Respected teachers and all my dear friends a very warm good afternoon to everyone present here. I, Ilma Shah along with my friend Mohd Mamoon stand before you all to give a presentation on “NFT Marketplace” under the supervision of Prof. Sarosh Umar.

Here we would like to begin our presentation by giving the background of our project.

Slide 4 According to Newman and Bloom, the value of art is defined by two key factors; the

creative performance and the degree of physical contact with the original artist. The value of

an artwork deteriorates if identified as a forgery and if the creative act is deemed

unsatisfactory. As a consequence, the authentication of art is an

important factor during valuation. This is usually exhibited in the documentation that

accompanies the artwork which assures genuinity and the authorship of the artwork. The

documentation is usually a signed certificate of authenticity.

Slide 5 In 2016, the global trade of fake goods was worth around half a trillion dollars a year. A sum that is equivalent to 2.5% of global imports. In 2016, the art gallery Knoedler in New York was accused of selling forgeries for $80 million during a 15-year time period. Some experts believe that 20% of art owned by public museums will be attributed to a different painter in 100 years.

Slide 6

The immutable blockchain ledgers utilized by non-fungible tokens (NFTs) are enabling new forms of originality, and authenticity coupled with provable ownership and programming capabilities. An NFT may exist only digitally as the product of programmable code, smart contracts, and technological protocols, yet retain its aura and originality.

Slide 7

These are the functional dependencies we have used in our implementation. We have used HTML, CSS, JavaScript, and React framework for front-end and user interface development. Hardhat is a development framework used to write smart contracts in the solidity programming language, write tests against them and even boot up a local development blockchain. Metamask is used to turn our browser into a crypto-compatible browser. Storing large files directly on the blockchain is very expensive so these files are normally stored on a decentralized file storing system like IPFS and the hash that locates where these files are located is stored on the blockchain.

Slide 8

A blockchain is a distributed network, which can be used as a digital ledger

that enables the secure transfer of assets without a central authority.

Anything from currencies to land titles to votes can be tokenized, stored, and exchanged on a blockchain

network.

It provides major benefits due to the properties such as

1. Immutability:
2. Decentralization:
3. Distributed ledger:
4. Better security and privacy:

Smart contracts are digital contracts which use blockchain technology across a network of computers to fulfill a preprogrammed contract.

A smart contract is a self-executing contract with the terms of the agreement between buyer and seller.

Smart contracts permit trusted transactions and agreements to be carried out among disparate, anonymous parties without the need for a central authority, legal system, or external enforcement mechanism.

Slide 9

An NFT is a special type of digital asset or token that can be proved to be unique and not interchangeable with another digital asset token. This is why it is referred to as a “non-fungible token”. Typically, the record of the uniqueness of the NFT exists as a cryptographic record on a blockchain, or distributed ledger, and can readily be viewed by anyone.

Here are some widely accepted and foundational characteristics that are shared amongst NFT deployments.

1. Uniqueness:

2. Rarity:

1. 3. Ownership:
2. 4. Immutability*:*

5. Programmability :

Slide 10

Colored Coins were envisioned to eventually replace many expensive and time-consuming financial transactions. For example, property deeds could be appended to a coloured coin, and the transfer of the coin itself could then be used to represent properties, commodities and bonds. The shortcomings of Colored Coins became quickly apparent, the value attributed to them required unanimous consensus from participants.

Cryptokitties became significant to the NFT space for three primary reasons. First, they were one of the first projects to highlight gaming as a tangible use case for blockchain, legitimising it in the eyes of many. Secondly, they underlined the significance of more flexible and expressive protocols, such as Ethereum. Their “raising” and “breeding” functions were also precursors to the widespread composability native to today’s DeFi applications.

in 2014 a peer-to-peer financial platform called Counterparty was created on top of the Bitcoin blockchain. Counterparty was an economical and financial platform as well as a decentralised, open-source Internet protocol. Counterparty had a broad array of tools including wallets, an escrow agent functionality, and a clearing house.

Slides 12-16

In our implementation we have created 2 smart contracts which power our nft marketplace NFT.sol has a mint function that will allow users to create new NFTs and list them on the marketplace and Marketplace.sol allows users to buy and sell them. NFT smart contract also keeps the track of the owners of each nft. There are special functions on the contract that allows users to transfer NFTs to new addresses. The marketplace contract interacts with these functions on the NFT contract. When a user wants to list their NFT for sale they will call a function that will transfer their NFT to a marketplace and the marketplace will keep track of the seller of the NFT and the price. Users can buy any listed NFT by calling a function that transfers the amount of ether the NFT was priced at from the buyer to the seller and then transfers the NFT from the marketplace to the buyer.

Conclusion

Artists, in general, cannot gain royalties after selling their artworks. In comparison, when

applying an NFT to the artwork, there is a possibility of receiving predetermined royalties for

each transaction made.

With the eruption of NFT marketplaces, less-known artists have gained the possibility to share their works with a larger audience.

Disadvantages

Since the amount of NFT transactions has increased during 2021, the cost (gas fees) of

registering larger files to certain blockchain platforms such as Ethereum has risen.

Another problem is related to the long-term storage of NFT-applied digital art. The NFT platforms can with ease disappear or become obsolete