**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.  NFTPort

        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.  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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