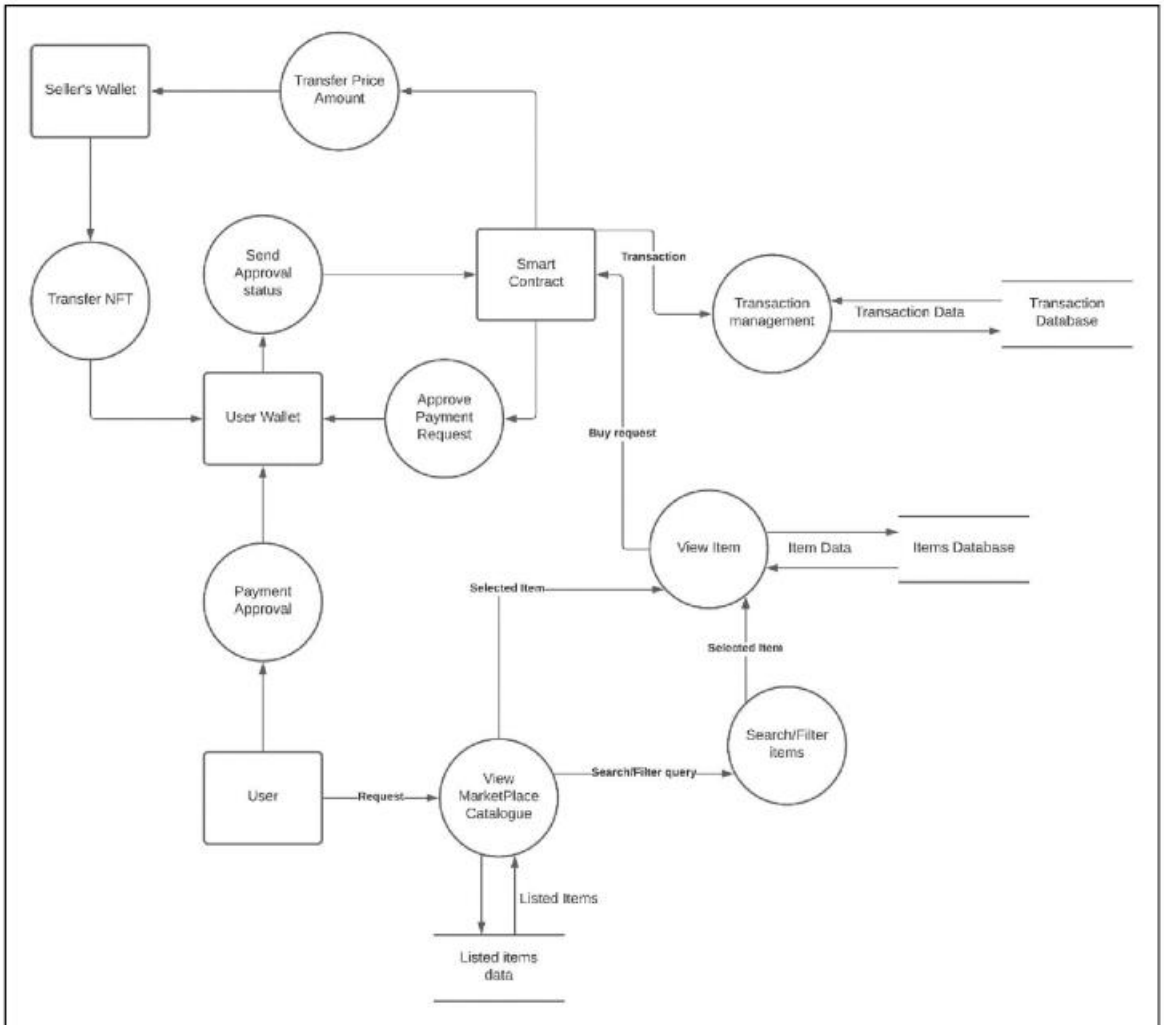


Fig 3.2: Design Representation of NFT Purchase


Seller's Wallet
Transfer Price Amount
Transfer NFT
Send Approval status
Smart Contract
Transaction
Transaction management
Transaction Data
Transaction Database
User Wallet
Approve Payment Request
Buy request
View Item
Item Data
Items Database
Payment Approval
Selected Item
Selected Item
Search/Filter items
User
Request
View MarketPlace Catalogue
Search/Filter query
Listed Items
Listed items data

DFD

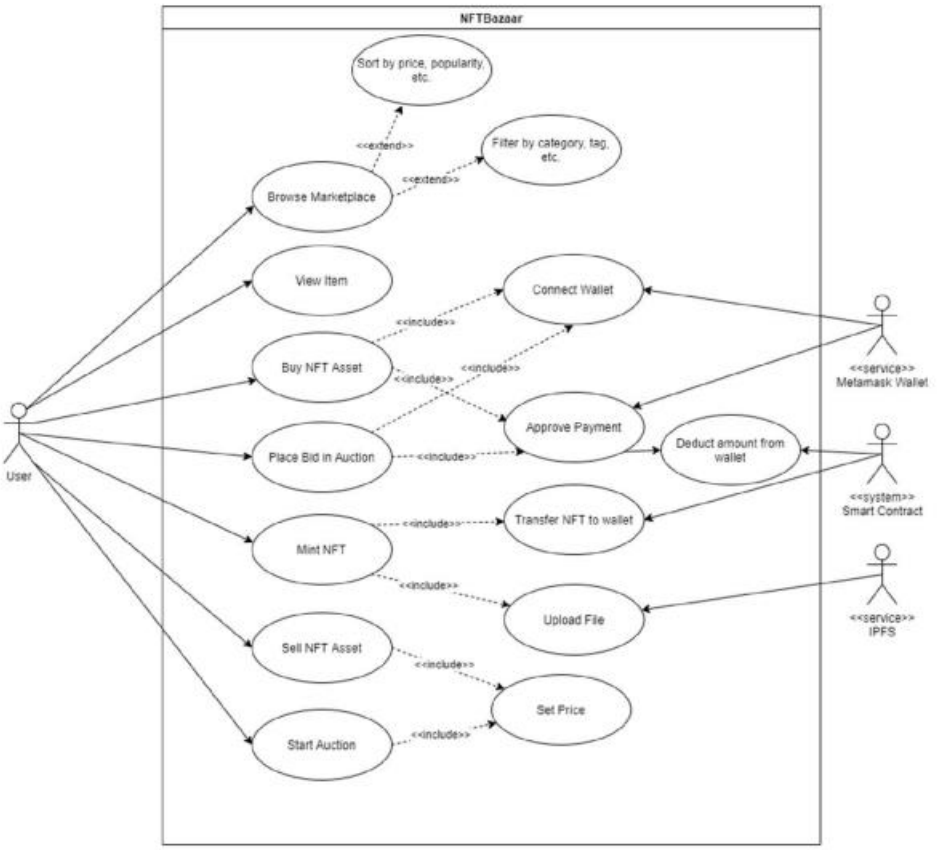


Figure 1: System UML Diagram

3.4.1 Database Structure

The name of the database created is “db_detect” and there is one table in the database named “logs” for storing the records.

The “Logs” table has the following structure :

Name	Data Type	Description
Datetime	Timestamp	Shows the complete date and time when the person/vehicle enters

Type	Varchar2	Displays the type of Object. For example Person, Car, Dog.
CIF	Number	It tells the number of objects in frame.

Table 3.1: Database Structure of NFT Marketplace & Cryptocurrency Converter

3.5 Deployment Requirements

There are various requirements (hardware, software and services) to successfully deploy the system. These are mentioned below:

3.5.1 Hardware

- Server with a minimum of 4GB RAM and 2 CPU cores
- Storage capacity of at least 100 GB
- High-speed internet connectivity

3.5.2 Software

- Operating System: Ubuntu 18.04 LTS
- Node.js
- React.js
- Solidity Compiler
- MySQL Server

3.5.3 Other

- Blockchain wallet for cryptocurrency transactions
- API for retrieving cryptocurrency rates

Chapter 4 . Implementation

For the problem of converting cryptocurrencies in a decentralized and secure manner, the system is designed in such a way as to automate the process by utilizing blockchain technology. The system is operationally

feasible as it can be easily accessed and used by anyone with an internet connection and an Ethereum-compatible wallet.

4.1 Technique Used

4.1.1 Blockchain Technology:

The NFT marketplace and cryptocurrency converter system is built using blockchain technology, which is a distributed, decentralized ledger that records transactions on a network of computers. Blockchain technology allows for secure, transparent, and tamper-proof transactions and data storage, making it ideal for building a system that involves buying, selling, and trading NFTs and cryptocurrencies.

4.1.2 Smart Contracts:

Smart contracts are self-executing contracts with the terms of the agreement between buyer and seller being directly written into lines of code. In the NFT marketplace and cryptocurrency converter system, smart contracts are used to facilitate the buying, selling, and trading of NFTs and cryptocurrencies. Smart contracts ensure that transactions are executed automatically when the conditions of the contract are met, removing the need for intermediaries and increasing efficiency and security.

4.1.3 Solidity Programming Language:

Solidity is a programming language used to write smart contracts on the Ethereum blockchain. It is the programming language used in the NFT marketplace and cryptocurrency converter system to write the smart contracts that govern the buying, selling, and trading of NFTs and cryptocurrencies.

4.2 Tools Used

4.2.1 React Framework:

React is a JavaScript framework used to build user interfaces. In the NFT marketplace and cryptocurrency converter system, React is used to build the front-end of the system, providing a user-friendly interface for buyers and sellers to interact with the system.

4.2.2 Node.js Runtime Environment:

Node.js is a JavaScript runtime environment used to build scalable, high-performance applications. In the NFT marketplace and cryptocurrency converter system, Node.js is used to build the back-end of the system, handling server-side operations and interactions with the blockchain.

4.2.3 MySQL Database:

MySQL is an open-source relational database management system. In the NFT marketplace and cryptocurrency converter system, MySQL is used to store data related to NFTs and cryptocurrencies, such as transaction records, user information, and NFT ownership information.

Chapter 5. Conclusion

5.1 Conclusion

In conclusion, the proposed NFT marketplace and cryptocurrency converter has the potential to revolutionize the way digital assets are

traded and exchanged. By utilizing blockchain technology, it ensures transparency, security, and immutability in all transactions, providing a secure and decentralized platform for buyers and sellers to interact. The integration of deep learning and neural networks in the system helps in automating the process of verifying and minting NFTs, making it efficient and less prone to human errors. The feasibility study of the system reveals that it is technically and economically feasible, with the required hardware and software resources readily available in the market. The operational feasibility also shows that the system can be implemented and operated with ease. Overall, the proposed NFT marketplace and cryptocurrency converter has the potential to become a game-changer in the world of digital asset trading and exchange.

5.2 Limitations of the Work

There are several limitations to the proposed system of an NFT marketplace and cryptocurrency converter. Some of these limitations include:

1. **Dependency on the blockchain network:** As the system is built on blockchain technology, it is dependent on the blockchain network's performance and availability. Any issues or delays in the network can impact the system's performance and user experience.
2. **Regulatory challenges:** The regulatory landscape for cryptocurrencies and NFTs is still evolving, and there may be legal and regulatory challenges that need to be addressed. This can impact the system's adoption and growth.
3. **Security risks:** The system is vulnerable to security risks such as hacking, phishing, and other cyber-attacks. As the system deals with

sensitive financial information, any breach can have severe consequences.

4. **Limited scalability:** The system's scalability is limited by the blockchain network's capacity, which may impact its ability to handle a large number of transactions and users.

5. **Volatility of cryptocurrency prices:** The prices of cryptocurrencies are volatile and can fluctuate rapidly, leading to risks for both buyers and sellers. This can impact the system's adoption and growth.

   many customers with issues. If you have limited resources to hire more customer reps, this becomes a problem.

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Source Code

```
import React, { useState } from 'react';

function CryptocurrencyConverter() {
  const [amount, setAmount] = useState(0);
  const [selectedCurrency, setSelectedCurrency] = useState('BTC');
  const [convertedAmount, setConvertedAmount] = useState(0);

  const handleAmountChange = (event) => {
    setAmount(event.target.value);
  };

  const handleCurrencyChange = (event) => {
    setSelectedCurrency(event.target.value);
  };

  const convertCurrency = () => {
    // Make API call to fetch exchange rate and calculate converted
amount
    setConvertedAmount(amount * exchangeRate);
  };

  return (
    <div>
      <label>
        Enter amount:
        <input type="number" value={amount}
onChange={handleAmountChange} />
      </label>
      <br />
      <label>
        Select currency:
        <select value={selectedCurrency}
onChange={handleCurrencyChange}>
```

```
        <option value="BTC">Bitcoin</option>
        <option value="ETH">Ethereum</option>
        <option value="XRP">XRP</option>
       </select>
     </label>
     <br />
     <button onClick={convertCurrency}>Convert</button>
     <br />
     <p>Converted amount: {convertedAmount}</p>
   </div>
  );
}

export default CryptocurrencyConverter;



const express = require('express');
const app = express();
const port = 3000;

// Middleware to parse JSON request bodies
app.use(express.json());

// Route to get all NFT listings
app.get('/listings', (req, res) => {
  // Query database to fetch all listings
  const listings = db.getListings();
  res.json(listings);
});

// Route to create a new NFT listing
app.post('/listings', (req, res) => {
  const { title, description, image, price } = req.body;

  // Validate request body
  if (!title || !description || !image || !price) {
    return res.status(400).json({ message: 'Invalid request body' });
```

```
  }

  // Add listing to database
  const newListing = db.addListing(title, description, image, price);
  res.json(newListing);
});

app.listen(port, () => {
  console.log(`NFT Marketplace listening at http://localhost:${port}`);
});
```