

NFT VXN

and VXN Lair.org

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“Promoting global female artistic empowerment and advancement through technology!”

Intro

Cryptocurrencies bull run of 2021 is a reflection of a growing adoption amongst institutions, high net worth and retail investors alike. As crypto awareness continues to grow, digital currencies are becoming a powerful store of wealth and a reliable alternative to fiat currencies. As blockchain evolution turns money digital, other assets such as art follow. Digital currencies and digital content coexist in the same ecosystem, deriving value from each other. As the pandemic focus shifts to crypto, it is having a transformative effect on the art market, reviving and bringing NFTs phenomena to a much broader audience.

As digital currencies are a storage of wealth, so are other digital assets such as owning the rights to artworks. An equivalent can be drawn from a collector owning a painting with a certificate of authenticity or a record company owning the rights to a particular song. These records of ownership are the proof of value in the work collected. In digital work, this record of ownership is where NFTs become most relevant.

NFTs have existed since the mid 2010s, gaining mainstream attention in 2017 with CryptoKitties and Decentraland. The platforms enabled one to own and raise a virtual cat,

CryptoKitty, or own a virtual landscape in Decentraland. These NFTs could then be resold at higher premiums similar to that of trading cards or real estate depending on the demand and rarity. From the rudimentary beginnings of a game like setting with virtual kitties and virtual land, NFTs have evolved into a lucrative real world market resolving the legal rights and conflict resolution of a creator and the owner of a creator's work.

What are NFTs?

NFT is a unit of data represented as a line of code in a digital registry, the Ethereum blockchain. Non-fungible cryptographic ERC- 721 token is an inheritable Solidity smart contract standard, meaning that developers can create new ERC-721-compliant contracts by importing them from the OpenZeppelin library. ERC-721 provides core methods that allow tracking the owner of a unique identifier, as well as a permissioned way for the owner to transfer the asset to others. Smart contracts that users interact with by calling them and then receiving proof of interaction (NFT) represents ownership of a unique item. They allow for tokenization of art, collectibles, real estate and beyond. They represent sole, indisputable ownership, the record of which is immutable, public and secured on Ethereum blockchain (no one can modify the record of ownership or copy/paste a new NFT into existence). Each NFT token has its own unique identifier code and metadata that is processed through a cryptographic hash function and distinguishes it from others. Owners can also add metadata or attributes pertaining to the asset in NFTs. Because NFTs are Ethereum-based, they are thus compatible with anything built using Ethereum.

Why NFTs?

Looking at the surge in a current cryptocurrencies market, there is no denying of existing correlation to the NFTs market popularity. The current market cap for Ethereum NFT (ERC-721) is \$338 million, which is projected to quadruple this year to 1.3 billion. The current sales data below seems to support this prediction. NBA Top Shot, a blockchain-based platform that allows fans to buy, sell and trade numbered versions of specific, officially-licensed video highlights, generated \$230 Million. Artist Beeple's Everydays: The First 5000 Days sold for \$69 million at Christie's auction. CryptoKitties, a blockchain game that allows players to purchase, breed and sell virtual cats, sold individual NFT at over \$300,000 each. Artist Krista Kim's virtual property, Mars House, sold for 500 ethers. CryptoPunks, a set of nine small pixel-art portraits out of a vault of 10,000 uniquely generated characters of people, zombies, and aliens, collectively sold for \$16.9 million at Christie's auction. Jack Dorsey first tweet "Just setting up my twtr" NTF sold for \$2.9 Million.

The data implies that NFT's worth is determined by what someone is willing to pay for it, which as in these examples, could be substantial if NFT is made by an established artist, celebrity or athlete and the buyer is a willing and wealthy collector. The main appeal of NFTs for artists is that they allow for more control and power over their work in the global market. NFTs allow artists to retain creator's rights over their own work as well establish universal royalties standard, including embedded royalties for continuous payment upon resale. They establish a verification of ownership (similar to deed or certificate of authenticity). The current non-fungible tokens utility emphasizes the increasing importance and value of digital content.

Women in Art

Throughout history and into the present women have been dramatically underrepresented and undervalued in museums, galleries, and auction houses. Examining the top sales of NFTs, it is evident that female artists are marginalized. While most NFT marketplaces give artists equal and direct access to collectors, most artists making the biggest sales are predominantly male. This isn't surprising given the following statistics. There are no women in the top 0.03% of the auction market, where 41% of the profit is concentrated. Of the artworks sold at auction 96% are by male artists. Of over 3,000 galleries in the Artsy database, 10% represent not a single woman artist, while only 8% represent more women than men and almost half represent 25% or fewer women. Just 11% of all acquisitions and 14% of exhibitions at 26 prominent U.S. museums over the past decade were of work by female artists. While women earn 70% of Bachelor of Fine Arts and 65–75% of Master of Fine Arts degrees in the U.S., only 46% of working artists (across all arts disciplines) are women. In the digital realm, women make up only about 15% of crypto users. Given these statistics, my partner and I felt that there is a need for a sole female representation and female empowerment in the art in the NFTs market. We present to you the NFT VXN.

NFT VXN Mission

NFT VXN's mission is to promote global female artistic empowerment and advancement through technology. It is an online gallery and sales platform for female artists and designers to sell their one of a kind art and design works, in digital or tangible form at either an auction or set price through NFTs. Artist royalties, determined by the artist, will be embedded into the NFT guaranteeing that the artist is rewarded for her work at every resale. Every NFT purchase will be made in ether. NFT VXN will take a modest 4% purchase fee- 3% will go to cover the operations and 1% will be converted into VXN native ERC-20 token in order to help fund our VXN Lair Foundation. The purpose of the VXN Lair is to fund art-through-tech education, curatorial and residency programs, as well as grants and collaborations for female artists globally. With both NFT VXN and NFT Lair we aim to help transform female artist lives by exposure to a new crypto-audience, increase their sales, and help them earn the deserved recognition across the digital media-scape.

Crowdsale

Two months prior to the official launch of NFTVXN.com we will hold our native (ERC-20) VXN crowdsale. Its objective is to help fund the software development, marketing and advertising budgets, and cover operating costs. The duration of the sale will be 4 weeks and its initial offering will be at 20 cents per VXN token. The payment will be accepted in the form of ether. The outcome of the crowd sale will be indicative of public interest in the NFT VXN project, and will allow us to adjust our business model accordingly.



NFT VXN FLOW

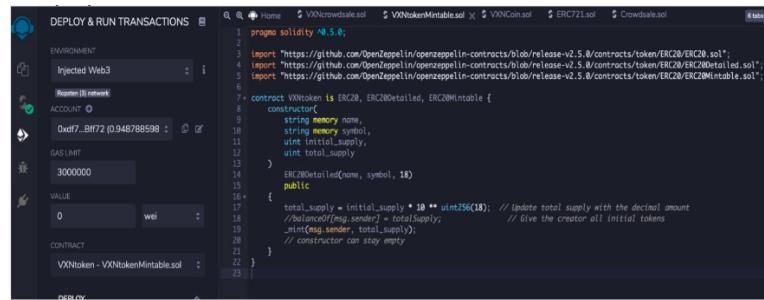
The flow of our NFT VXN is as follows- artist sets up her Metamask Google Chrome extension wallet and purchases some ether to cover the gas fees. Then she connects her Metamask to NFT VXN, uploads the image, video file, or gif of artwork along with relevant information such as name, title, date, description and royalties etc. and chooses “create” option which initializes the wallet. This process uploads the files and mints her NFT token. Afterwards she is asked to sign the sell order and once that's done the NFT is minted. She can then proceed to put it for sale by assigning her price and confirming its for sale status.

To win a bid or purchase NFT from NFT VXN is a simple, straightforward process. The buyer will also need to sign into their Metamask wallet and make sure there are sufficient funds to cover the transaction. Once the artwork and buy option is chosen, they will be taken to the checkout, where upon a successful transaction, they will be a proud owner of their unique NFT, which will also serve as a certificate of authenticity, creating an undisputed ownership. For the first few months post launch, our platform will offer a 500 VXN token bonus promotion to both the artist and the buyer for a purchase of 1 ether or greater.

Smart contracts will insure the direct and correct distribution of the sale and bonus proceeds. The NFT token will be stored on the blockchain, and the smart contract will contain an url which will tell where the actual data is stored on a system like IPFS. Blockchain uses InterPlanetary File System (IPFS) to confirm attribution of the artist who created the piece and ensure ownership. As opposed to a centrally located server, IPFS is built around a decentralized system of user-operators who hold a portion of the overall data. This creates a resilient system of file storage and sharing.

Tech End

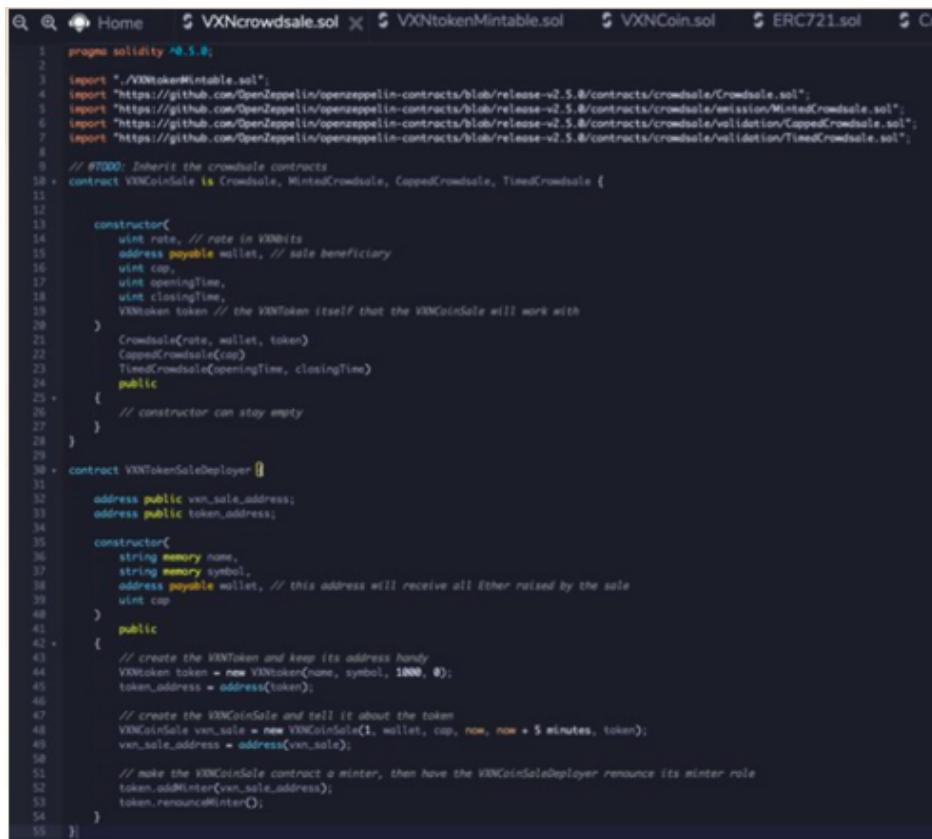
The image below is of our VXNtokenMintable.sol contract, which allows us create our VNX token and prepare it for crowdsale:



The screenshot shows the Remix IDE interface with the VXNtokenMintable.sol contract open. The code defines a constructor that inherits from ERC20Detailed and ERC20Mintable, setting initial supply and total supply, and mints tokens to the creator. The gas limit is set to 3000000 and the value to 0 wei.

```
pragma solidity >0.5.0;
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/token/ERC20/ERC20.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/token/ERC20/ERC20Detailed.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/token/ERC20/ERC20Mintable.sol";
contract VXNtoken is ERC20, ERC20Detailed, ERC20Mintable {
    constructor(string memory name, string memory symbol, uint initialSupply, uint totalSupply) ERC20Detailed(name, symbol, 18) public {
        totalSupply = initialSupply * 10 ** uint256(18); // Update total supply with the decimal amount
        _balances[msg.sender] = totalSupply; // Give the creator all initial tokens
        _mint(msg.sender, totalSupply);
    }
}
```

The image below is our VXNcrowdsale.sol contract, which will help fund the project development. This crowdsale contract will manage the entire process, allowing users to buy VNX coins using eth. This contract will mint the tokens automatically and distribute them to buyers in one transaction.



The screenshot shows the Remix IDE interface with the VXNcrowdsale.sol contract open. It inherits from Crowdsale, MintedCrowdsale, CappedCrowdsale, and TimedCrowdsale. It has a constructor that takes rate, wallet, beneficiary, cap, openingTime, closingTime, and token. It also has a constructor for the VXNtokenSaleDeployer, which creates the token and sets its address. Finally, it creates the VXNcoinSale and sets its minter role to the token's resourceMinter.

```
pragma solidity >0.5.0;
import "./VXNtokenMintable.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/crowdsale/Crowdsale.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/crowdsale/EmissionMintedCrowdsale.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/crowdsale/validation/CappedCrowdsale.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/crowdsale/validation/TimedCrowdsale.sol";
// #PICK: Inherit the crowdsale contracts
contract VXNcoinSale is Crowdsale, MintedCrowdsale, CappedCrowdsale, TimedCrowdsale {
    constructor(
        uint rate, // rate in VNXbits
        address payable wallet, // sale beneficiary
        uint cap,
        uint openingTime,
        uint closingTime,
        VXNtoken token // the VXNtoken itself that the VXNcoinSale will work with
    ) Crowdsale(rate, wallet, token)
        CappedCrowdsale(cap)
        TimedCrowdsale(openingTime, closingTime)
    public
    {
        // constructor can stay empty
    }
}
contract VXNtokenSaleDeployer {
    address public vxn_sale_address;
    address public token_address;
    constructor(
        string memory name,
        string memory symbol,
        address payable wallet, // this address will receive all Ether raised by the sale
        uint cap
    ) public
    {
        // create the VXNtoken and keep its address handy
        VXNtoken token = new VXNtoken(name, symbol, 1000, 0);
        token_address = address(token);
        // create the VXNcoinSale and tell it about the token
        VXNcoinSale vxn_sale = new VXNcoinSale(1, wallet, cap, now, now + 5 minutes, token);
        vxn_sale_address = address(vxn_sale);
        // make the VXNcoinSale contract a minter, then have the VXNcoinSaleDeployer renounce its minter role
        token.addMinter(vxn_sale.address);
        token.resourceMinter();
    }
}
```

In the contract below, ERC721.sol we are creating our own NFT using ERC-721 OpenZeppelin contract. This contract requires us to apply knowledge of SafeMath Counters, Structs, and Events, and keep track of what token_id we are currently on starting from 0. In this contract 3% of eth from the sale go to NFT VXN operations, 1% gets converted to VXN token and goes directly to fund VXN Lair Foundation.

```

pragma solidity ^0.5.0;

import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/token/ERC721/ERC721Full.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v2.5.0/contracts/drafts/Counters.sol";

contract ArtRegistry is ERC721Full {
    constructor() ERC721Full("NFT1", "NFT") public {}

    using Counters for Counters.Counter;
    Counters.Counter token_ids;
    address payable vxn_lair_foundation = address(0x91cddaf29fd1de541d28af445e16a5a340848EDC);
    address payable vxn = address(0xd7253f7595E9e096001A60867fd0880c388ff72);

    struct Artwork {
        string name;
        string artist;
        string signature;
        uint appraisal_value;
    }

    mapping(uint => Artwork) public art_collection;
    event Appraisal(uint token_id, uint appraisal_value, string report_uri);

    function registerArtwork(address owner, string memory name, string memory artist, uint initial_value, string memory token_uri, string memory signature) public returns(uint) {
        token_ids.increment();
        uint token_id = token_ids.current();

        _mintOwner(token_id);
        _setTokenURI(token_id, token_uri);

        art_collection[token_id] = Artwork(name, artist, signature, initial_value);
        | vxn.transfer(initial_value * (3/100));
        vxn_lair_foundation.transfer(initial_value*(1/100));
    }

    function newAppraisal(uint token_id, uint new_value, string memory report_uri) public returns(uint) {
        art_collection[token_id].appraisal_value = new_value;
        emit Appraisal(token_id, new_value, report_uri);
        return art_collection[token_id].appraisal_value;
    }

    function safeTransferFrom(address from, address to, uint256 token_id) public {
        //solhint-disable-next-line max-line-length
        require(_isApprovedOrOwner(_msgSender(), token_id), "ERC721: transfer caller is not owner nor approved");
        uint amount = art_collection[token_id].appraisal_value / 25;
        address payable one = address(0xd7253f7595E9e096001A60867fd0880c388ff72);
        one.transfer(amount);
        _transferFrom(from, to, token_id);
    }
}

```

The Future of NFT VXN

In the future, NFT VXN will attain wider audiences by expanding to many different artistic discipline formats such as mp4s, als, mov, mlb etc. With time we hope to shift our platform into an exclusively curatorial realm, where we select the artists. Parallel to the growth of our online gallery platform we hope to develop our VXN Lair foundation to support and promote art-through-tech education, curatorial and residency programs, as well as grants and collaborations for female artists globally. Eventually, we hope to fund female creative startups, grow VXN token as asset class and help facilitate the first ever female digital art fair.

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