



# Columbia Attention Token

Team Two

# Our Team



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# Table of Contents

<b>01</b> <b>Executive Summary</b>	<b>02</b> <b>Data Collection</b>
<b>03</b> <b>Approach</b>	<b>04</b> <b>Results</b>
<b>04</b> <b>Conclusion</b>	<b>04</b> <b>Next Steps</b>



# Executive Summary

- ❖ Slack API to scrape user information and respective engagement/interaction
- ❖ Data is analyzed & passed through an NLP pipeline to assign tokens based on reward weighting
- ❖ Users are awarded a proportional number of tokens via airdrop transfer
- ❖ Users have the option to trade CAT tokens for NFTs by visiting our digital asset marketplace

# Data Collection

The analysis began with the downloading and collection of raw data files in the .json format from Slack channels of interest (01-live-mw, 02-ask-the-class, 03-resources, and fintech).

The raw data was parsed into folders according to the Slack channel of origin, then concatenated into a single DataFrame.

Data was then cleaned, wrangled, and grouped, with columns added based on scoring calculations.



# Data Analysis



Aqiuba Benarroch 1:08 PM

Trying to create a new branch and pushing it on github is giving me an error. Ideas on how to fix it pls?

image.png ▾

Macbook-Pro-4 Project-1- % git checkout -b viz\_aqiuba

new branch 'viz\_aqiuba'

Macbook-Pro-4 Project-1- % git push origin viz\_aqiuba  
git: password authentication was removed on August 13, 2021. Please use a personal access token  
see https://github.blog/2020-12-15-token-authentication-requirements-for-git-operations/ for

to access 'https://github.com/Moustaf4Bous/Project-1-.git/': The requested URL returned error:



1



3 replies Last reply 4 months ago

```
1 # Import the necessary libraries
2 import pandas as pd
3 import os
4
5 # Import the data
6 df = pd.read_csv('data.csv')
7
8 # Group the data by the user ID and create a new DataFrame from this action,
9 # then calculate the sum of the columns to get a count of the user's total interactions.
10 grouped_slack_df = df.groupby('user').sum()
11
12 # Use the grouped data to write the conditional statements that will construct the point system for the eventual token distribution.
13 grouped_slack_df['token_score'] = ((0 * grouped_slack_df['text_length']) + (20 * grouped_slack_df['reactions_count']) + (5 * grouped_slack_df['reactions_count']))
14
15 # Review DataFrame for new column
16 grouped_slack_df
```

```
main_folder_path = './slack_channels_data'
def parse_all_json(main_folder_path):
    slack_df = pd.DataFrame()
    # Iterate through the group of folders
    for folder in os.listdir(main_folder_path):
        folder_path = os.path.join(main_folder_path, folder)
        if os.path.isdir(folder_path):
            # Iterate through each individual folder
            for file in os.listdir(folder_path):
                file = os.path.join(main_folder_path, folder, file)
                # Add a channel name column and indicate which folder the value is coming from: 01_live, 02_ask_the_class, 03_resources, fintech
                if file.endswith('.json'):
                    slack_data = pd.read_json(file)
                    slack_data['channel_name'] = folder
                    slack_df = pd.concat([slack_df, slack_data])
    return slack_df
slack_data = parse_all_json('./slack_channels_data')
# Save to csv
slack_data.to_csv('slack_channels.csv', index=False)
```

	channel_name	user	real_name	text	text_length	reply_count	reply_users_count	replies_true
1	fintech	U023R2V74N	Julia Kim	two upcoming confer...	415	0	0	False
2	fintech	U023R2V74N	Julia Kim	also two free virtual e...	168	0	0	False
3	fintech	U023R2V74N	Julia Kim	the columbia center o...	170	0	0	False
4	fintech	U024R9Q40V	Shannon LJ	Y'all, free dy NFT da...	120	0	0	False
5	fintech	U024R9Q40V	Julia Min	Anyone interested in ...	206	0	0	False
6	fintech	U023R2V74N	Shannon LJ	https://medium.com/...	208	0	0	False
7	fintech	U023R2V74N	Julia Kim	https://www.fastcom...	66	0	0	False
8	fintech	U023R2V74N	Julia Kim	if you are intereste...	64	0	0	False
9	fintech	U023R2V74N	noname	Fintech Junction Sum...	107	0	0	False
10	fintech	U023R2V74N	Julia Kim	MoneyNext Open Ba...	159	0	0	False
11	fintech	U024R9Q40V	Julia Min	Been following this co...	777	7	2	True
12	fintech	U024R9Q40V	Julia Min	If anyone is intereste...	70	0	0	False
13	fintech	U025OPVSGBT	Shannon LJ	I am interested	16	0	0	False
14	fintech	U024R9Q40V	Julia Min	Couple of things I wa...	501	0	0	False
15	fintech	U024R9Q40V	Julia Min	I'll send you a link	21	0	0	False
16	fintech	U024R9Q40V	Julia Min	https://it.megaquantu...	57	0	0	False
17	fintech	U024R9Q40V	Julia Min	Claims are being mad...	128	0	0	False
18	fintech	U024R9Q40V	Julia Min	Hears their mother w...	75	0	0	False
19	fintech	U024R9Q40V	Julia Min	ETH compinging del...	229	0	0	False
20	fintech	U025E9F2NU	Tim Mercury	I could use a Piteco...	76	2	1	True
21	fintech	U025OPVSGBT	noname	I'm part of a Women's...	104	2	2	True
22	fintech	U024R9Q40V	Julia Min	Melli <mailto:Madru...	58	0	0	False

	user	text_length	reply_count	reply_users_count	replies_true	reactions_count	attachments_true
1	U023F2PICKZ	1822	88	62	5	28	23
2	U023Q7W923Q	5485	2	2	2	10	66
3	U023R2V74N	24685	13	11	5	45	164
4	U023T7W65JZ	19933	7	4	2	21	62
5	U024G9F8MB	72	0	0	0	1	2
6	U024XN9SCDM	12855	103	66	32	39	101
7	U024J4FLHMD	9278	3	3	2	18	64
8	U024J672SKB	1936	18	5	3	10	35
9	U024JN415AR	853	16	15	8	8	16
10	U024MNS46DM	443	3	2	2	2	12
11	U024QHZR86E	387	0	0	0	2	8
12	U024R294KHV	11657	97	62	31	50	128
13	U024SCV7Y1T	954	13	11	6	6	19
14	U024V7LLURZ	1034	36	22	8	10	19
15	U024WV7W6K	1086	2	2	1	3	10
16	U024WV555Q	3871	39	25	14	15	37
17	U024WVWUPQC	578	1	1	1	5	11
18	U024YXWFLUR	117	0	0	0	0	3
19	U024Z473WVK	106	3	3	2	3	5
20	U025G7XMSG	1276	29	5	2	4	21
21	U02536C3K3P	601	5	4	3	2	11
22	U0253GBHJHJ	297	2	2	1	2	4
23	U0253GKGTZ5	1746	9	6	3	7	15
24	U0253MG4Q5U	1795	22	14	7	9	19

	user	text_length	reply_count	reply_users_count	replies_true	reactions_count	attachments_true	reply_ratio	token_score
1	U023F2PICKZ	1822	88	62	5	28	23	1.419355	4527.870968
2	U023Q7W923Q	5485	2	2	2	10	66	1.000000	14540.000000
3	U023R2V74N	24685	13	11	5	45	164	1.018181	52981.368084
4	U023T7W65JZ	19933	7	4	2	21	62	0.750000	27381.000000
5	U024G9F8MB	73	0	0	0	1	2	0.000000	181.000000
6	U024XN9SCDM	12855	103	66	32	39	101	1.590006	28772.1212
7	U024J4FLHMD	9278	3	3	2	18	64	1.000000	2019.000000
8	U024J672SKB	1936	18	5	3	10	35	0.300000	5342.000000
9	U024JN415AR	853	16	15	8	8	15	1.066667	2259.333333
10	U024MNS46DM	443	3	2	2	2	12	1.500000	1436.000000
11	U024QHZR86E	387	0	0	0	2	8	0.000000	944.000000
12	U024R294KHV	11657	97	62	31	50	128	1.564516	28436.903226
13	U024SCV7Y1T	954	13	11	6	6	19	1.018181	2554.353636
14	U024V7LLURZ	1034	36	22	8	10	19	0.538461	2785.222222
15	U024WV7W6K	1086	2	2	1	3	10	0.000000	2687.000000
16	U024WV555Q	3871	39	25	14	15	37	1.590006	8869.000000
17	U024WVWUPQC	578	1	1	1	5	11	1.000000	1691.000000
18	U024YXWFLUR	117	0	0	0	0	3	0.000000	284.000000
19	U024Z473WVK	106	3	3	2	3	5	0.100000	827.000000
20	U025G7XMSG	1276	29	5	2	4	21	5.800000	4162.000000
21	U02536C3K3P	601	5	4	3	2	11	1.250000	1682.000000
22	U0253GBHJHJ	297	2	2	1	2	4	1.000000	884.000000
23	U0253GKGTZ5	1746	9	6	3	7	15	1.500000	4127.000000

# Token Scoring System (TSS) Breakdown

## Remember:

- the 'text\_length' column represents the total number of characters written in call posts by each user.
- the 'reply\_count' column represents the total number of replies each user has gotten on their posts.
- the 'reply\_users\_count' column represents the total number of other users who replied to a user's posts.
- the 'attachments\_true' column is a summed boolean representing the total number of times a post contained an attachment.
- the 'reactions\_count' column represents the total number of reactions each user contributed.

## Token Scoring System:

- each character the user has written is worth 2 points.
- each attachment a user has contributed is worth 20 points.
- the user's "reply ratio" is multiplied by 200 points.
- each reaction a user has contributed is worth 5 points.

```
# Use the grouped data to write the conditional statements that will construct the point system for the eventual token distribution.
```

```
grouped_slack_df['token_score'] = ((2 * grouped_slack_df['text_length']) + (20 * grouped_slack_df['attachments_true'])  
                                   + (200 * grouped_slack_df['reply_ratio']) + (5 * grouped_slack_df['reactions_count']))
```

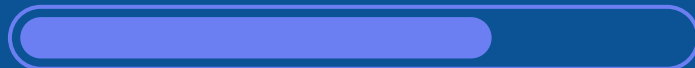
```
# Review DataFrame for new column  
grouped_slack_df
```



# Engagement Valuation for Token Score (TS)

## Comments

Reply\_ratio is given a weight of \*200



## Original Posts

Given a weight of  $2 * \text{text\_length}$



## Reactions

Reaction\_count is given a weight of \*5

## Attachments

Attachments and links given a weight of \*20



46

Slack channel members



Highest TS: 52,911

Lowest TS: 38

# CAT Token

**Initial Supply**

200,000

**Token symbol**

CAT

**Contract ETH**

0x0d17E774A1bbDF3d8eb2cB5d1a6BF  
64692E0FDfF



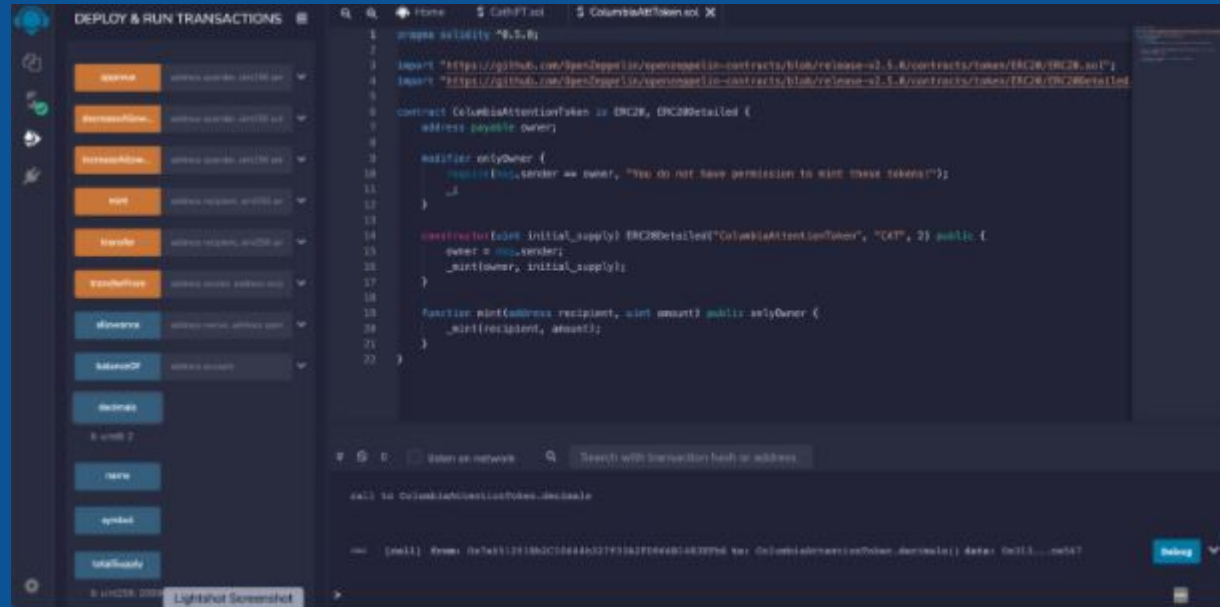
Columbia Attention Token (CAT) is an ERC20 token created to reward student engagement in Fintech Bootcamp.

CAT will be airdropped to slack participants with the highest engagement score to purchase 1 of 6 NFTs available on our NFT Marketplace

# CAT Token

Step 1: I deployed a simple ERC20 token on the Ethereum Ropsten Testnet

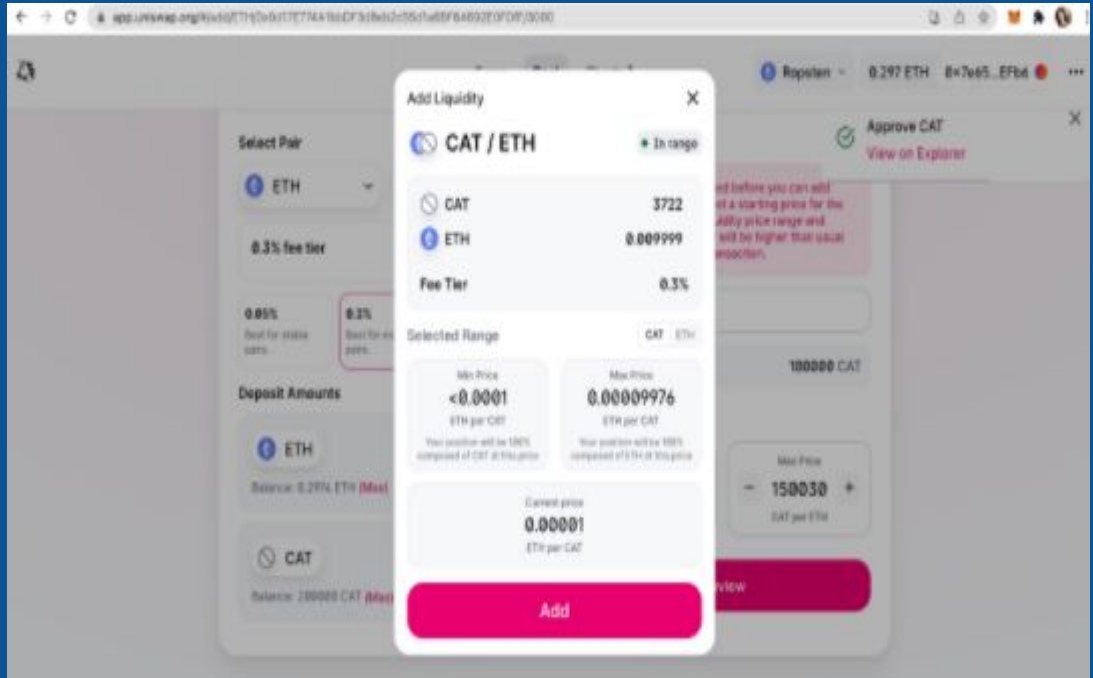
Supply is 200,000 CAT with all tokens minted and stored in my wallet until airdrop



# CAT Token Liquidity

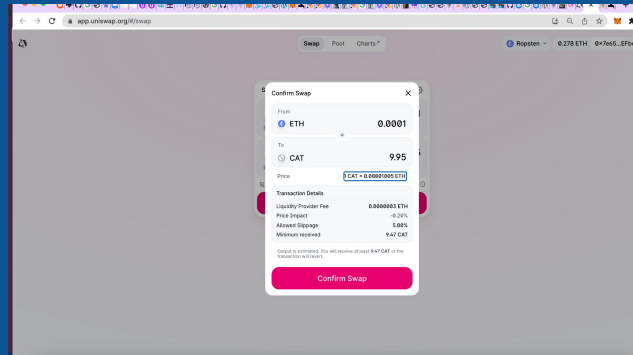
Step 2: I provided liquidity with a CAT-ETH pair on Uniswap v3 on the Ropsten Testnet

I needed 3722 CAT to create the CAT-ETH pool, which I later increased to 5710 per ETH to stabilize the pair

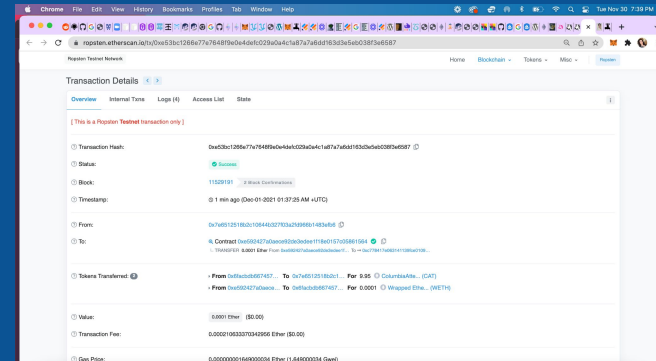


# CAT Token Trading

Step 3: I ensured that that CAT was tradable on the exchange with a value of 43899.6 CAT per 1 ETH. I did this so that CAT would not be too expensive to interact with

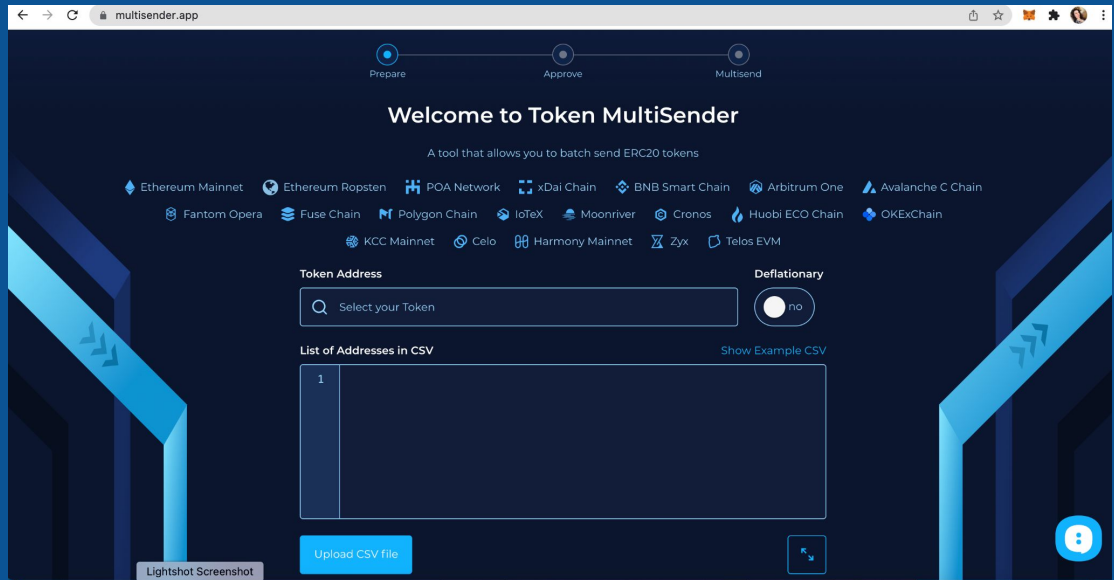


Step 4: I traded some ETH for CAT to be sure it was trading, and checked the initial transaction to be sure that it was approved on the Ropsten Etherscan



# Token Transfer

I initially wanted to code an airdrop app, but due to time limitations, I decided to use MultiSender app for the airdrops of CAT tokens to the 6 winners



# NFT Development

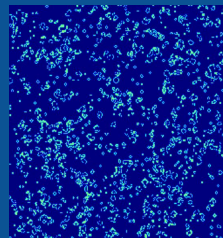
Conway Game of Life -  
Rules: Live Cell (LC), Live  
Neighbor (LN), Dead Cell  
(DC)

1. LC with less than 2 LN  
= Dead
2. LC with 2-3 LN lives on
3. LC 3+ LN = Dead
4. Dead cell with exactly  
3 LN = Born

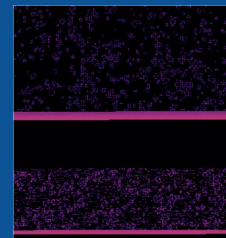


# NFT Development

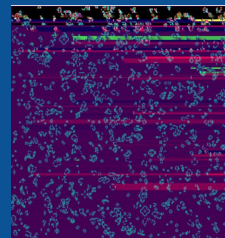
Data from slack was used to  
determine the matplotlib  
colormap!



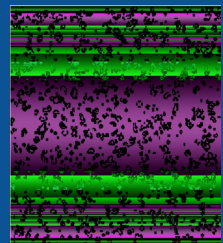
June



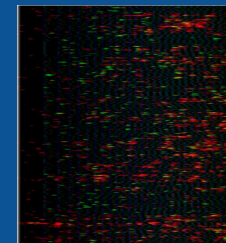
July



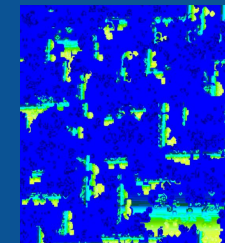
August



September



October



November



# NFT Contract

Digital asset contract, called NFT, inherits the ERC721 & the ERC721 URI Storage OpenZeppelin implementations.

Utilizes the Counters utility to gain access to the NFT unique identifier & modify it each time the createToken function is called

## Contract Address

0x32ADcCb813F2BA0Ef698ef0F39416Ec380987e4F

```
contract NFT is ERC721URIStorage {
    using Counters for Counters.Counter;
    Counters.Counter private _tokenIds;
    address contractAddress;

    constructor(address marketplaceAddress) ERC721("Columbia Attention Token NFT Shop", "CAT") {
        contractAddress = marketplaceAddress;
    }

    function createToken(string memory tokenURI) public returns (uint) {
        _tokenIds.increment();
        uint256 newItemId = _tokenIds.current();

        _mint(msg.sender, newItemId);
        _setTokenURI(newItemId, tokenURI);
        setApprovalForAll(contractAddress, true);
        return newItemId;
    }
}
```

# Digital Asset Marketplace

## Contract Address

0x632220Fc8214C640dC938912AB96841c5C8ed35  
8

The Digital Asset Marketplace contract, called NFTMarket, inherits the ReentrancyGuard implementation from OpenZeppelin which prevent against reentry attacks.

It allows the user to list a digital asset for sale, it creates a unique market item ID for each asset for sale, after purchase, the asset transfers ownership

# NFT Marketplace Front End

I used a wordpress plug in that interacted flawlessly with Woocommerce marketplace on Wordpress

<https://wordpress.org/plugins/ethereumico/>

This plug in allows for any woocommerce product to be paid for using any ERC20 as long as liquidity is provided on an exchange like Uniswap. Both Uniswap and the plugin support the Ropsten Testnet

The plug in automatically interacts with the Web3 blockchain via Infura, allowing a seamless bridge from Web2 to Web3. A customer can simply click to pay with CAT and Metamask automatically launches for the confirmations

# Woocommerce Plugin

Columbia Attention NFT Marketplace

New

Caching

Insights

WPForms

Need help?

Howdy, juliamilin

Creative Mail

Feedback

WooCommerce

Home

Orders

Creative Mail

Customers

Reports

Settings

Affiliation

Contact Us

Support Forum

Upgrade

Status

Marketplace

My Subscriptions

Products

Analytics

Marketing

WPForms

Appearance

Plugins

Users

Payments

Inbox

Finish set

Enable / disable

☒ Enable payment with Ether or ERC20 tokens

Basic settings

Enable debug mode

☐ Enable only if you are diagnosing problems.

Log interactions inside `/home4/yvmmfcmj/public_html/wp-content/uploads/wc-logs/ether-and-erc20-tokens-woocommerce-payment-gateway-2021-12-01-d05fdae0b17b11af901c971e893e4b50.log`

Title

Pay with CATCoin

This controls the name of the payment option that the user sees during checkout.

Payment details

Your ethereum address

0x7e6512518b2C10644b327f03A2FD966B1483EFb6

The ethereum address payment should be sent to. Make sure to use one address per one online store. Do not use one address for two or more stores! Also, make sure to use a ERC20 tokens compatible wallet if you are planning to accept it!

Supported ERC20 tokens list

Add Token

Search:

Symbol	Address	Rate Source	Rate	Currency	Markup, %	Decimals	Remove
CAT	0x0d17E774A1bbDF3d8eb2cB5d1a6BF64692E0FDf	Fixed	0.00000993612	ETH	0	2	Remove

# NFT Marketplace

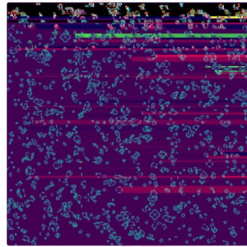
## Columbia Attention Token NFT Shop

### Pay With CAT Token

Once you have finished your transaction with CAT, we will send your NTF to the wallet provided

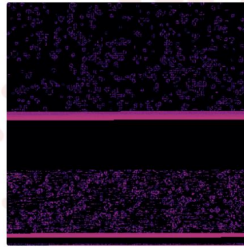
Default sorting ▼

Showing all 6 results



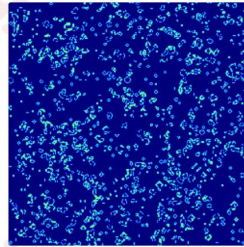
August  
\$705.00

[Read more](#)



July  
\$705.00

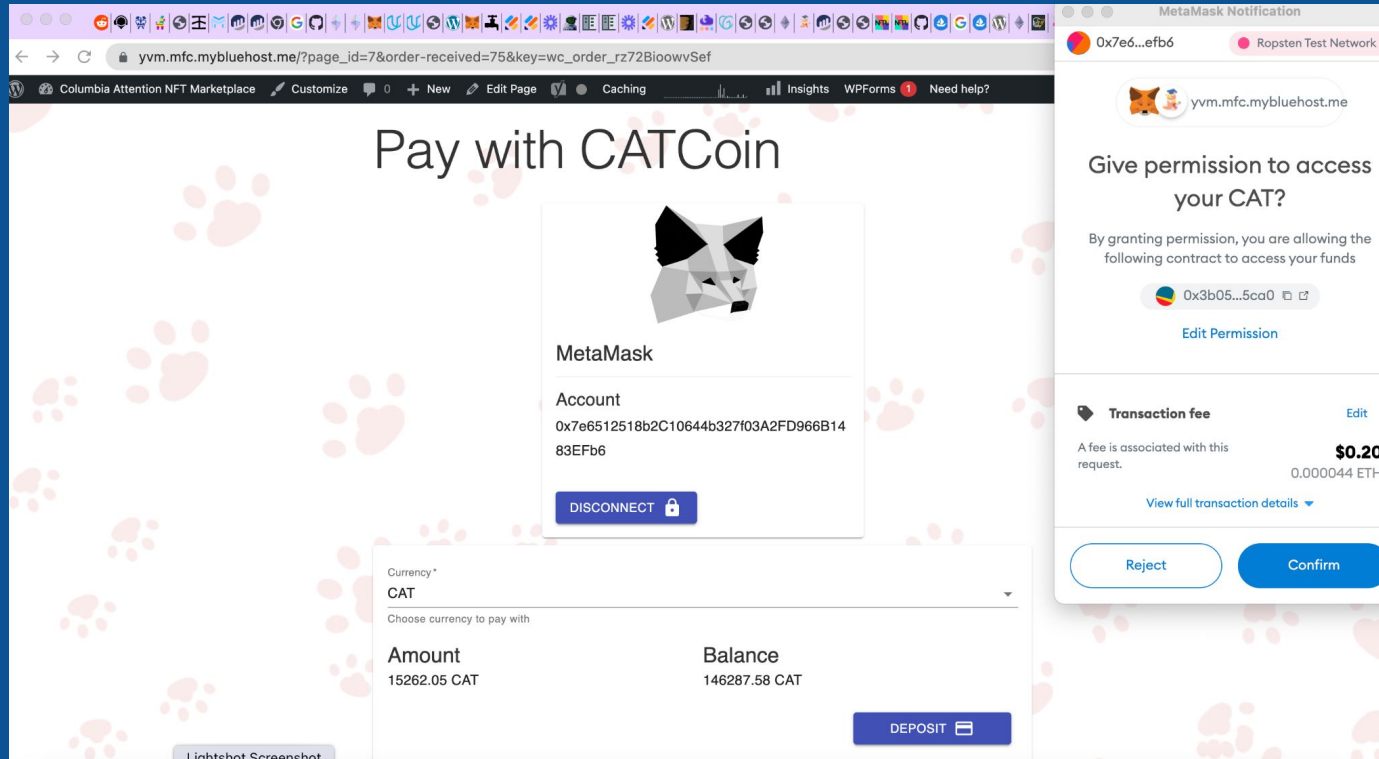
[Add to cart](#)



June  
\$705.00

[Add to cart](#)

# NFT Marketplace



# Trading

Acquire digital asset using CAT Tokens

- ❖ Go to marketplace
- ❖ Select NFT
- ❖ Add to Cart
- ❖ Enter billing information & select pay with CAT coin option
- ❖ Connect to Metamask
- ❖ Accept to buy



# Conclusion

We realize that there is a great interest in NFTs and Web3 marketplaces. The importance is not just for digital art, but for sensitive documents like property deeds, medica



# Next Steps

- ❖
- ❖ Full Stack NFT Marketplace Development
- ❖ Code a Front End using React
- ❖ Get 100% on Web3 using a blockchain based NFT market
- ❖ Code multiple account airdrops with weighted amounts
- ❖ Code an Airdrop App to airdrop tokens to multiple accounts

# Appendix

Github Repository: <https://github.com/Columbia-Attention-Token/beta-testing.git>

Marketplace: <https://yvm.mfc.mybluehost.me/>

CAT Contract: 0x0d17E774A1bbDF3d8eb2cB5d1a6BF64692E0FDfF

Ropsten Test Faucet: <https://faucet.ropsten.be/>

MultiSender App: <https://multisender.app/>