

*2022 Campus Challenge*

# **Blockchain-based eCommerce warranty system using NFTs**

Team Name: TRIO

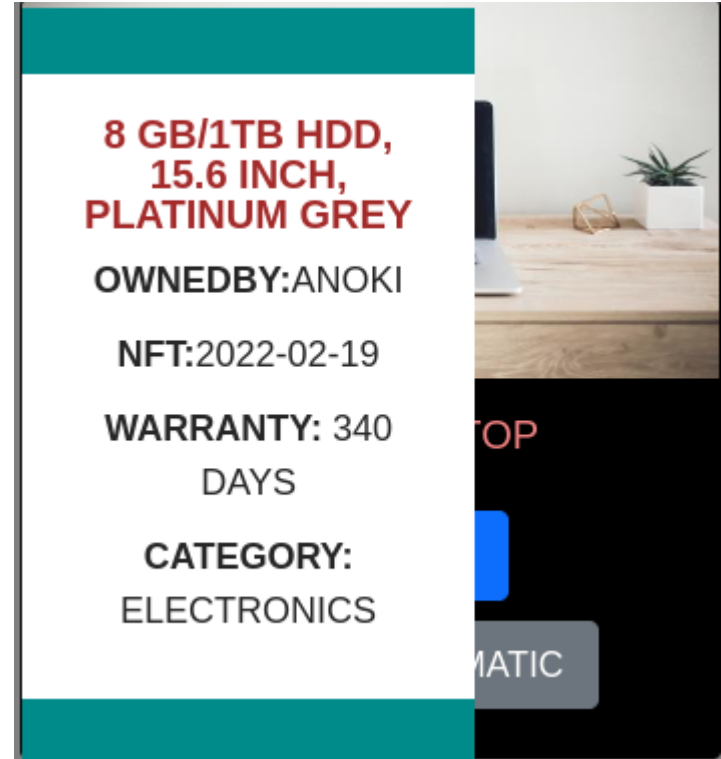
Institute Name: DAYANANDA SAGAR COLLEGE OF ENGINEERING

# Team members details

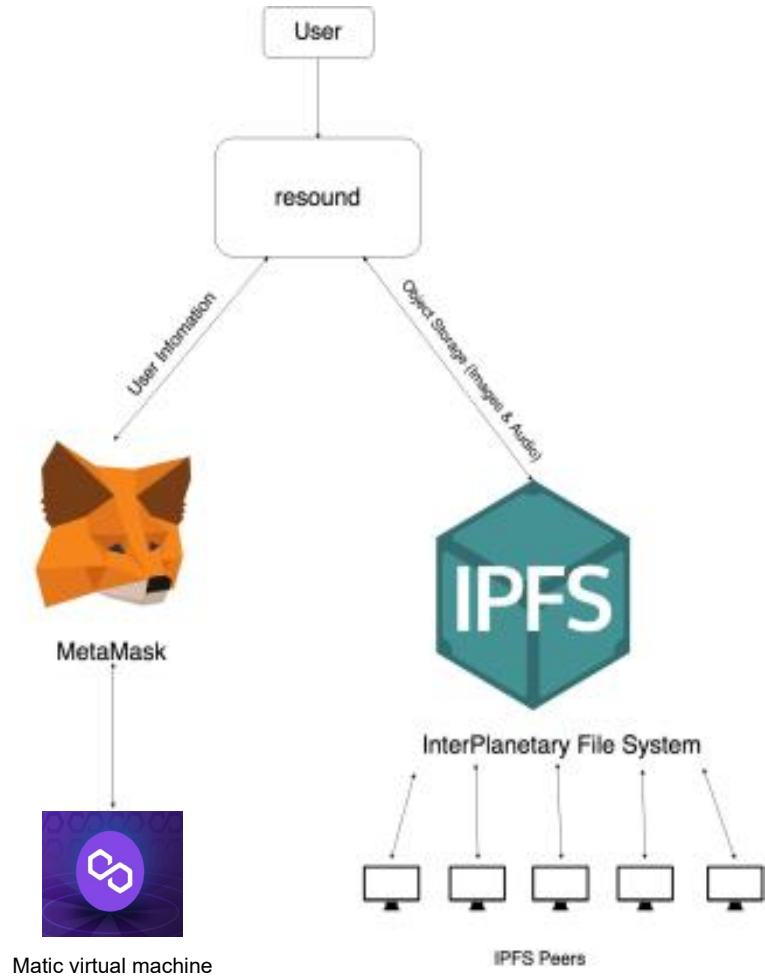
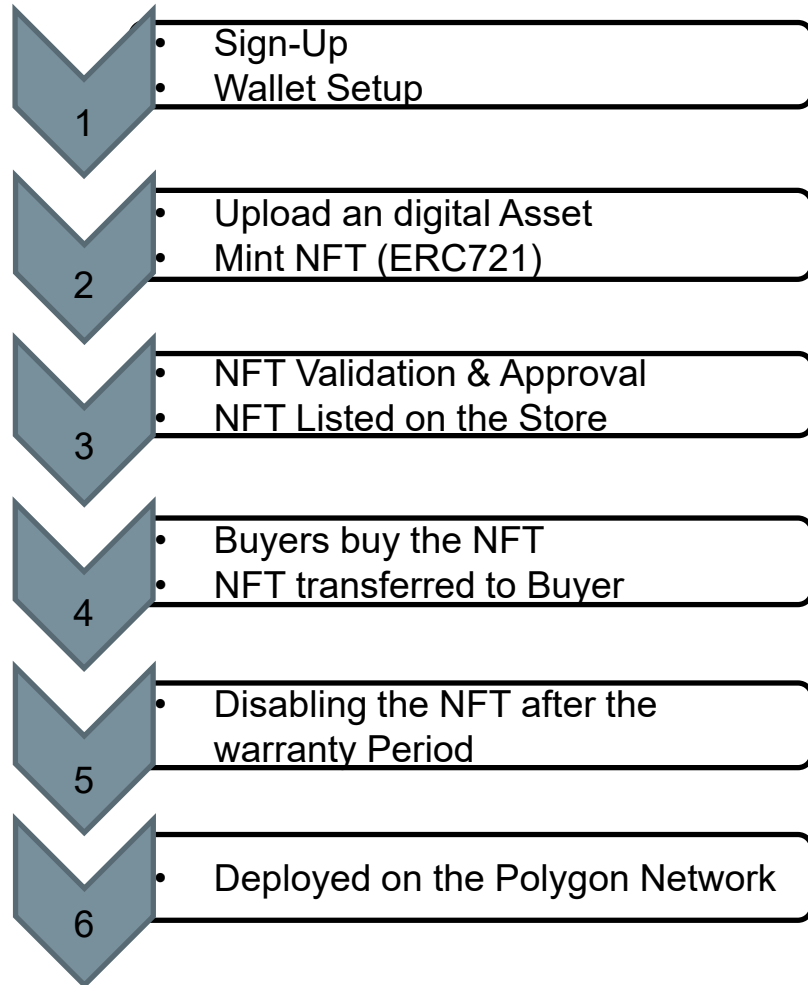
Team Name	TRIO		
Institute Name	DAYANANDA SAGAR COLLEGE OF ENGINEERING		
Team Members >	1 (Leader)	2	3
Name	ARYAN KHANDELWAL	AYUSHI S	BHUMIKA R
Batch	2023	2023	2023

# 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.

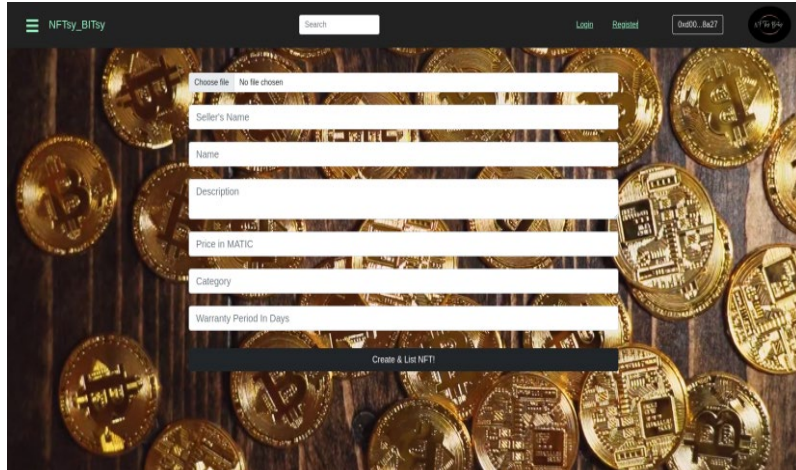


# SOLUTION STATEMENT/ APPROACH PROPOSED



# FEATURES

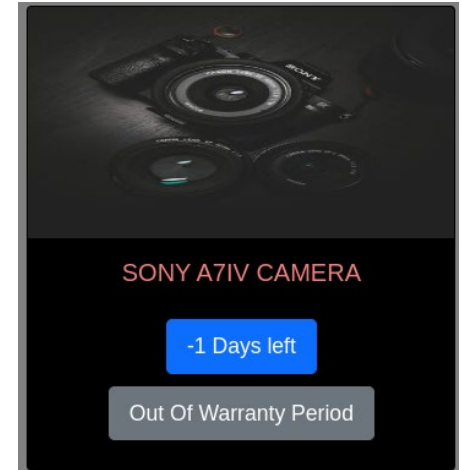
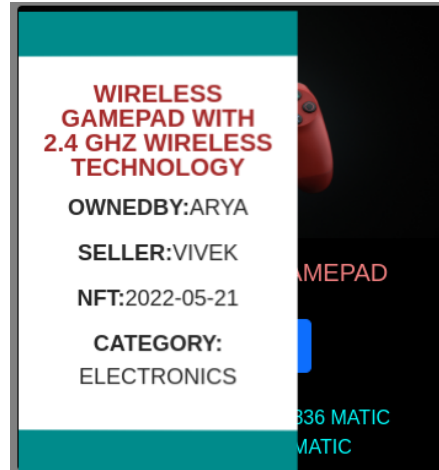
- Enabling user to create and mint NFT, converting a digital file into a digital asset.
- Transfer of ownership from seller to buyer after the NFT is traded.
- Decaying of the NFT with the warranty period and disabling of the NFT after the warranty period.



The screenshot shows the 'Create & List NFT' form on the NFTsy\_BITsy website. The background is a collage of gold Bitcoin coins. The form includes the following fields:

- Choose file:** No file chosen
- Seller's Name:**
- Name:**
- Description:**
- Price in MATIC:**
- Category:**
- Warranty Period in Days:**

At the bottom of the form is a button labeled 'Create & List NFT!'. The website header includes a search bar, 'Login', 'Register', and a balance of '0x00...8a27'.



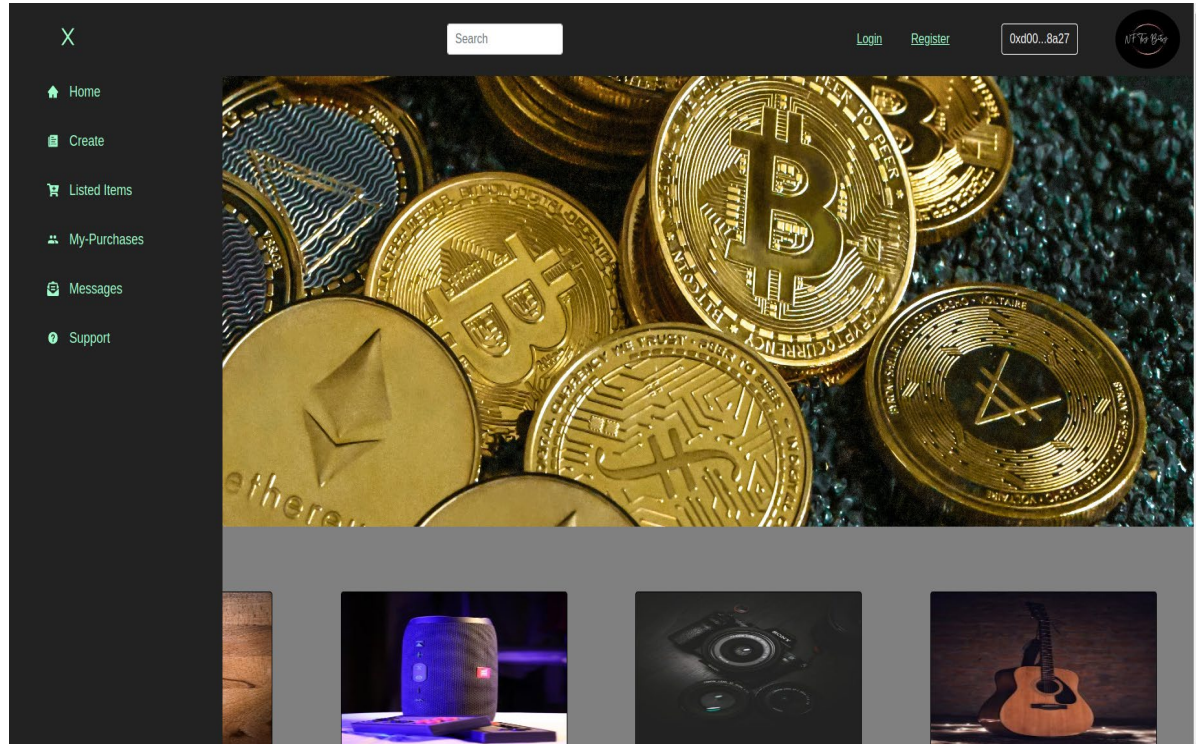
# FEATURES

➤ **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

The screenshot displays the PolygonScan website interface. At the top, there's a search bar with the text "Contract Address 0xB10d..." and a "New Tab" button. Below the search bar, the website header includes the "polygonscan" logo and a "Mumbai" network selector. A navigation menu on the right contains links for "Home", "Blockchain", "Tokens", "Misc", and "Testnet".

The main content area is titled "Contract 0xB10dDAD31f91eE6fa5e4C22338DC2A578A82E7B7". It features a "Contract Overview" section on the left showing a "Balance: 0 MATIC". To the right, a "More Info" section displays "My Name Tag: Not Available", "Contract Creator: 0xd0087cd8036eb9c031... at bn 0x968f8d7c8e3a76918...", and "Token Tracker: DApp NFT (DAPP)".

Below these sections, there's a "Transactions" tab selected, showing a list of transactions. The table has columns for "Txn Hash", "Method", "Block", "Age", "From", "To", "Value", and "[Txn Fee]". The transactions listed are all "Set Approval For..." and "Mint" operations, each involving a transfer of 0 MATIC.

At the bottom of the page, there's a cookie consent banner that reads: "This website uses cookies to improve your experience and has an updated Privacy Policy. Get it".



# 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.