Project Synopsis

on

**LISTEN NFT**

Submitted as a part of the course curriculum for

**Bachelor of Technology**

in

**Computer Science**



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**2022-23**

**DECLARATION**

We hereby declare that this submission is our work and that, to the best of our knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

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**CERTIFICATE**

This is to certify that the Project Report entitled “**Listen NFT**” which is submitted by **Avaneesh Singh, Harsh Kumar, and Nishant Varshney** in partial fulfilment of the requirement for the award of degree B. Tech. in the Department of Computer Science of Dr. A.P.J. Abdul Kalam Technical University, Lucknow is a record of the candidates own work carried out by them under my supervision. The matter embodied in this report is original and has not been submitted for the award of any other degree.

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**ACKNOWLEDGEMENT**

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Last but not the least, we acknowledge our friends for their contribution to the completion of the project who had motivated us throughout.

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**ABSTRACT**

ListenNFT is a WEB 3.0 music platform that makes the creator and user an ad-free platform. Any music artist can mint their fabulous art on the platform and showcase to the world with any intervention of Music Studio.

The main objective to create this D app is because artist don’t get the amount, importance and fame what they deserve. A huge amount is slashed by the big music firm like T-Series, Sony Music etc.

An NFT is a digital asset that represents real-world objects like art, music, in-game items and videos. They are bought and sold online, frequently with cryptocurrency, and they are generally encoded with the same underlying software as many crypto.

NFTs are also generally one of a kind, or at least one of a very limited run, and have unique identifying codes.

By this Creator become the owner of their work and also any User can buy the music to make to it exclusive in exchange of pay to the owner.

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**INTRODUCTION**

ListenNFT is a Web 3.0 music platform that makes the creator and user an ad-free platform. Any music artist can mint their fabulous art on the platform and showcase it to the world with any intervention of Music Studio.

An NFT is a digital asset that represents real-world objects like art, music, in-game items, and videos. They are bought and sold online, frequently with cryptocurrency, and they are generally encoded with the same underlying software as many cryptos.

By this Creator become the owner of their work and also any User can buy the music to make it exclusive in exchange of pay the owner.

**PROBLEM STATEMENT**

The main objective to create this D-app is because artists don’t get the amount, importance, and fame that they deserve. A huge amount is slashed by big music firms like T-Series, Sony Music, etc.

Nowadays, new and upcoming artists don’t get their proper worth, because in order to get their albums famous they include middle man or third-party people, who in turn exploit them.

This D-app (Decentralized App) will handle all the artist’s workloads in a decentralized fashion.

**OBJECTIVE**

* To solve exploitation of music artists through a decentralized app.
* Using metamask wallet to establish secure authentication and transaction.
* Having polygon fake test network for crypto funding.
* Decentralizing albums through smart contracts.
* Features to upload and mint various user albums.

**SCOPE**

* To be provided as a product in music and gaming industries
* To make various business chains being decentralized with the usage of Blockchain.

**LITERATURE REVIEW**

## Research Paper Summary

1. **An overview of Massive Open Online Course Platforms: Personalization and Semantic Web Technologies and Standards**

**Authors: Boris Kiselev, Vyacheslav Yakutenko**

**Date of Publication:** 15 April 2020

**Publisher:** IEEE

**Summary:**

Massive Open Online Courses arose about 9 years ago and eventually transformed modern online education. Due to the large number of participants with different levels of education and learning styles, it is very difficult to provide a course that meets the individual needs of every student. To address this problem MOOC platforms, use different personalization mechanisms. Recently, we have moved to the domain field of MOOC platforms. We are interested in applying our experience using Semantic Web to the MOOC field. There is an opinion in the literature that Semantic Web technologies are well suited to serve as a mechanism for personalization in MOOC. The aim of this paper is to find out how Semantic Web technologies and standards are used to facilitate personalization in modern MOOC platforms. This paper details state-of the-art MOOC platforms regarding the selected criteria. We define a list of MOOC and MOOC platform to limit the evaluation scope. Using these definitions, we choose the MOOC platforms that are suitable for the overview. Personalization is used to adopt learning process to the needs of a student. Semantic Web Technologies and Standards Semantic Web technologies and standards are intended to present information in the internet in a structured form. It allows automatic processing, exchange, and reuse of data by software agents. Ontology is used to describe domain field in a formal way to reuse and share information in a structured way. MOOC platforms use ontologies for semantic annotation of educational resources, to represent student and course data, for personalization reasons, and to share a course data. OWL is used by MOOC platforms to describe complex ontologies that require logical reasoning. The good example of Linked Data is RDF repository with SPARQL endpoint. It is used by MOOC platforms to search and publish course materials. We will use these items in our review to describe Semantic Web technologies and standards capabilities of the selected MOOC platforms. The list was filtered to exclude the platforms that do not satisfy the described criteria and the definition of MOOC platform or that are not supported anymore. As we can see, Semantic Web is barely used in the reviewed platforms. Only one platform uses ontology for personalized learning path, personalized assessment, and for recommendation system. Two platforms use ontology for instruction design purpose – to help course designers to create a well-structured learning course. This paper describes state-of-the-art MOOC platforms from the point of view of personalization and Semantic Web technologies. We have reviewed the literature related to personalization and Semantic Web in MOOC platforms and defined the criteria and platforms for review. We analyzed the results for personalization features and for Semantic Web features. The majority of the platforms support personalized feedback. The half of the platforms have personalized learning path tools. The review shows that currently, an average adaptive MOOC platform supports the personalized feedback and personalization learning path. Other described personalization criteria can be named advanced personalization features. The selected platforms have poor Semantic Web capabilities. Semantic Web technologies are almost not used for personalization in the reviewed platforms.

1. **Web Design: A key factor for the Website Success**

**Authors: Carlos Flavian, Raquel Gurreaa, Carlos Orus**

**Date of Publication:** 1 May 2009

**Publisher:** IEEE

**Summary:**

In a market with a target of more than 1400 million people and more than 70 thousand million dot-com websites in the world, the opportunities for trading are almost infinite. This research is focused on the main analysis of the perspectives within the marketing discipline. These research lines are motivated by the consecution of successful interfaces which generate positive responses from users. Thus, web design is important to obtain high levels of satisfaction with the website or to increase the online purchase intention of the consumer. In spite Desistance that web design has for the development of successful virtual stores, it seems remarkable the relative consensus in the literature about how the factors that compose the design of the website have to be managed. Taking these objectives as a reference, in the two following sections we point out a literature review regarding the key factors of a successful website, analyzing especially the relevance of the website design. In the last years, a great number of researchers have made efforts in order to establtoactors may lead to the success of a website. In this sense, the marketing literature has stressed the users’ point of view to define how an ecommerce website must be eCommerce successful. In general terms, and in the context of electronic commerce, a successful website «attracts customers, makes them feel the site is trustworthy, dependable, and reliable, and generates customer satisfaction». This study captured objective measures as well as consumer perceptions related to the commercial and noncommercial information, transaction information, navigation structure, search functions or perceptions, about the quality of the structure, image an,d presentation style of the websites. With this purpose, the authors identified the determinants of a successful ecommerce website related to the information provided by it, the familiarity with it, the emotions that it generates, and the quality of its service and system. Using a group of experts’ evaluations, they concluded that the success of an electronic commerce website depends mainly on the ease of use of the system, the quality of the information and the service, the quality of the design of the website and the feelings of hedonic pleasure provided. The design of websites has been widely studied from multiple points of view, and most of them have identified the factors that could determine the degree of acceptance ion of the websites. From a consumer perspective, a website must be designed with all these feature to arouse the affective states of the users and to enhance their online visits or purchase intentions. In this sense, usability studies what elements must have a website so that the consumer can manage it easily. Thus, a well-designed website should ensure a high level of usability. An attractive design can evoke feelings of pleasure in the use of a website. As a consequence, an adequate degree of usability, related to a comfortable atmosphere, could create a positive bias in the consumer. In fact even of perceived usability could lead to higher levels of satisfaction, trust and loyalty towar,ds a specifitowardte. The appearance of a website, in terms of store aesthetics, has also to be considered for achieving a successfully websisuccessfuln this way, the first impression of a website determines the user evaluation of that website, so that influences owhicherceptions andhaviors. Specifically, the aesthetic aspects could affect the consumer in a great extent, such atoon the satisfaction with web as well as the shopping motivations. In this line, a bad designed website may represenbadly good reason not to shop on that website. Thus, the management of visual features is revealed as the main tool in order to improve the attractiveness of a website. As a consequence, the development of a website with a od use of images, graphics, icons, animations or colors, may represent a potential source to offer a more vivid website and to get a positive response of the consumer. As important as an adequate structure of the website, is also a good content that could be able to satisfy the needs of the online consumer. Thus, it seems interesting to analyze the cues related to the content provided by the website. In the last years, the growing development of the Internet is related to an extremely competitive context. This research has focused on the specialized literature and empirical evidences about the main factors which affect the levels of success of the companies in the electronic commerce. More specifically, it is possible to emphasize the aspects related to websites design. The first research question presented in this study referred to the identification of the main factors that affect the success of the e-commerce websites from a consumer’s point of view. The literature review allows us to affirm that web design is a key factor for getting positive outcomes as it influences on users and online consumers’ perceptions and behaviors.

1. **A Research Paper on Website Development Optimization Using XAMPP/PHP**

**Authors: P. Kumari, Rainu Nandal**

**Date of Publication:** 20 June 2017

**Publisher:** IEEE

**Summary:**

Website Development is like house building, before the house building process, we ask to an architect about the plan, and building permit, oversee a survey of geological and license from the city. All things must have been seen in the website development requirement, designing, documentation, appropriate server, programming language, etc. This research paper discusses the various useful tools and techniques that are used in the development of a website. Invention and Development is a significant role plays in Web Development. Graphical looks and feel according to most impressive and efficient way, Graphical elements required for design are appearing more impressive, for this use color and image. Design of web pages, computer graphics includes navigation mock-up, template content and placeholders. Content Writing: Writing of contents is a significant part of development of web pages and plays an important and necessary step in optimization Engine, a well-defined or easy content is utterly necessary to fall in internet site users. Content written by a more professional requires more pure, easy and accurate content. Coding: Coding start of a Web Pages in CSS, HTML, PHP, Java scripts and other technologies of WWW, for drawing of the graphic and text contents, we look code of web page consistently like as webpage design. Coding of a web page is loading fastly search engine and index give us rank very quickly. Every web page of a website takes a unique title, unique meta tags as keywords and descriptions. We can create links of internal with keywords of website to explore the search engine ranking and navigation. In this way improve the website quality code by using techniques and tools according to website standards. In Xampp, we will have a htdocs folder and store the folder where, we will have website code scripts and we can open these scripting languages in sublime text. So, at last we have a website that can open in local host in system and outlook can see in local web server. The developer can easily change into code according to the requirement after looking on the local host preview. Another point is security features are also included, another system we cannot see it without the htdocs folder, and updation is also not possible.

1. **Data Security Over the Internet: Value of Data & Platform at which Data Privacy is Risked or Stolen**

**Authors: Mr. Ayush Kulkarni, Dr. Rajiv Soren**

**Date of Publication:** 20 November 2020

**Publisher:** IEEE

**Summary:**

“Data security over internet” is a raised concern long after people and agencies have identified internet beyond as a boon of technology which connects, communicates, researches, identifies and makes our tasks do in instant. With the rise of a new era of crime- cybercrime, internet has now been detected with various loopholes of which miscreant’s tale advantage with advantageous fact that cybercrime is difficult to trace. Here, I discuss such platforms or loopholes which the internet users identify it to be unnecessary to be protected. How their data over internet, over which they work, manipulate or use is in the spy eyes of someone and how do the tech giants and hijackers of our data misuse it for their profits. Most of the social media platforms like Facebook, Instagram uses the customer’s data as a tool of their marketing. This common marketing tool strategy has resulted in making profits worth of billions against the few countable dollars’ worth of our data. Below is a basic screenshot of basic applications provided by Google to its android users. Various applications serve their definite purposes. These applications when installed on our devices require various applications permissions and from their store our data on their database. So, when we use these Google products, the respective Search Engine has got a lot of potential to steal our data. In fact, Google has almost 1.74 billion registered websites and 4.2 billion webpages total over internet, out of which Google has its trackers on almost 75%websites. This means, Google keeps account of kind of searches, frequency, history of its users for each and every website on its database. As of now, Google has now become more of a tracking and spying company rather than a search engine company. Every time when we use Google products, its trackers are always spying over our searches and needs. But by deliberate allowance to Google to collect all this information, we get compelled to be bid on serving us ads based on your sensitive personal data. Given below is the statistic of Google’s ad revenue made by company over years. With the advancement in the technology of internet, now every impossibility of connection with people; research; computer tasks; communication; utility of resources is bridging to a possible future, yet there have then erupted the stakes and crimes which have been highlighted as the backdrops of internet dependence. Living today’s world without internet is an impossibility or a possibility with efficiency, energy, time, money on no guarantee. However, our aid of internet is now a concerned question of self-privacy and security.

1. **Data Security Protocol: Misuse of Breached Data or at Risk**

**Authors: Mr. Rohit Tiwari, Dr. Sumit Gaurav**

**Date of Publication:** 21 May 2020

**Publisher:** IEEE

**Summary:**

With internet gradually becoming the new kind of dark world where daily many people are being exposed with their personal data, it is the risk of foolishly getting trapped by our own unconscious use of internet. Whatever we do today over internet, it is getting stored and tracked by some company, hijackers, platforms which use our personal data and harm us. Therefore, it is the time we know what kind of these platforms are, how are they getting own profit out of our valuable data and what wise steps we can afford to prevent privacy breaches. The data security protocols are like any other laws laid for scrutiny of any misleading actions or proceedings regarding data breaches or misuse of any identity’s information. It is recognized by various bodies for various countries, such as GDPR in European Union. Advantage that users will be given will be such as:

* Business firms won’t have total authority over user’s data collection and would need to seek user’s consent for actions over it. They would have to proof that any action taken would be as per consent given by the user. Since the bill will also give the user rights to withdraw from the deal, the companies would also have to work over that too.
* The bill, primarily strategic for users to know every action taken against their data, keeps them notified about the collection; manipulation; access; and erase of their data, to which the business firms have to abide with. Personal data is a risky key of identity exploitation. Severe mishandling of data can lead to varied losses with no acknowledgement to the true individual

. • Financial thefts: card cloning, duping bank accounts, credit cards or being sold to another party

. • Online frauds: identity cloning, create fake online accounts to embarrass victims

. • Misuse of personal information like date of birth, email ids, contact links, passwords, etc.

* Violation of online purposed guidelines to embarrass victims

. • To dupe various types of accounts which can run online or need to access personal data like banks, form submission, creating new accounts on a purposed website, social media, OTT platforms, etc

. • To make fake VOIP Keep anonymous resources and messages at spam: straight away dispose anonymous messages, links, emails, etc. into spam folder on whichever felt necessary. Internet is now rapidly emerging the space of new era of crime- cybercrimes. It is becoming tool of crime for hijackers and hackers. With various loopholes in internet, being a victim of any cybercrime is not tough. But that doesn’t mean we are helpless. Several self-acknowledged information on how to keep our data safe is efficient way to be secure. We just need to be quite vigilant over internet now.

1. **A survey on Blockchain Technology: Evolution, Architecture and Security**

**Authors: Muhammad Nasir Mumtaz Bhutta, Amir A. Khwaja**

**Date of Publication:** 13 April 2021

**Publisher:** IEEE

**Summary:**

**Blockchain** **can be defined as a chain of blocks that contains information. The technique is intended to timestamp digital documents so that it’s not possible to backdate them or temper them. The purpose of blockchain is to solve the double records problem without the need for a central server.**

**The**[**blockchain**](https://www.guru99.com/blockchain-testing.html)**is used for the secure transfer of items like money, property, contracts, etc, without requiring a third-party intermediary like a bank or government. Once data is recorded inside a blockchain, it is very difficult to change it.**

**The blockchain is a software protocol (like SMTP is for email). However, Blockchains could not be run without the Internet. It is also called meta-technology as it affects other technologies. It is comprised of several pieces: a database, software application, some connected computers, etc.**

**Sometimes the term is used for Bitcoin Blockchain or The Ethereum Blockchain, and sometimes, it’s other virtual currencies or digital tokens. However, most of them are talking about distributed ledgers. Blockchain 1.0 was the first application of the technology known as “ The origin of modern blockchain”. This version is the simplest form of a decentralized ledger for recording transactions and storing the data across several computers. In simple terms, the information recorded in the earliest form of blockchains was limited to values of an ‘item’ that changed ownership over time. In most cases, the ‘item’ we are referring to was a digital currency.**

**Blockchain 2.0 was also known for the origin of “Smart Contracts”.** **The next development in blockchain technology expanded on the capabilities of blockchain protocols. Four years after the rise of Bitcoin, Vitalik Buterin introduced the concept of Ethereum, a technology based on blockchain with some notable improvements over the previous generation.**

**However, the consensus among experts is that Blockchain 3.0 has a broader scope in terms of industries and sectors it can incorporate. This means that Blockchain 3.0 has applications in a broader set of industries outside the domain of finance and economics.**

**The preliminary concepts of Blockchain include:**

1. **Peer-to-Peer (P2P) Network**
2. **Cryptography**
3. **Encryption/Decryption**
4. **Hash**
5. **Hash Chain**
6. **Merkle Tree**
7. **Digital Signatures and Timestamp**

**The characteristics of Blockchain endure:**

1. **Decentralization**
2. **Autonomy**
3. **Transparency**
4. **Security**
5. **Immutability**
6. **Traceability**
7. **Anonymity**
8. **Democratized**
9. **Programmability**
10. **Integrity**

**Types of blockchain are:**

### 1. Public Blockchain

These blockchains are completely open to following the idea of decentralization. They don’t have any restrictions, anyone having a computer and internet can participate in the network:

* As the name is public this blockchain is open to the public, which means it is not owned by anyone.
* Anyone having internet and a computer with good hardware can participate in this public blockchain.
* All the computer in the network hold the copy of other nodes or block present in the network
* In this public blockchain, we can also perform verification of transactions or records.

### 2. Private Blockchain

These blockchains are not as decentralized as the public blockchain only selected nodes can participate in the process, making it more secure than the others.

* These are not as open as a public blockchain.
* They are open to some authorized users only.
* These blockchains are operated in a closed network.
* In this few people are allowed to participate in a network within a company/organization.

### ****3. Hybrid Blockchain****

It is the mixed content of the private and public blockchain, where some part is controlled by some organization and other makes are made visible as a public blockchain.

* It is a combination of both public and private blockchains.
* Permission-based and permissionless systems are used.
* User access information via smart contracts
* Even if a primary entity owns a hybrid blockchain it cannot alter the transaction.

### 4. Consortium Blockchain

It is a creative approach that solves the needs of the organization. This blockchain validates the transaction and also initiates or receives transactions.

* Also known as Federated Blockchain.
* This is an innovative method to solve the organization’s needs.
* Some part is public and some part is private.
* In this type, more than one organization manages the blockchain.

**These are the core blockchain architecture components:**

* **Node**- user or computer within the blockchain architecture (each has an independent copy of the whole blockchain ledger)
* **Transaction –** the smallest building block of a blockchain system (records, information, etc.) that serves the purpose of blockchain
* **Block -** a data structure used for keeping a set of transactions that is distributed to all nodes in the network
* **Chain -** a sequence of blocks in a specific order
* **Miners -** specific nodes which perform the block verification process before adding anything to the blockchain structure
* **Consensus (consensus protocol) -** a set of rules and arrangements to carry out blockchain operations.

**Thus, blockchain is proving to be a transformational technology and transforming various sectors like Finance, Healthcare, Education, Development, etc.**

1. **Sampo UI: A full-stack JavaScript framework for developing semantic portal user interfaces**

**Authors: Ikkala, Esko, Koho, Mikko**

**Date of Publication:** 25 November 2021

**Publisher:** IOS PRESS

**Summary:**

The mentioned paper summarizes the facts and findings based on the software framework, build via JavaScript, named Sampo UI. This is mainly to develop user interfaces for semantic portals. Here, this framework is built with the goal of providing the end user with multiple application perspectives to the linked data knowledge graphs and a two-step usage cycle based on faceted search combined with ready-to-use tooling for data analysis. If you are a software, then this framework makes it possible to create highly customizable, user-friendly, and responsive user interfaces using current state-of-the-art JavaScript libraries and data from SPARQL and RDF QUery language [Resource Development Framework] endpoints, while saving substantial coding efforts. This UI framework is published on GitHub under the open MIT License and has been utilized in several internal and external projects. The above-mentioned framework has been used thus far in creating six published and five-forth coming portals [as mentioned in the research paper]. This paper is abstracting the knowledge for the framework which is benefitting society by supporting the portals related to the cultural heritage domain which is comprised of many of the end-users on the web. [Tens of thousands approximately]. This involves Sampo UI which involves linked data displayed via a semantic portal based on the user interface designed with the help of JavaScript.

1. **Web App service for booking Handyman service using MongoDB, ExpressJS, ReactJS, NodeJS**

**Authors: K. Saundariya, M. Abirami, G. Nagarajan**

**Date of Publication:** 13 May 2021

**Publisher:** IEEE

**Summary:**

It involves the idea that nowadays, there is a rapid increase in the need for handyman services around the world. If unfortunately, any issue is being encountered in the home, some issues may be hectic and can't be repaired on their own, people are quite busy with their schedules. This generates the demand for workers to maintain and repair their homes. Moreover, we all are aware that finding workers offline at the correct time and cost is quite tough. Here, this application comes into the role to bridge this gap between homeowners and workers to reduce the issues involved with the lag in time and optimum cost at the same time. It makes the workers available with just one click at their doorstep. Handyman workers have a separate login to showcase themselves by adding the work and skills they possess. It also involves providing an opportunity to professionals for making money. This web application involves several categories and services, on the time of users' login for the need of the services, the workers are listed based on the location and cost with their details being mentioned involving location, cost, name, and contact number. This web application is being created using React.js to make it faster, and boost productivity. This is also SEO friendly. Using Mongo DB [a schema-less database] makes it easier to scale out and manage the data efficiently. Using this application, one can avoid delay and difficulty. This application is based on MERN Stack [MongoDB, ExpressJS, ReactJS, NodeJS].

1. **Solidity Code Generation from UML state machines in Model-Driven Smart Contract Development**

**Authors: Mantas Jurgelaitis, Lina Ceponiene and Rita Butkiene**

**Date of Publication:** 22 March, 2022

**Publisher:** IEEE

**Summary:**

This involves that for the development of blockchain smart card contracts, a structured approach based on the principles of the Model Driven Architecture can be beneficial and facilitate the implementation of smart contracts. This paper presents such an approach, which, in combination with Unified Modelling Language [UML] Class and State Machine diagrams, allows the user to be modeled in several abstraction layers. This paper delves into the details of how the model-to-model transforms from the specified Blockchain Platform Independent Model [BPIM] with the specified state-like behavior that can be used to produce a solidity platform-specific model [PSM]. Subsequently, we elaborate on how the solidity Platform Specific Model [PSM] is used for the solidity smart code contract generation by employing model-to-next transformations. The paper also demonstrates the process of our proposed transformations and code generations using smart contracts' code examples from solidity documentation. Based on the examples, a blockchain PIM is specified and transformed into solidity PSM, which is later on used for the solidity smart contract code generation. The generated code is then compiled, deployed on the ETHEREUM blockchain JavaScript Virtual Machine, and compared to the original smart contract code in terms of solidity code metrics, similarity scores, and execution costs, The evaluation results indicate that the approach opted in the paper could be successfully used to model and generate smart contract code.

1. **NFT Certificates and proof of Delivery of fine jewelery and gemstones**

**Authors: Noura Alnuaimi. Mohammed Madine, Khaled Salah, Alanoud Almemari**

**Date of Publication:** 09 July 2021

**Publisher:** IEEE

**Summary:**

As we all are aware of that fine jewelry involves a unique class of ornaments composed of precious metals and gemstones. Also, premium-grade metals such as gold, platinum, diamonds, rubies, and emeralds are used to make fine jewelry. Paper-based certifications are typically issued by retailers and producers for fine jewelry and gemstones as proof of origin, sale, ownership, history, and quality. However, paper certificates are subject to counterfeiting, loss, or theft. This paper, it is shown how non-fungible tokens [NFTs] and the Ethereum blockchain can be used for digital certification, proof of ownership, sale history, and gemstones. We present the proposed system design and architecture with a sequence of diagrams covering the key interactions for jewelry production, purchase, and sale, along with algorithms related to NFT mining, auctioning, ownership management, and physical delivery. This demonstrates that our proposed NFT and blockchain-based solution can provide a superior alternative in terms of verifiability, traceability, immutability, and security when compared with paper-based certification and traditional auctioning delivery, and ownership management. All the developed smart contracts and testing scripts are made available on GitHub [publicly]. This involves technologies mainly blockchain, NFT, Ethereum, and many others. It is based on providing NFT certificates and proof of delivery for fine jewelry and gemstones [decentralized].

1. **NFT Fusing Blockchain and AI with Metaverse: A survey**

**Authors: Qinglin Yang, Yetong Zhao, Huawei Huang, Zehui Xiong, Jiawen Kang, and Zibin Zheng**

**Date of Publication:** 04 July 2022

**Publisher:** IEEE

**Summary:**

As we all are aware of the fact that in this era of generalization and pre-modernization, the metaverse is the buzzword trending throughout. Metaverse has attracted great attention from both industry and academia. It seamlessly integrates the real world with the virtual world and allows the avatars to carry out rich activities including creation, display, entertainment, social networking, and trading. Thus, it is promising to build an exciting digital world and transform a better physical world through the exploration of the metaverse. Here, this survey displays the findings about metaverse and its fusion with other major technologies like Blockchain and Artificial Intelligence by the investigations made via the state-of-art studies across the metaverse components, digital currencies, AI applications in the virtual world, and blockchain-powered technologies. This survey is mainly focused to contribute and motivate researchers from both industry and academia to explore more and more towards interdisciplinary approaches for the various domains. This involves further research efforts from both academia and industry. This survey is aimed at motivating the other researchers to explore the various technologies involving Blockchain, Metaverse, and Artificial Intelligence and towards their fusion too in order to improvise them.

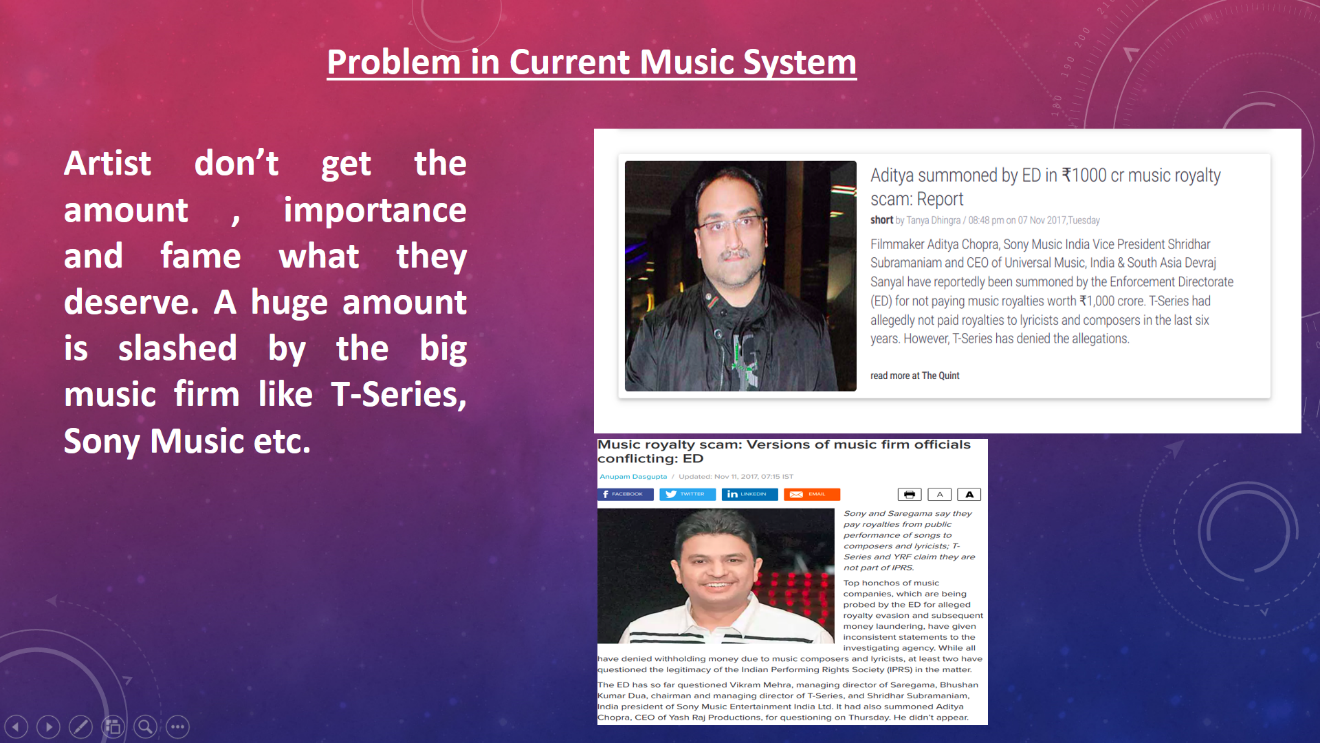
**METHODOLOGY**

ListenNFT is a WEB 3.0 music platform that makes the creator and user an ad-free platform. Any music artist can mint their fabulous art on the platform and showcase it to the world with any intervention of Music Studio.

* + **Design:**
    1. The designing part of the website is done by using the Figma designing tool.
    2. Figma provides enhanced workspace to create wireframes, user interface designs, prototypes etc.
    3. FigJam is a wireframing workspace where team members visualise ideas of the website or app.
    4. Main design workspace is used to create UI designs and prototypes.
  + **Frontend:**
    1. MERN stack is basically used in the project.
    2. HTML5 (Hyper Text Markup Language)
       1. The Hyper Text Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser.
    3. CSS3 (Cascading Style Sheet)
       1. Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML or XML.
    4. Vanilla JS (JavaScript)
       1. JavaScript, often abbreviated as JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. As of 2022, 98% of websites use JavaScript on the client side for webpage behavior, often incorporating third-party libraries.
    5. Tailwind CSS (CSS library)
       1. Tailwind CSS is an open-source CSS framework. The main feature of this library is that, unlike other CSS frameworks like Bootstrap, it does not provide a series of predefined classes for elements such as buttons or tables.
    6. ReactJS
       1. React is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta and a community of individual developers and companies.
    7. EtherJS
       1. The ethers.js library aims to be a complete and compact library for interacting with the Ethereum Blockchain and its ecosystem. It was originally designed for use with [ethers.io](https://ethers.io/) and has since expanded into a more general-purpose library.
  + Backend
    1. NodeJS
       1. Node.js is an open-source server environment. Node.js is cross-platform and runs on Windows, Linux, Unix, Mac OS, etc. Node.js is a back-end JavaScript runtime environment. Node.js runs on a JavaScript Engine and executes JavaScript code outside a web browser.
    2. ExpressJS
       1. Express.js, or simply Express, is a back-end web application framework for building RESTful APIs with Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs. It has been called the de facto standard server framework for Node.js.
    3. MongoDB
       1. MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas. MongoDB is developed by MongoDB Inc. and licensed under the Server-Side Public License which is deemed non-free by several distributions.
  + Solidity
    1. Solidity is an object-oriented programming language for implementing smart contracts on various blockchain platforms, most notably, Ethereum. It was developed by Christian Reitwiessner, Alex Beregszaszi, and several former Ethereum core contributors. Programs in Solidity run on Ethereum Virtual Machine.
  + Ethereum
    1. A "smart contract" is simply **a program that runs on the Ethereum blockchain**. It's a collection of code (its functions) and data (its state) that resides at a specific address on the Ethereum blockchain. Smart contracts are a type of Ethereum account. This means they have a balance and can be the target of transactions.
  + Hardhat

1. Hardhat is the best choice for Solidity debugging. You get Solidity stack traces, console.log and explicit error messages when transactions fail. Easily deploy your contracts, run tests and debug Solidity code without dealing with live environments. Hardhat Network is a local Ethereum network designed for development.
   * MetaMask
     1. MetaMask is a software cryptocurrency wallet used to interact with the Ethereum blockchain. It allows users to access their Ethereum wallet through a browser extension or mobile app, which can then be used to interact with decentralized applications.

**DIAGRAMS**

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**CONCLUSION**

Therefore, sticking to our main goal we have planned to make a web**3 music platform** that makes the creator and user an **ad-free platform**. Any music artist can mint their fabulous art on the platform and showcase it to the world with any intervention of Music Studio.

The main objective to create this D-App is that artists don’t get the amount, importance, and fame that they deserve. A huge amount is slashed by big music firms like T-Series, Sony Music, etc.

By this Creator become the owner of their work and also any User can buy the music to make to it exclusive in exchange of pay to the owner.

**REFERENCES**

1. Boris Kiselev, Vyacheslav Yakutenko, An Overview of Massive Open Online Course Platforms: Personalization and Semantic Web Technologies and Standards, Procedia Computer Science, Volume 169, 2020, Pages 373-379, ISSN 1877-0509, <https://doi.org/10.1016/j.procs.2020.02.232>
2. [Flavian, C.](https://www.emerald.com/insight/search?q=Carlos%20Flavian), [Gurrea, R.](https://www.emerald.com/insight/search?q=Raquel%20Gurrea) and [Orús, C.](https://www.emerald.com/insight/search?q=Carlos%20Or%C3%BAs) (2009), "Web design: a key factor for the website success", [*Journal of Systems and Information Technology*](https://www.emerald.com/insight/publication/issn/1328-7265), Vol. 11 No. 2, pp. 168-184. <https://doi.org/10.1108/13287260910955129>
3. Kumari, Punam, and Rainu Nandal. "A Research Paper OnWebsite Development Optimization Using Xampp/PHP." *International Journal of Advanced Research in Computer Science* 8.5 (2017).
4. Ikkala, Esko et al. ‘Sampo-UI: A Full Stack JavaScript Framework for Developing Semantic Portal User Interfaces’. 1 Jan. 2022 : 69 – 84.
5. Saundariya, K. et al. “Webapp Service for Booking Handyman Using Mongodb, Express JS, React JS, Node JS.” 2021 3rd International Conference on Signal Processing and Communication (ICPSC) (2021): 180-183.
6. N. Alnuaimi, A. Almemari, M. Madine, K. Salah, H. A. Breiki and R. Jayaraman, "NFT Certificates and Proof of Delivery for Fine Jewelry and Gemstones," in IEEE Access, vol. 10, pp. 101263-101275, 2022, doi: 10.1109/ACCESS.2022.3208698.
7. M. N. M. Bhutta et al., "A Survey on Blockchain Technology: Evolution, Architecture and Security," in IEEE Access, vol. 9, pp. 61048-61073, 2021, doi: 10.1109/ACCESS.2021.3072849.