

Lab 1 - Outline

CS410 - Spring 2022

Art Guardian - Team Blue

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1. Introduction

1.1. Societal Problem

- 1.1.1. Artists are having their digital art stolen and minted as NFTs
- 1.1.2. Constant increase in reported digital art theft
- 1.1.3. Lack of regulation concerning whose art is being minted
- 1.1.4. No automatic process of finding stolen art on NFT marketplaces
- 1.1.5. Drastic increase in the NFT market
- 1.1.6. Tedious DMCA takedown process

1.2. Solution - Art Guardian

- 1.2.1. Progressive web application
- 1.2.2. Automated system to detect stolen art being sold as an NFT
- 1.2.3. Eases DMCA takedown process for artists

2. Product Description

2.1. Key Product Features and Capabilities

- 2.1.1. Original art uploaded to the database
- 2.1.2. Automatic detection of stolen art as NFTs
- 2.1.3. Pre-filled DMCA takedown requests
- 2.1.4. Monitor ongoing DMCA takedown requests
- 2.1.5. Mobile and Web application

2.2. Major Functional Components (Hardware/Software)

2.2.1. Hardware

- 2.2.1.1. Web Server
- 2.2.1.2. Database Server
- 2.2.1.3. Mobile Device
- 2.2.1.4. Desktop Computer

2.2.2. Software

- 2.2.2.1. Git
- 2.2.2.2. AWS
- 2.2.2.3. Opencv
- 2.2.2.4. NFTPPort
- 2.2.2.5. Email API
- 2.2.2.6. ID verification API
- 2.2.2.7. Web Application
 - 2.2.2.7.1. JavaScript
 - 2.2.2.7.2. HTML
 - 2.2.2.7.3. CSS
- 2.2.2.8. Mobile Application
 - 2.2.2.8.1. JavaScript
 - 2.2.2.8.2. React Native

2.2.3. Database

- 2.2.3.1. Amazon RDS
- 2.2.3.2. MySQL

3. Identification of Case Study

3.1. Who this product is for

- 3.1.1. Commissioned artists
 - 3.1.2. Digital artists
- 3.2. What this product will be used for
 - 3.2.1. Automatically find stolen art on NFT marketplaces
 - 3.2.2. Easily send DMCA takedown requests to remove stolen art with artist verification
 - 3.2.3. Protect digital art from being sold on NFT marketplaces without original artist's permission

4. Product Prototype Description

- 4.1. Architecture (Hardware/Software)
- 4.2. Features and Capabilities
- 4.3. Development Challenges

5. Glossary

- 5.1. Art Platform - A website in which users can post their digital art
- 5.2. Blockchain - An immutable ledger that anyone can validate
- 5.3. DMCA (Digital Millennium Copyright Act) Takedown - A request sent by the owner of the copyrighted content to remove the infringing content from the internet or platform
- 5.4. Minting - The process in which the files become part of the blockchain
- 5.5. NFT Marketplace - An online platform in which NFTs are minted, sold, and collected
- 5.6. NFT - Non Fungible Token
 - 5.6.1. Non-fungible - Unique, indivisible, and irreplaceable
 - 5.6.2. NFTs are a certificate of ownership stored on a blockchain that links to a file

6. References

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