Flipkart

GRiD 4.0

2022 Campus Challenge

Blockchain-based eCommerce warranty system using NFTs
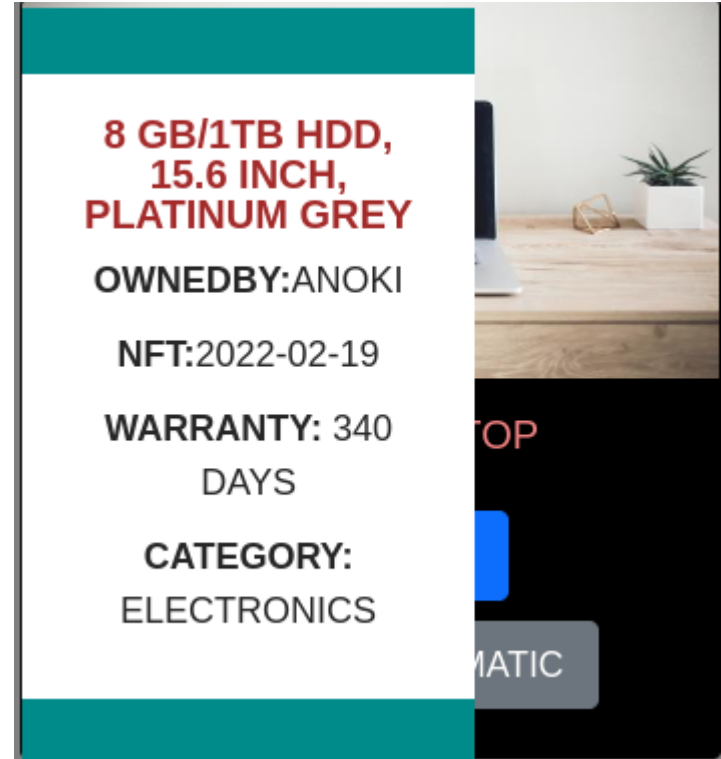
Team Name: TRIO

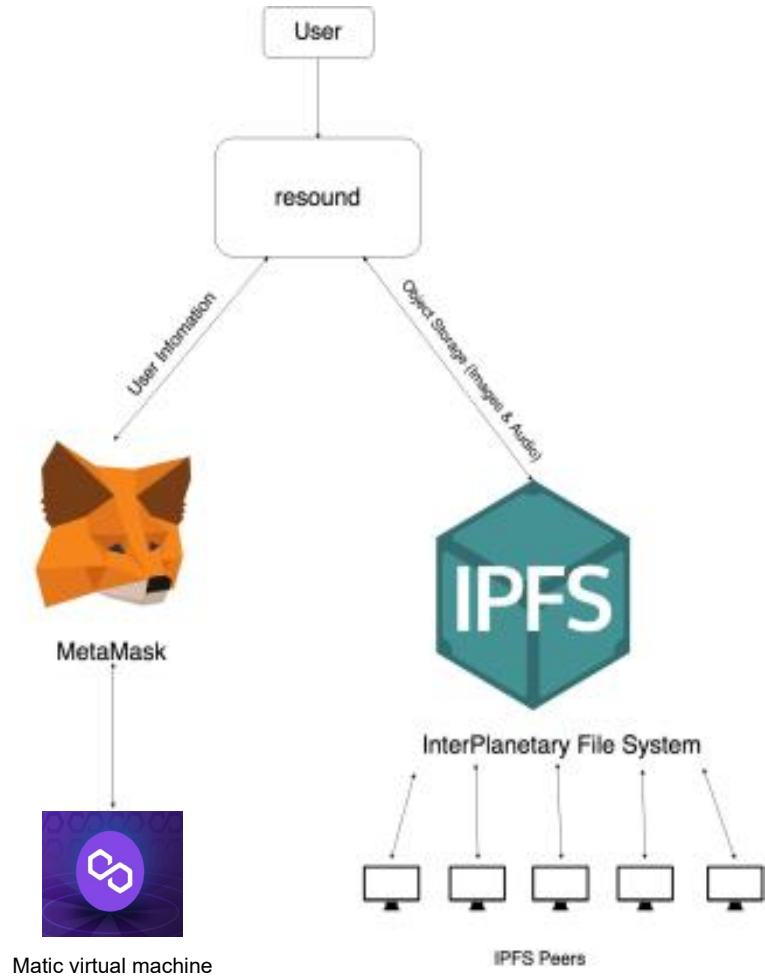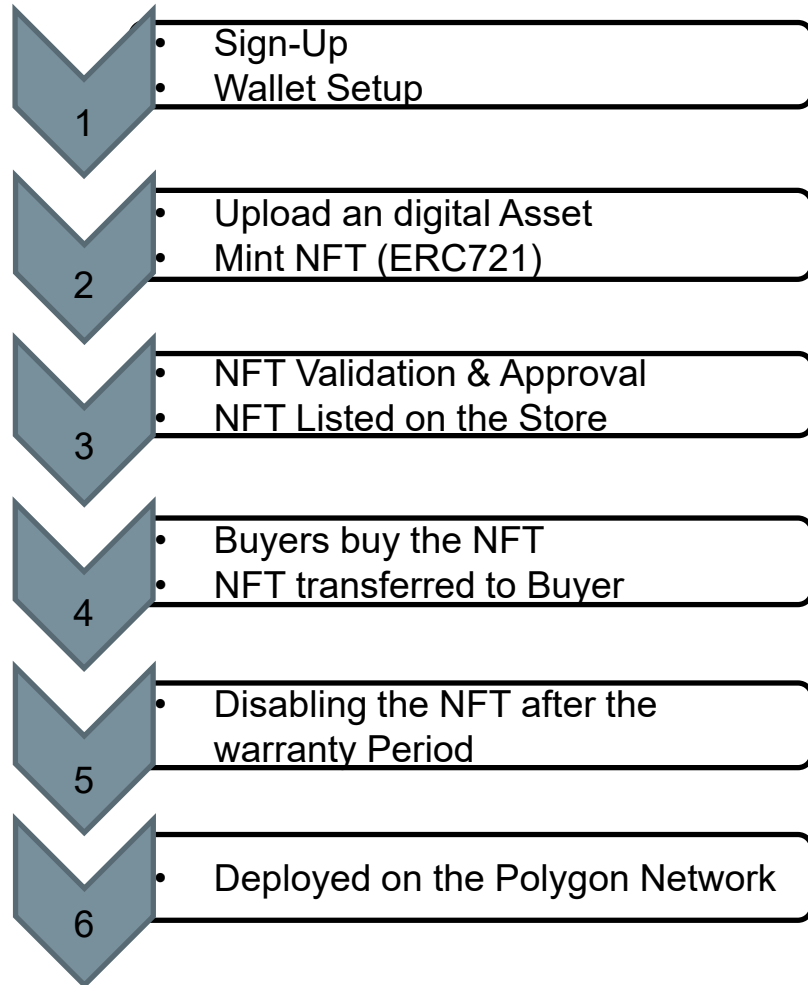Institute Name: DAYANANDA SAGAR COLLEGE OF ENGINEERING

Team members details

Team Name	TRIO		
Institute Name	DAYANANDA SAGAR COLLEGE OF ENGINEERING		
Team Members >	1 (Leader)	2	3
Name	ARYAN KHANDELWAL	AYUSHI S	BHUMIKA R
Batch	2023	2023	2023

INTRODUCTION

➤ The present invention of the E-commerce lacks the warranty management system. So, our approach is to define a database structure for the warranty management system in order to define how and what will be stored.

➤ The database includes various fields for product information, vendor information and consumer information.

➤ NFT(Non-Fungible Token) is a digital asset that has the power to verify the ownership of the digital asset. Non-Fungible Tokens are constructed on blockchain technology and exist within the decentralized eco-system.

➤ Powering the e-commerce with NFT creates a boundless opportunity for the e-commerce platform to perform. NFT's in e-commerce will enhance security.

➤ NFT includes all the details of the item like the Owner Name, NFT Creation Date, Warranty Period, Category.
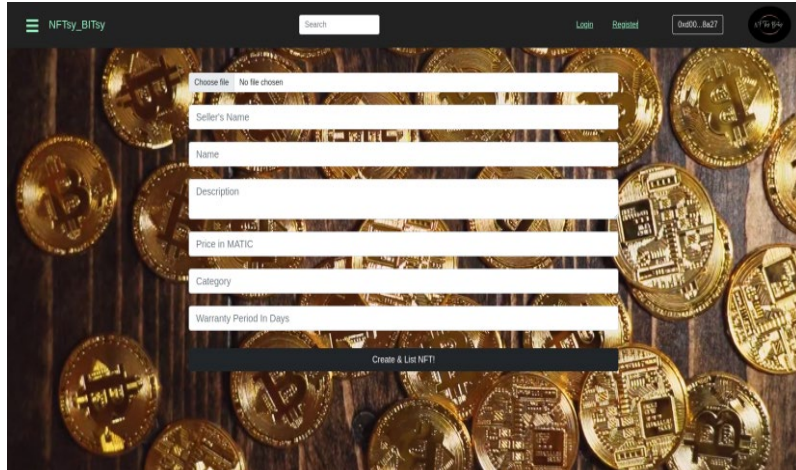

8 GB/1TB HDD, 15.6 INCH, PLATINUM GREY

OWNEDBY:ANOKI

NFT:2022-02-19

WARRANTY: 340 DAYS

CATEGORY: ELECTRONICS

SOLUTION STATEMENT/ APPROACH PROPOSED

1
- Sign-Up
- Wallet Setup

2
- Upload an digital Asset
- Mint NFT (ERC721)

3
- NFT Validation & Approval
- NFT Listed on the Store

4
- Buyers buy the NFT
- NFT transferred to Buyer

5
- Disabling the NFT after the warranty Period

6
- Deployed on the Polygon Network

User

resound

User Information

Object Storage (Images & Audio)

MetaMask

IPFS

InterPlanetary File System

Matic virtual machine

IPFS Peers

FEATURES

➤ Enabling user to create and mint NFT, converting a digital file into a digital asset.

➤ Transfer of ownership from seller to buyer after the NFT is traded.

➤ Decaying of the NFT with the warranty period and disabling of the NFT after the warranty period.
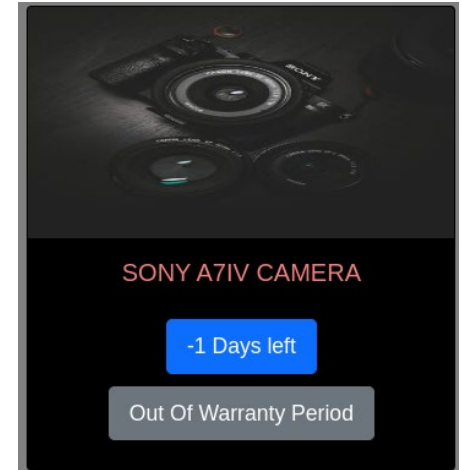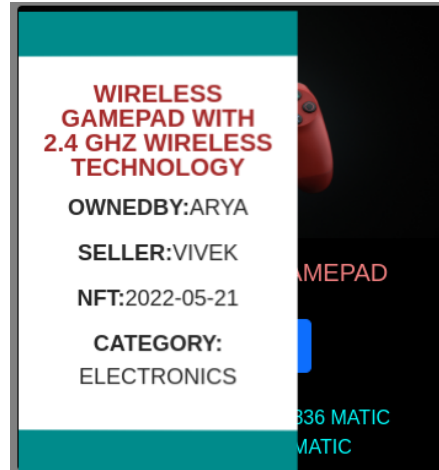
FEATURES

- ➢ **CREATE NFT**

- ➢ **DISPLAYING NFT'S**

- ➢ **MY PURCHASES**

- ➢ **LISTED ITEMS**
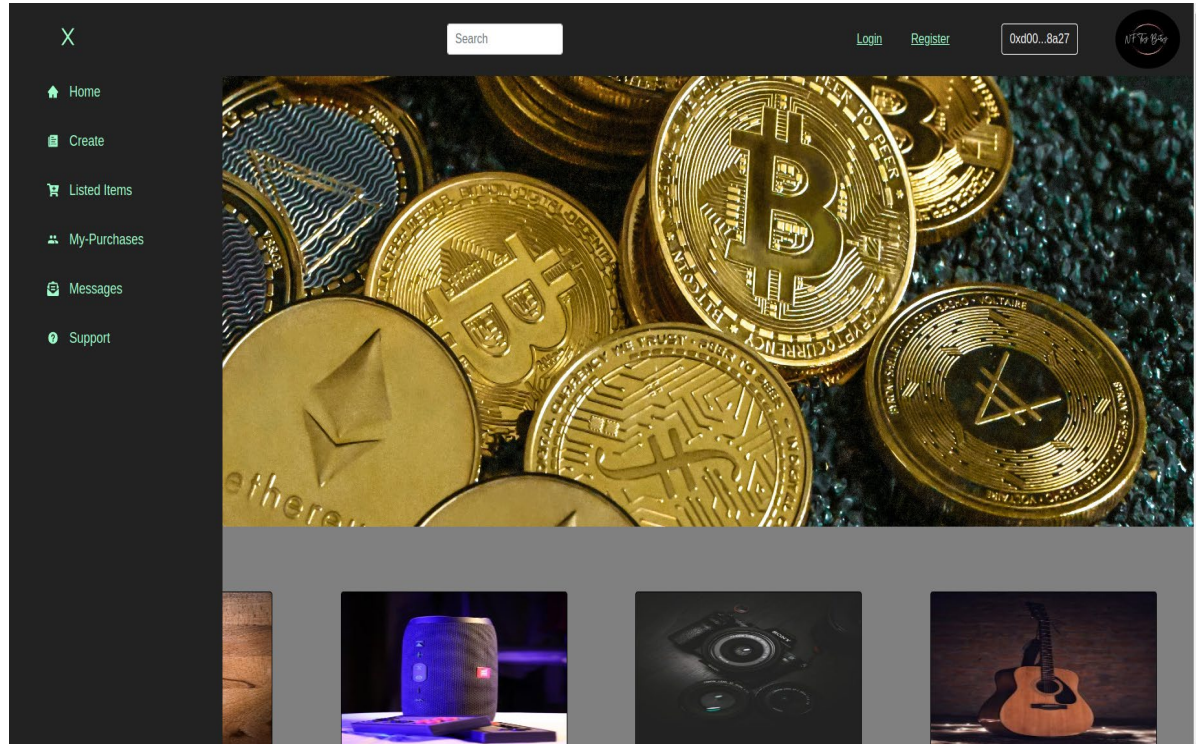
- ➢ **LOGIN**

- ➢ **REGISTER**

- ➢ **WALLET**

- ➢ **SEARCH**

- ➢ **BUY NFT**

TECHNOLOGIES USED

➢**Solidity**

➢**Hardhat**

➢**Metamask**

➢**Web3**

➢**React JS**

➢**Deployed on polygon**

USE-CASES

❖ **P0:** Retail and e-commerce

❖ **P1:** NFT Marketplaces

❖ **P3:** Smart Contracts

❖ **P4:** Finance

❖ **P5:** Supply chain and logistics

LIMITATIONS

- Integrating physical goods in e-commerce platform with digital asset like NFT is challenging.

- Any record entered into the Matic blockchain takes significant computing requires the use of significant amounts of energy.

- Searching of NFT in the blockchain network takes more time.

- NFT's once created cannot be deleted until the warranty period expires.

- Physical art cannot be digitized.

- Using NFT's for less valued items is expensive.

- Creating NFT for less secure items like foods is unnecessary.

FUTURE SCOPE

➢ The NFT in e-commerce can be used as redeemable token. With NFT, the user can directly just own the product that is yet to be launched in the market by redeeming the NFT.

➢ Supply chain can be chained with NFT, where the NFT uniqueness will aid in delivering the product to the right customer.

➢ In the future, we look forward to implement NFT for physical goods.