NFT Art Theft Tracker (name subject to change)

Team Blue

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Biography

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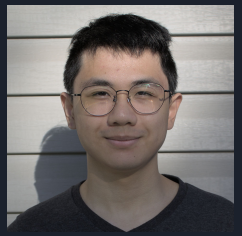

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What are NFTs?

- NFT stands for Non Fungible Token.
  - Non-fungible means unique, indivisible, and irreplaceable.[1]
- NFTs are a certificate of ownership stored on a blockchain that links to a file.[2]
- **At its core, a blockchain is an immutable ledger that anyone can validate.** [3]
- NFT minting refers to the process in which the files become part of the blockchain.[4]

A Growing Problem

- Artists suddenly saw the number of art thefts explode from single digits to hundreds to thousands in early 2021.[7]
- Deviantart reported 90,000 possible thefts of digital art in the middle of December, 2021, with the number increasing 300% since November, 2021.[5]
- Vn-Parco reported that roughly 50% of NFT sales were over $200 in 2022.[6]
    - Vn-Parco also reported that “The average cost of minting and selling an NFT is between $70 and $120 but can go up in the thousands”[5]

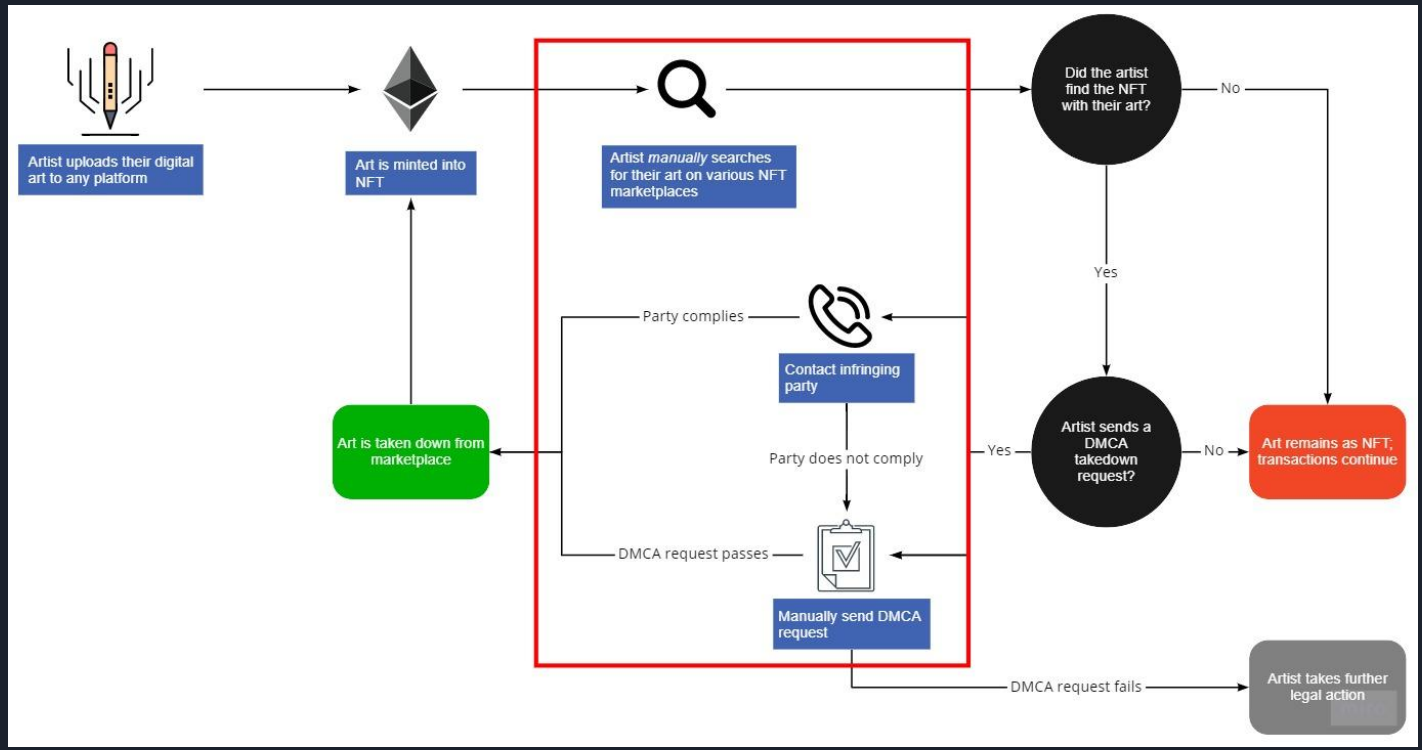
Problem Characteristics

- Artists are having their art minted as NFTs without permission.
- DMCAs are the mechanism for taking down NFTs from the Marketplace, but the process is cumbersome.
    - DMCAs refer to legal takedown notices that aim to remove digitally-uploaded material which infringes copyright.
        - Takedown refers to the DMCA legal takedown.

Problem Statement

Digital artists lack an automated system that artists can use to detect if their art has been minted on NFT Marketplaces without their permission and prevent future sale of their art by having it taken down from those marketplaces.

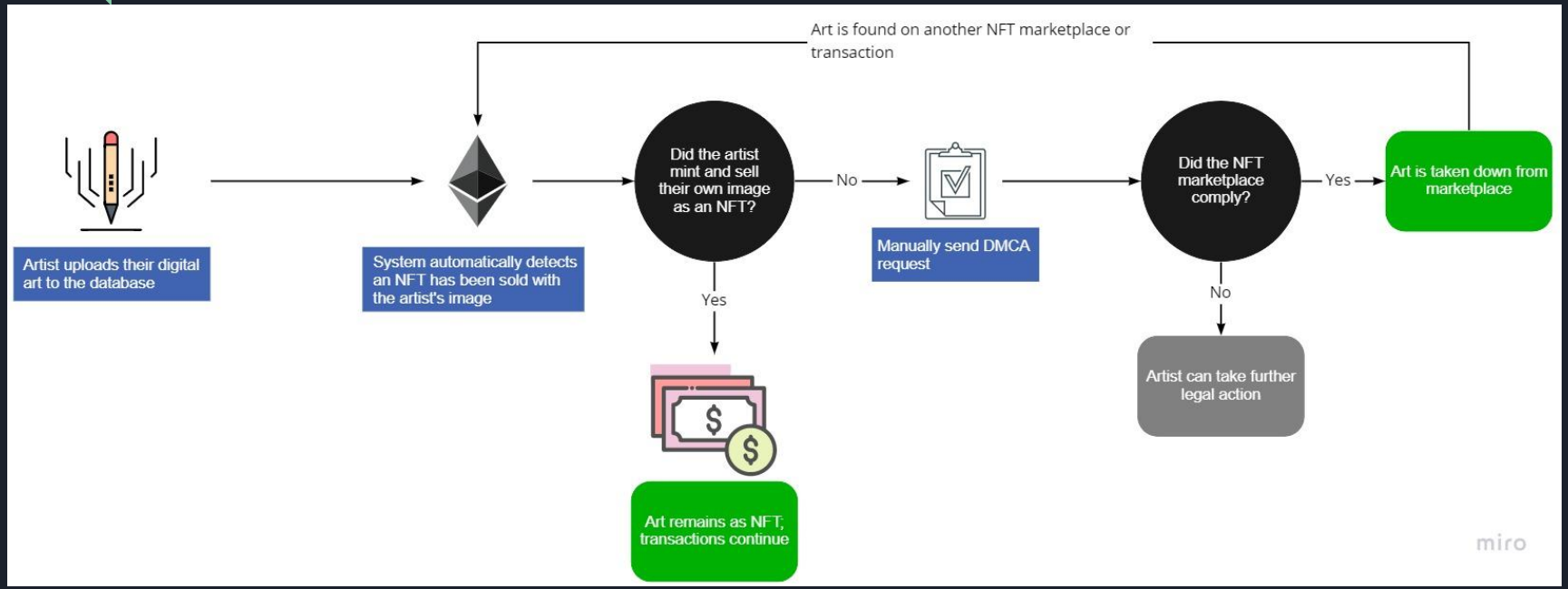
Current Process Flow



Solution Statement

NFT Art Theft Tracker will provide an automated system for artists that will detect and take down stolen art that has been minted as an NFTs.

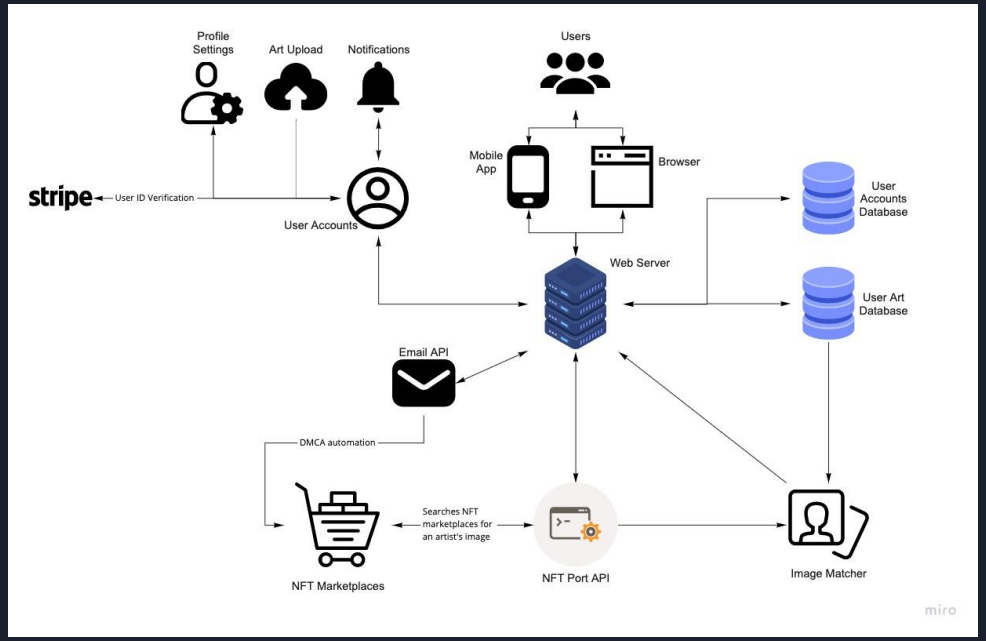
Solution Process Flow



Solution Characteristics

- Progressive Web App where artists upload their art into the database
- Alerts users when stolen art is found on a marketplace
- Automatically fills out and sends DMCA Claims which the user signs
- Keeps track of copyright claims:
  - What was being claimed (art and NFT),
  - When the claim was made,
  - Who the claim was made against (market place and user),
  - And if the DMCA takedown was successful

Major Functional Component Diagram



Technical Risk Matrix

		Impact				
		Very Low	Low	Medium	High	Very High
Probability	Very High					
	High					
	Medium		T-2	T-1		
	Low					
	Very Low				T-4	T-3

Technical Risks

- T-1: Users Art not matched with scraped art
- T-2: Market does not comply with copyright strike.
- T-3: Artist ID not correctly verified.
- T-4: System DMCAs wrong art

Technical Risk Mitigation:

- T-1: User approves art is theirs before sending DMCA
- T-2: Flag if art pops up on the market place again and follow elevation protocol.
- T-3: Verify Information and make corrections
- T-4: Final Verification Check

Customer Risk Matrix

		Impact				
		Very Low	Low	Medium	High	Very High
Probability	Very High					
	High					
	Medium		C-3		C-1	C-2
	Low					
	Very Low					

Customer Risks

- C-1: Users could abuse the system by uploading art that is not theirs.
- C-2: Users falsely approve/deny takedown notifications
- C-3: Customer doesn't know how to use program

Customer Risk Mitigation

- C-1: 2 factor authentication and linking art accounts.
- C-2: Users must manually approve that the art is theirs first, further abuse results in strikes and later bans.
- C-3: Users engage in tutorial when first starting, tutorial available at any time.

Security Risk Matrix

		Impact				
		Very Low	Low	Medium	High	Very High
Probability	Very High	S-3				
	High					
	Medium					
	Low		S-1			S-2
	Very Low					

Security Risks

- S-1: Hacker gains access to a user account
- S-2: Accidental Information Leaks by system
- S-3: User loses password

Security Risk Mitigation:

- S-1:Two Factor Authentication for Login
- S-2: Encrypt all user personal data.
- S-3: Password reset

Competition Matrix

Competition				
Features		Deviant Art Protect	Reverse Image Search Engines	NFT Art Tracker
	Add Images to Library		✓	✓
	Art Tracking	✓		✓
	Minting Alert	✓		✓
	Auto DMCA Claim			✓
	DMCA Tracking			✓
	Art Whitelisting			✓

Customers, Stakeholders, and Users

Artists (User and Customer): Upload art onto the app, verify theft alert, and E-sign takedowns

Art Platforms (Customer and Stakeholder): Have art on their platform tracked and help artists perform a takedown.

NFT Marketplaces (Stakeholder): Marketplace users have more faith that their NFT is not stolen art.

Benefits

- Give artists more power to track their art
- Simplify the DMCA process for artists
- Help platforms track art posted to their websites

Conclusion

- NFT Art Tracker works to implement existing technologies to track art.
- Localize tracking, DMCA takedowns, and DMCA documentation into one simple application
- Because the problem is new there is a large customer base

References

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