Portal To Blockchain Organization Technologies (PTBO TECH)
11 November 2022

CryptoCount 0.3.0 Version Series

Contents:

PRODUCT URL: https://CryptoCount.co

Sample addresses for platform exploration:

Foundation Bakers:

tz3UoffC7FG7zfpmvmjUmUeAaHvzdcUvAj6r, tz3RDC3Jdn4j15J7bBHZd29EUee9gVB1CxD9, tz3NExpXn9aPNZPorRE4SdjJ2RGrfbJgMAaV

Bakers:

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Delegators:

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Introduction

CryptoCount is *the* crypto asset tax aggregator built for evaluating taxable income of a user's crypto activity. CryptoCount 0.3.0 delivers consolidated tax payments, on chain, to Revenue Service entities.

Who We Are

We are technical operators acting in the interests of the Tezos community, the Tezos Foundation, and jurisdiction Revenue Service authorities. Our mission is to advance and empower Tezos users to understand and easily comply with their countries' internal revenue laws. Our overarching goal is to advance the Tezos Ecosystem's position as the safest, best organized, and the most stable blockchain ecosystem in Web3 by seamlessly integrating it into Regulatory Oversight.

What we're doing

CryptoCount 0.3.0 aims to deliver users Fair Market Value (FMV) assessments of both their native block rewards and their DeFi and Dapp project participation rewards. Additionally, CryptoCount 0.3.0 aims to deliver users the ability to observe their Capital Gains from sales of Tezos to fiat currency. Congruently, CryptoCount 0.3.0 aims to deliver users the ability to mockup their capital gains from Tezos-based assets, like non-fungible tokens (NFTs) and other Tezos based tokens.

In addition to assessments, CryptoCount 0.3.0 aims to consolidate tax payments into smart contracts of USDtz. The smart contracts will await collection from Revenue Service entities.

CryptoCount 0.3.0 will deliver more power to the user and to Revenue Service authorities. This will be done by giving the user access to go back through previous realizations, group up assets for realizations, view hypothetical capital gain realizations, publish consolidated USDtz tax payment smart contracts, and much more.

Stakeholder and User Overview

Stakeholders:

The Tezos Community, the Tezos Foundation, Jurisdiction Revenue Service Collection Authorities.

Current User Groups:

CryptoCount 0.2.2 is built for delegators, bakers, and prospective Tezonians.

Proposed User Groups:

CryptoCount 0.3.0 adds users:

- Tezos DeFi project users/participants,
- Token asset users/holders (like NFTs),
- Native Tezos users/holders.
- Jurisdiction Revenue Service Collection Authorities

Current Behaviors

Track Native Block Rewards - Delegators And Bakers

Native block rewards are rendered in the chart of the analysis page. The user can hover over the bar chart to observe an individual entry's values. During the first render, all rewards are displayed as unrealized.

Realize Native Rewards By FIFO Accounting Method

A delegator or baker can realize native block rewards by the FIFO accounting method. The user can Select or Enter any amount less than or equal to the sum of unrealized native rewards. The user then selects generate and the quantity is mocked up as realized. The results are displayed in the Income Station and are reflected in the accounting entries' Chart.

Get Income Value From 3 Accounting Sets

A delegator or baker can view their income from one of three accounting sets. These sets are: the Fair Market Value (FMV) of their rewards (rewards times the price of Tez on the day they were received), the FMV plus the depletion of value to the reward asset caused by the expanding supply of Tez, and lastly, the FMV plus dilution of value to the reward asset caused by the fluctuation of the volume of Tezos traded.

These accounting sets were derived from literature by Abraham Sutherland and Mattia Landoni. The work can be found at https://cryptocount.co/About.

Save Realizations

The user can save their mocked up realization. They can select the save button at the bottom of the analysis page. The user can also copy the SetId of the accounting set they saved and paste in the enter page when they return to CryptoCount, or, they can create an account. Creating an account associates the set in Analysis with the user.

Users can view their saved accounting sets at any time by either pasting in the set's SetId in the Enter page or by signing in and selecting Histories. The Histories page displays all of a users' accounting sets. The user can view one of their accounting sets, or they can delete their accounting sets. When a user views an accounting set by either selecting it in their Histories page, or pasting its Id in the enter page, CryptoCount automatically updates the accounting set with its latest reward accounting entries.

Download Statement

A user can download a pdf statement summarizing their realization. To do this, the user selects the Download button after making a realization. The user can send this file easily to revenue service authorities or move it into record keeping for themselves.

Proposed Behaviors

Track Positive Transactions, Negative Transactions, And Assets

The positive transactions, negative transactions, and assets will be located on a new page embedded as a sub page in “Analysis” titled “Capital Gains”. The user will be able to access “Capital Gains” inside the “Analysis” tab by toggling it at the top of Analysis.

Within the “Capital Gains” page, the user will be able to track positive and negative transactions they have performed. These operations will be displayed in two interactable tables.

The first table is positive Tez transactions, which includes sales of tokens for Tez, direct deposit/receipt of Tez, and all other *non-reward* positive Tez transactions to the user’s address.

The second table is negative Tez transactions, which includes purchases of Tezos based Tokens, direct sends or sales of Tez, and purchases of assets via Tez.

A pie chart will be below the transaction tables and represent the user’s current holding position of Tez and Tezos based tokens. The scale of the values of the pie chart will be relative to the current value of Tez and Tezos based tokens assessed at the current day’s exchange rates of the assets in the user’s selected fiat.

Alongside the pie chart will be a table listing the user’s owned assets. The table will display when an asset was purchased, how much the asset was purchased for, and links to go interact with the asset.

Calculate Capital Gain Assessments By Positive and Negative Transactions

The user will be able to select pairs of their negative and positive transactions, select “Calculate”, and CryptoCount will calculate their capital gain.The calculated capital gains’ metrics will be displayed below the transaction tables, the pie chart, and the listed assets.

To get to that point, the user will first select the Capital Gains button. The system will tell the user they have to first select a single or group of negative transactions. The user will then select entries from the negative transactions table. The selected entries will then highlight themselves indicating their status as one of the required pairs of the capital gain calculation.

Once the user has done this, the quantity of Tez selected from the negative tables will be rendered in between the positive and negative tables. The quantity will be titled “Fill Quantity” and the user will then be instructed to deplete the “Fill Quantity” by selecting positive transactions from the positive transactions table.

Once the user has selected enough positive transactions and depleted the “Fill Quantity” to zero, they will be able to select “Calculate” and CryptoCount will calculate capital gains. The capital gains metrics will be displayed below the transaction tables, the pie chart, and the listed assets. Below the capital gain metrics, the user will be able to download a pdf and save the capital gain.

When a user selects to save a capital gain, the system marks the grouped positive and negative transactions as “Already Realized” for the user. The user will be able to select the “Realization ID” of the “Already Realized” realization to observe the capital gain metrics again or undo the capital gain to free up the positive and negative transaction pairs.

The user can then return to the accounting set anytime to continue making capital gain realizations.

Mockup A Sale Of Current Holding Position For Capital Gains Assessment

The user can plan and mockup a sale of their Tez or Tezos based token. There will be an input box below the list of owned assets titled “Mockup Capital Gains”. The box will have an input field asking whether they want to sell a Tez based token, Tez, or both. Then the user can enter a quantity or select the quantity of the token they want to sell.

Once the user has done this, the “Fill Quantity” will be established and rendered in between the positive and negative transaction tables. The negative transaction table will be grayed out and the user will then be instructed to select positive transactions to deplete the “Fill Quantity” to zero.

Once the fill quantity is depleted to zero the user can then select “Calculate”. CryptoCount will use the price of Tezos and Tezos based tokens on the current day to calculate the capital gains. The system will render the capital gains below the “Mockup Capital Gains” box.

The user can then save the mocked-up capital gain. If the user then goes out and *performs* the capital gain transactions, then, upon the user’s return to the accounting set, CryptoCount will map the set of positive transaction(s) to the newly created negative transaction(s).

Track DeFi Rewards With FMV Plus Dilution Assessments

The native Tezos block reward page will be renamed “DeFi Rewards” and moved to the same level as the “Capital Gains” page. The “DeFi Rewards” page will show all rewards received by the user from every Tez and Tezos based token. Native block rewards will be included in this page.

To accommodate the increased responsibility given to the chart, the chart will be significantly overhauled to become larger, more compact with information, and more interactable.

When the page loads, the user will be able to hover over the entries and observe specific information about the entry. Information like, which DeFi or Dapp project the entry is from, the entries’ value in fiat, the price of the entries’ underlying asset be it Tezos or a Tezos based token relative to the selected fiat on that day, the quantity of the asset, and more. The chart’s entries will be color coded to differentiate between DeFi or Dapp projects. The color codes and their corresponding project will be listed in a legend below the chart.

The user will be able to toggle the entries between fair market value (FMV) assessments, FMV plus supply depletion assessments, and FMV plus market dilution assessments similar to version 0.2.2 of CryptoCount.

Mockup DeFi Rewards Realizations By Date Domain

The user will be able to select a date domain in which they would like to aggregate assets to mockup a realization from. The user will be able to select the date domain from a pop-up calendar below the DeFi and Dapp reward chart. Once the user selects a date domain, another box will render below the calendar. This box will list each of the DeFi/Dapp projects the user participates in. The user will be able to select and unselect DeFi/Dapp projects they would like to include in the domain of the realization.

Once the user is satisfied with the domain and the project(s) they are realizing from, they will be able to click “Generate” and observe their income in the Income Station below the chart.

Undo Realizations and Capital Gain Calculations

A user can select “Undo” after performing either a realization of rewards in the “DeFi/Dapp Rewards” page or after performing a calculation in the “Capital Gains” page. If the user has gone back one action, they will be able to fast forward to the reward or capital gain realization they just went back from.

Consolidate Capital Gain and/or Income Tax Into A Smart Contract For Revenue Authority Collection Per Jurisdiction

After a user mocks up a capital gain from their current position of tokens, or after a user calculates the capital gain from a preexisting group of positive and negative transactions, or, after a user mocks up a DeFi/Dapp reward sale, they will be able to access the “Consolidate Tax Payment to Smart Contract for Revenue Authority Collection” section of the “Analysis” page. Consolidate Capital Gain and/or Income Tax will be available in both the DeFi/Dapp Rewards” page or the “Capital Gains” page.

Suppose that a user earns a quantity of capital gains and a quantity of reward income from a realization. CryptoCount will then calculate the owed capital gains tax and income tax by factoring the jurisdiction’s capital gain and income tax rate and then multiply it by the quantity of capital gains and the income mocked up and realized by the user.

CryptoCount will then generate the quantity in fiat that the user will be obliged to pay their Revenue Service. CryptoCount will then divide the payment by the price of the fiat relative to Tez or the Tez based token on the day of the user’s CryptoCount session to get the quantity of Tez that will be required to pay the capital gain tax when the Tez is converted to USDtz. If the user does not have enough Tez in their balance to pay the capital gain tax, they will not be able to use this behavior.

CryptoCount will then prepare a smart contract to hold the quantity of Tez that will be paid to the user’s jurisdiction Revenue Authority. The contract will convert the Tez into USDtz and the USDtz will be open to collection through a set of issued keys to the contract provided by CryptoCount to the Revenue Authority.

CryptoCount will then display the prepared smart contract to the user for final publish confirmation.

If the capital gain realization is a mockup of a future transaction and is not based on a real transaction, then CryptoCount will display the amount of Tez that the user must realize to be able to use the tax consolidation contract.

In this scenario, suppose the user goes out and performs the mocked up realization per the specifications set by CryptoCount. When they return to CryptoCount, they will be able to push the smart contract to the network for collection.

If the user waits for a period of time and then performs the realization, or performs the realization in some other quantity, they will be able to go back onto CryptoCount, and select the transaction pairs of their realization. CryptoCount will then recalculate the required quantity of

Tez to pay the capital gains tax, prepare a new smart contract with the new quantity, and prompt the user to publish.

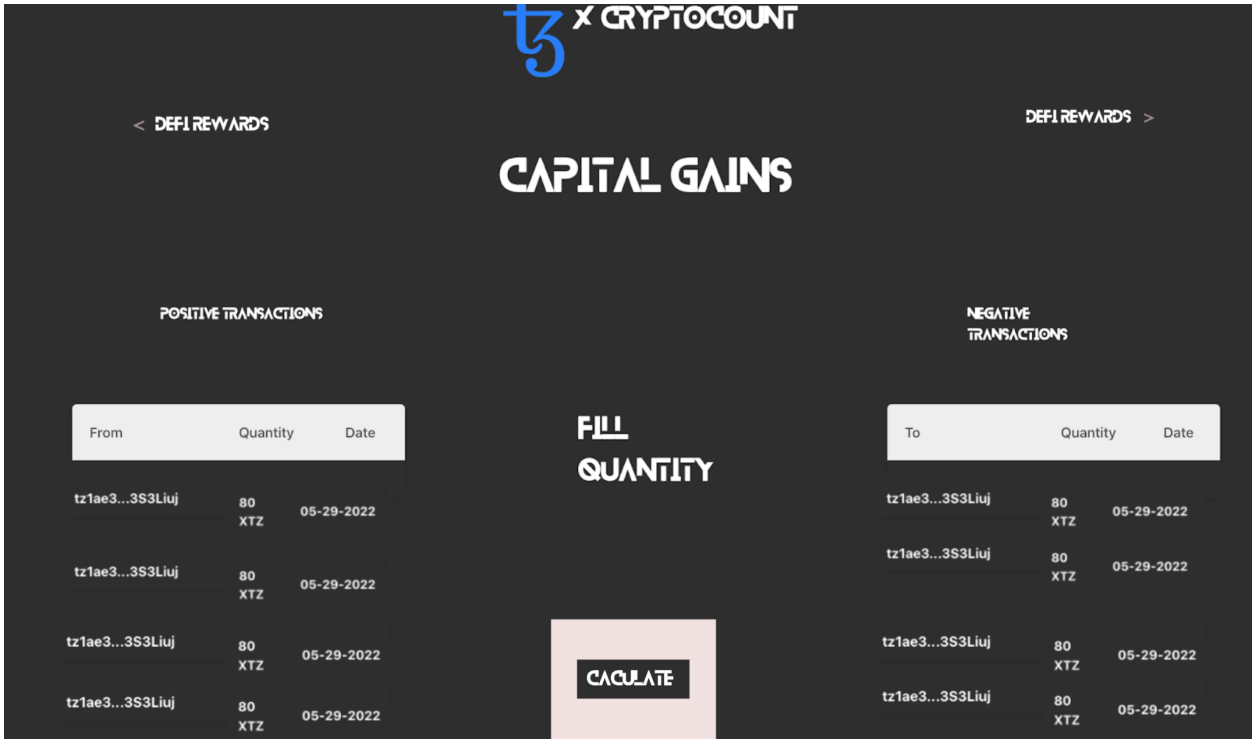
The user will then select “Publish” and the consolidated capital gain tax payment will be locked into the contract, converted to USDtz and await collection from the Revenue Authority.

The initial capital gain tax brackets and Revenue Authority entities that will be incorporated into CryptoCount 0.3.0 will be the United States, Switzerland, Great Britain, France, and Germany. Please see the Glossary for the capital gain tax rates for the above countries. Note Switzerland does not have a capital gain tax. The income tax rate is the federal rate plus the Canton rate.

Mockups

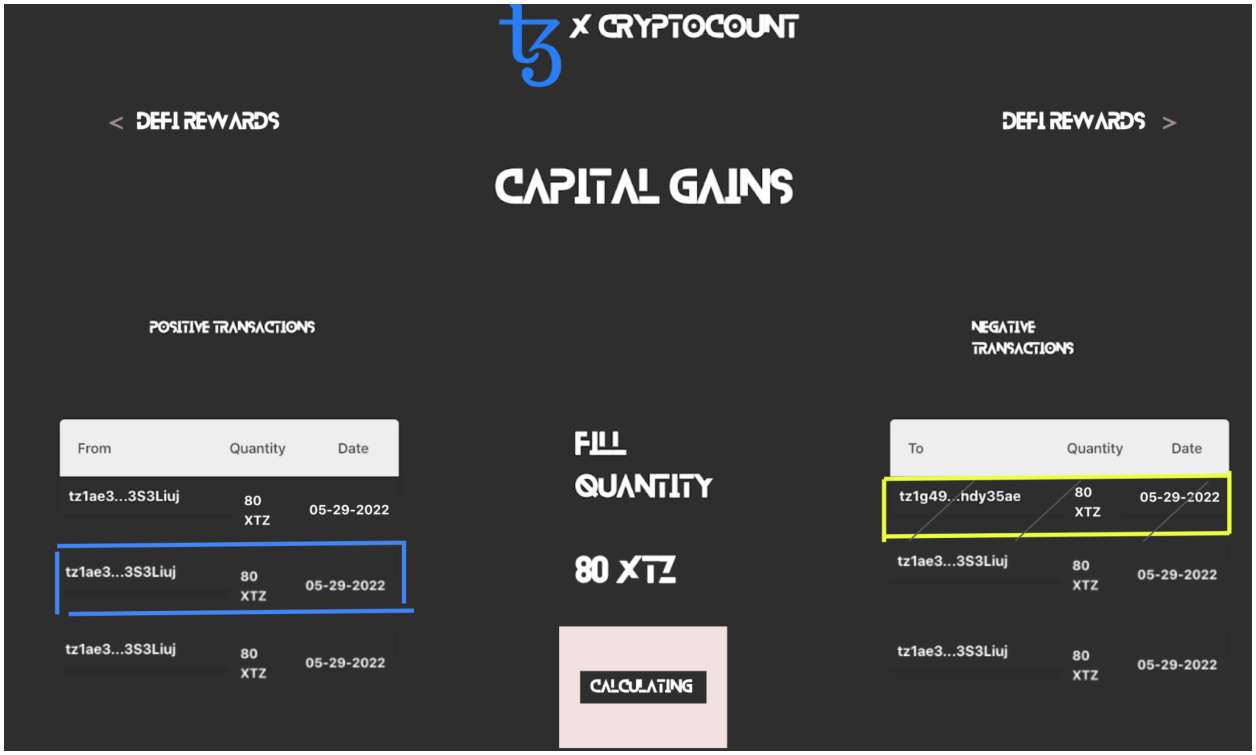
Capital Gains Page - Track Positive and Negative Transactions:

The top toggles titled “DeFi Rewards” toggle the user back to the DeFi/Dapp Rewards page. The user clicks the “Calculate” button to begin selecting negative transactions for the Fill Quantity.



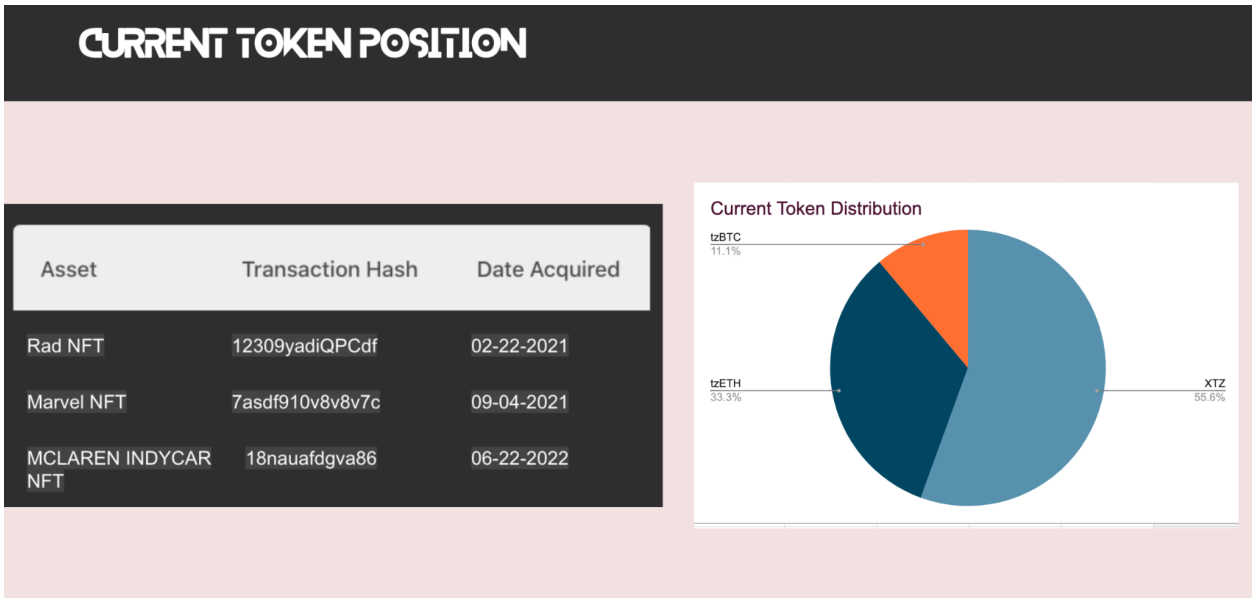
Capital Gains Page - Capital Gain Calculation Selection Process:

The user begins selecting positive transactions to satisfy the fill quantity for the capital gains calculation.



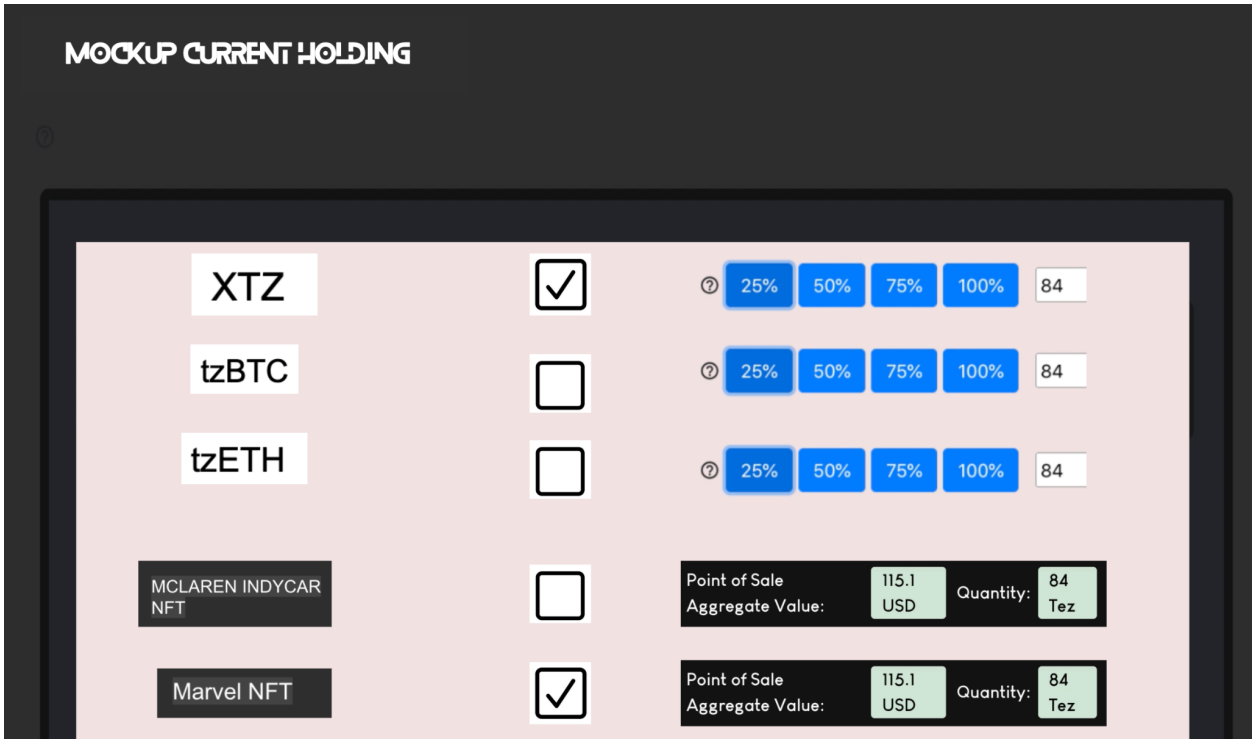
Capital Gains Page - Asset Tracking:

This section is located below the transaction tables. Here the user can observe their token assets and token distributions.



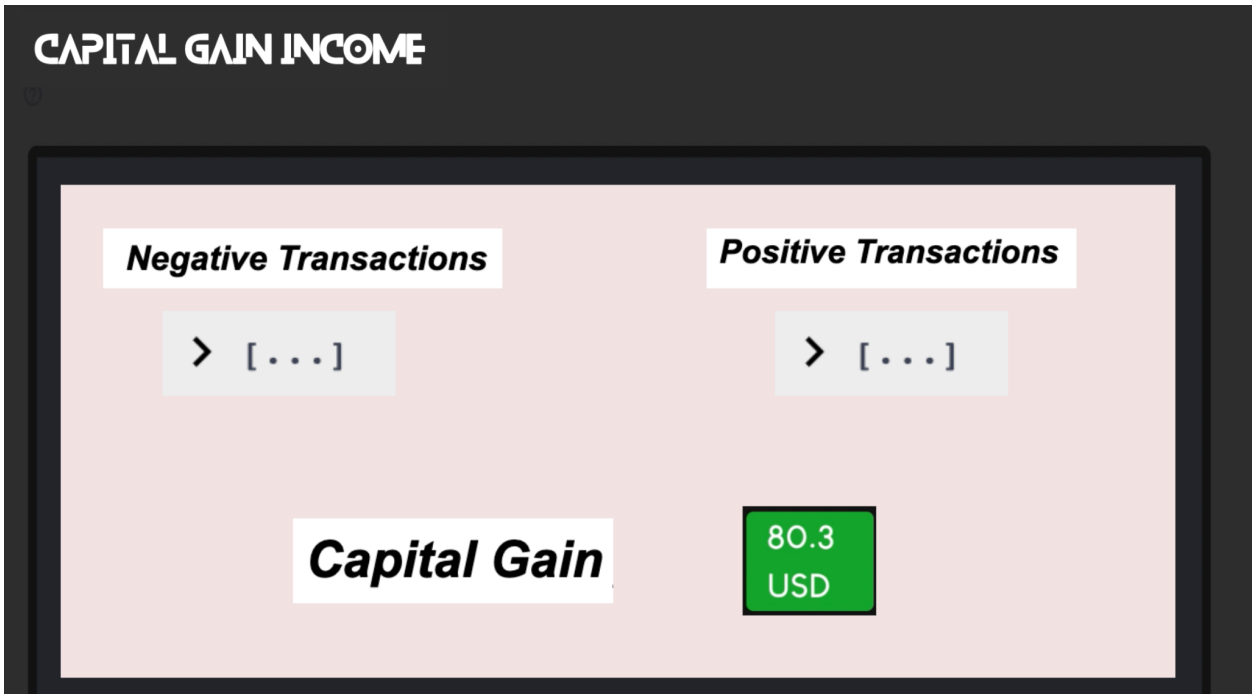
Capital Gains Page - Mockup A Current Holding Position As A Negative Transaction For Capital Gains Assessment

Here a user can select quantities of their assets from their current holding position to mockup a capital gain realization.



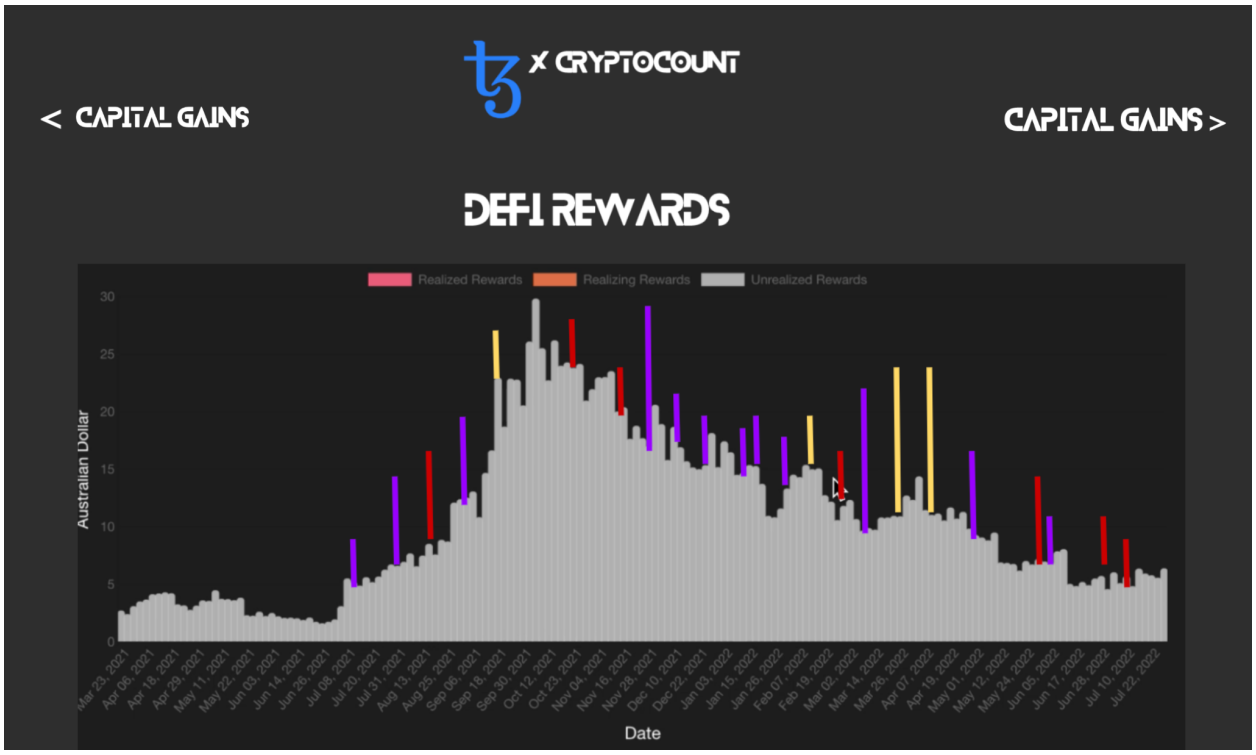
Capital Gains Page - Capital Gain Income Metrics

Here a user can observe their capital gain from the mocked up realization or from a real realization. The negative transactions in a mocked up realization include assets in the users current holding position.

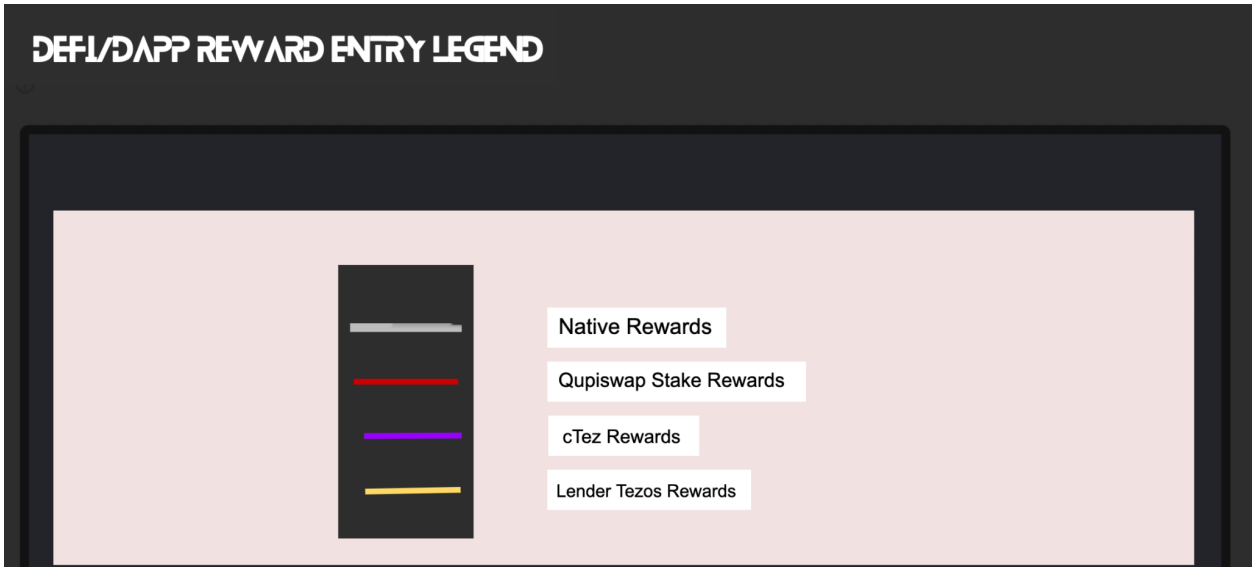


DeFi Rewards Page - Track DeFi/Dapp Rewards With FMV Plus Dilution Assessments

The user will be able to track stacked accounting entries of their DeFi/Dapp rewards on the DeFi/Dapp Rewards page.

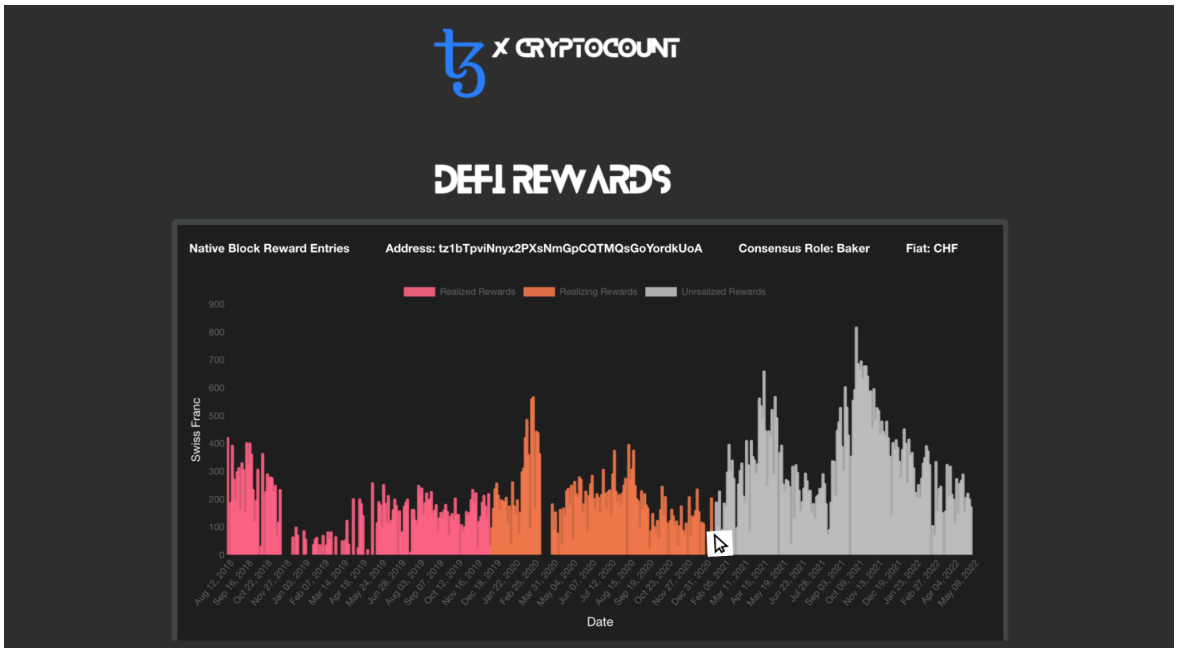


The Legend shows which DeFi/Dapp/token project each entry's color corresponds to.

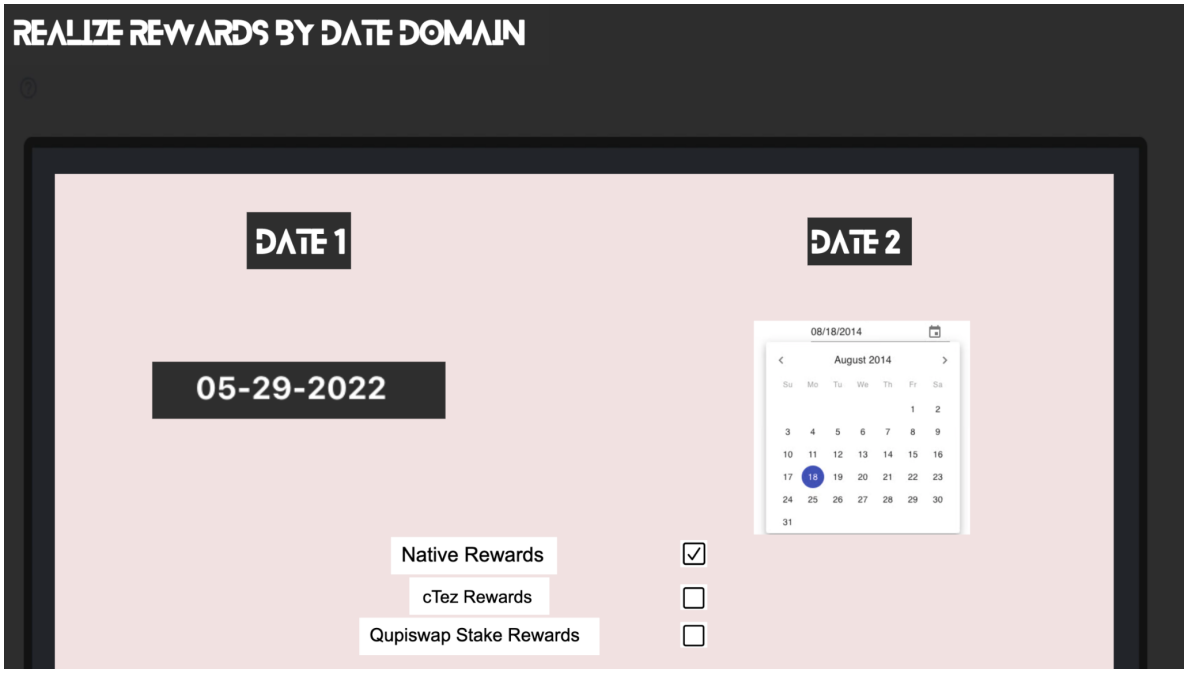


DeFi Rewards Page - Mockup DeFi Rewards Realizations By Date Domain

Below we see an example of “click and drag” behavior on accounting entries for mocking up a realization.



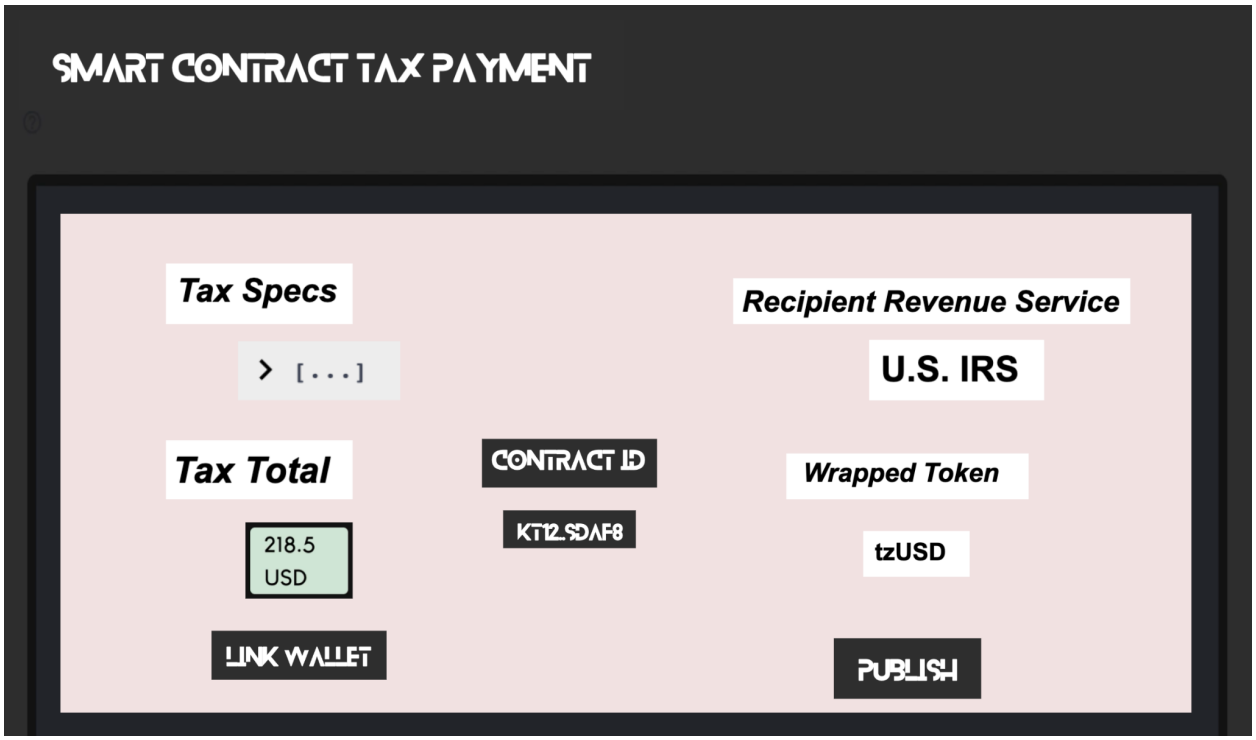
Below we can see the Realization By Date Domain feature. The user selects a date from a calendar for both ends of the domain. The user then selects which rewards they want to include in the aggregation.



DeFi Rewards and Capital Gains - Consolidate capital gain tax and/or income tax for a realization in an on chain contract for Revenue Service collection.

Below we see the “Smart Contract Tax Payment” section. Here the user can observe the income tax/capital gains tax specifications for their selected jurisdiction. Selecting link wallet will open a modal guiding the user through the process to link their wallet for contract origination.

The user will be prompted to fill in income metrics required by their jurisdiction in the “Tax Specs” section so CryptoCount can gather the correct tax rate for the capital gains or rewards realization. Please see the Glossary for tax rate and specifications.



High Level Technical Overview

CryptoCount 0.3.0 piggybacks off of CryptoCount 0.2.2. CryptoCount 0.2.2 translated CryptoCount from a typical MERN application into a well organized MERN + TypeScript server. 0.2.2 featured a complete rewrite of the CryptoCount server routes, Tezos class program, and a significant overhaul of CryptoCount's front end React machine.

CryptoCount 0.3.0 requires more data and technical products than 0.2.2 before it. In order to achieve this, we will split up the Tezos class program (aka the accounting core of CryptoCount) into subclasses in order to organize the data required to deliver the new behaviors.

The subclasses will be organized by their respective sectors in the Tezos Ecosystem. The first subclass will be dedicated to DeFi and Dapp project data pipelines. The second subclass will be dedicated to the pre-existing Block Reward data pipelines, the third subclass will be dedicated to Transaction data pipelines, and the fourth subclass will be dedicated to the Smart Contract tax consolidation deployment and collection.

The subclasses will be assembled to serve the behaviors of 0.3.0 in an overarching umbrella class. The umbrella class will assemble the class data relative to the state of the system. The states of the system are unrealized, realizing, and saved for both realizations of DeFi/Dapp rewards and pairs of transactions used for capital gain calculations. The umbrella class object then serves the CryptoCount API routes.

The umbrella object will feature two top level objects. The first object is a history of every state the object has experienced with a corresponding ID per each state. This object will be used to render the "Undo" and "Go Forward" behavior of 0.3.0.

The second top level object is the current state of the object. The current state of the umbrella object can be a combination of "Undos" and "Fast Forwards" of reward realizations or capital gains. For example, if a user selects to Undo their DeFi reward realization, and their previous action on the umbrella object was saving a capital gain calculation, the umbrella class will maintain the Capital Gain calculation and call the previous state of the DeFi reward sets before the realization.

The umbrella object will be stored in the database. Conducting traffic to and from the database, the new server routes required by 0.3.0 will be built to serve relevant data to the front end. By relevant we mean data relevant to the state of the system (i.e. a newly generated accounting set will not return empty arrays of realizing and saved data to the front end). The routes will serve controlled data from the umbrella superclass in order to optimize front end storage and system performance.

The frontend of CryptoCount 0.3.0 requires significant overhaul. First, the addition of sub-pages of the “Analysis” section will require a redesign of the block reward chart page to make it into “DeFi/Dapp Rewards” and a brand new design for the “Capital Gains” page.

In the “DeFi/Dapp Rewards” page, the chart will be overhauled from what currently exists in “Analysis” of CryptoCount 0.2.2. The chart tech in CryptoCount is ChartJS. ChartJS will support stacked bars in the bar chart for every date where two or more rewards from different DeFi projects were received by the user. Additionally, more callbacks will be used to bring more information into the tooltips of the chart when a user hovers their cursor over an accounting entry. The increased hover callback functionality will allow for logic to aggregate entries on hover. This will give the user the power to “click and drag” over the chart to realize DeFi/Dapp reward entries.

The “Capital Gains” page transaction tables will be standard React tables already used but heavily upgraded from the Histories page of CryptoCount 0.2.2. The tables will be dressed with functionality to support the selection of positive and negative transactions to make the capital gain calculation.

Beneath the tables is the pie chart. The pie chart represents the current holding of Tezos and Tezos based tokens. This pie chart will also be in ChartJS. ChartJS is a pillar of CryptoCount and will be excavated for performance for this version series.

The data requirements for calculating FMV, FMV plus market dilution, and FMV plus supply depletion will be greater in CryptoCount 0.3.0. The addition of DeFi/Dapp Projects and their relevant tokens, brings new challenges regarding the supporting financial data. Price and market cap data for DeFi/Dapp projects will be more difficult to assemble than Tezos price data. The CryptoCount database will be expanded with new models for calculation support of the “Defi/Dapp Reward” subclass. The database updater will be overhauled to crawl for price data of all Tezos DeFi/Dapp projects.

The database updater is written in Python and runs on a CRON schedule. The updater will be modified with urls to price and market data for Tezos DeFi/Dapp tokens. Current Tezos price data is pulled from Coingecko. Price data sources for CryptoCount 0.3.0 will be expanded extensively through adding more third party price and market performance indexers for Tezos DeFi/Dapp projects as well as using performance trackers supplied by the projects themselves.

Switching back to the frontend, passportJS will be used to integrate 0auth into CryptoCount. PassportJS supports Google, Facebook, and LinkedIn authentication. This functionality will compliment CryptoCount’s no account required, and minimal KYC user experiences.

PTBO TECH will contact and develop partnerships with Revenue Authorities in the initial 5 countries and their jurisdictions. The Revenue Authorities will be responsible for collecting the

consolidated smart contract and matching the payment to the citizen with the information encoded in the contract.

Lastly, let’s discuss our tech specs for the consolidated tax payment Smart Contract. The smart contracts will be written using SmartPy and Tezos-Client. The contract system will be tested on a local network. The smart contract will be filled by verified information and the user may or may not be required to upload a photo of their I.D. card with the contract, depending on the jurisdiction’s parameters.

DeFi and Dapp Project Integration

This section details the research processes and the resources of the DeFi/Dapp Projects subclass that will be used to build CryptoCount 0.3.0.

Here is a list of Tezos DeFi projects from @moon640 on twitter:

DEX AMM	Quipuswap Spicyswap (SalsaDAO) Plenty Vortex (Smartlink) Liquidity Baking Flame
DEX router	Temple wallet
DEX limit order	Spicyswap (SalsaDAO)
DEX flat curves	Youves Plenty Quipuswap
Farms	Plenty Matter (SalsaDAO) Quipuswap Youves Vortex (Smartlink) Kolibri Crunchy Flame
Farm as a service (create your own farm)	Crunchy Matter (SalsaDAO)

Leveraging (Collaterised Debt Position)	Youves Kolibri Spicyswap (SalsaDAO)
Synthetics	Kolibri (kusd) Youves (uusd, ubtc, udefi)
Bridge XTZ - EVM	Plenty
Wrapped tezos	Crunchy (wtz) Plenty (ctez)
Launchpad	Crunchy Instaraise
Betting/Gaming	Juster (Binary Options) Tezotopia (Gaming) PixelPotus (Gaming) Salsa gaming hall (Casino - SalsaDAO) TezosDegenClub (Casino)

Additionally, Tezos Projects: https://tezosprojects.com also provides an index of Tezos DeFi, Dapp, and NFT projects.

Each of these projects consist of a contract system that maintains the project's integrity per a set of parameters.

We have assembled a methodology to integrate DeFi/Dapp projects into CryptoCount. First, we will understand the project by participating in it and talking to the project's user base. Then, we will categorize the project's behaviors and organize it in the "DeFi/Dapp Rewards" subclass. Then, we will develop a data pipeline framework to retrieve user participation data. Lastly, we will test our hypothesized frameworks.

This development process will be iterated over repeatedly to arrive at an optimal solution for the DeFi/Dapp project data pipeline. Multiple iterations of the sub-system will be required to reach the optimal solution.

DeFi projects are often characterized by providing some liquidity in some token, then receiving returns/rewards for providing the liquidity. The user's participation in the DeFi project therefore begins when they purchase the project's supporting token. This purchase is observed as a negative transaction in the transaction tables in the capital gains page. *If a reward or yield from a DeFi project has any portion of its quantity tied to a payment of debt to the user, the indebted portion will be subtracted from the yield transaction based on the longevity of the scheduled kickback, and the remaining value will be represented as a reward entry.* The resulting sale of the DeFi project token will be rendered as a positive transaction in the Capital Gains page, but the quantity of the transaction will be lowered by the proportion of the DeFi token position that is made up of the project's rewards, which has already been assessed in the DeFi/Dapp Rewards page.

Next, we will explore some of the remote urls available in the Tezos Ecosystem for data collection. The following urls are specifically relevant to DeFi projects.

TzKt.io APi:

Contract Originations

https://api.tzkt.io/v1/operations/originations?anyof.sender.initiator=tz1VPZyh4ZHjDDpgvznqQQXUCLcV7g91WGMz&limit=10000

This call extracts the origin of contracts and their addresses from the master address.

Contract Transactions

https://api.tzkt.io/v1/operations/transactions?anyof.sender.target=KT1FeyvCSxcHRsBTxXex8iFZidqHGoxkybog&limit=10000&amount.gt=1

This call extracts transactions on a contract address. This url is used to validate and understand hypotheses of interactions between a DeFi project and on chain ledgering.

Contract Migration

https://api.tzkt.io/v1/operations/migrations?anoyof.sender.target.initiator=tz1VPZyh4ZHjDDpgvznqQQXUCLcV7g91WGMz&limit=10000

This call extracts migrations of contracts. It is used to extract the address chain of a singular initiated address activity. This call is important to extract a complete tree of the user's entity chain in the DeFi project.

Historical Tokens' Modern Balance

https://api.tzkt.io/v1/tokens/historical_balances/2256111?account=tz1VPZyh4ZHjDDpgvznqQQXUCLcV7g91WGMz&limit=10000&balance.gt=1

This call extracts all tokens from a user's address and displays their modern balance.

Historical Contract's Modern Balance

https://api.tzkt.io/v1/accounts/tz1VPZyh4ZHjDDpgvznqQQXUCLcV7g91WGMz/contracts

This call extracts all of the user's historical contracts and modern balance. This data is used to build the modern holding position of the user.

Better-Call-Dev API:

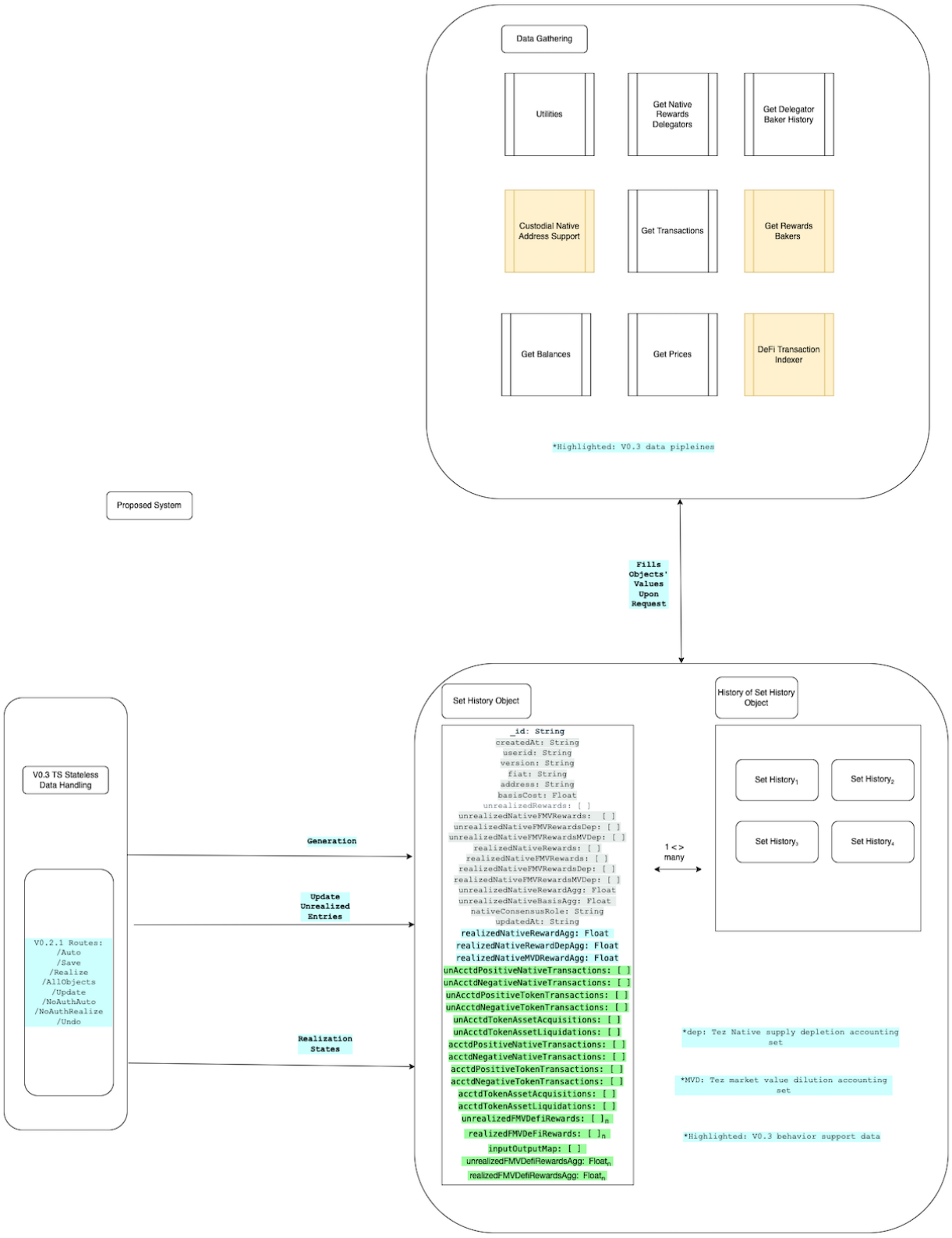
BCD is built by the team at TzKt/BakingBad.

Contract Operations

https://api.better-call.dev/v1/contract/mainnet/KT1FeyvCSxcHRsBTxXex8iFZidqHGoxkybog/operations

This call is based off of TzKt.io's operations query. Queries contract operations.

High Level System Object Model



Timeline

The timeline of CryptoCount 0.3.0 is broken up into several build sprints that integrate to the complete 0.3.0 version.

The first timeline is the front end React machine. This timeline includes creating the two sub pages of Analysis. Additionally, this timeline includes Chart JS configuration for the stacked DeFi/Dapp reward chart and Pie Chart from the Currently Holding assets section of the “Capital Gains” page. Additionally, CryptoCount will integrate passport JS, and many other updates. Lastly, a series of modals will be developed to support Smart Contract building.

The second timeline relates to the server classes. CryptoCount 0.3.0’s class structure features 3 subclasses organized in an umbrella superclass that then serves system level objects to the API routes. Each subclass has its own timeline and the superclass will be developed in parallel with the subclasses.

The third timeline relates to the database updater and maintenance programs. CryptoCount 0.3.0 requires more data than ever before. The database updater programs will need to be overhauled with new URLs for extracting data from various sources relating to Tezos based Token price, market cap, TVL, and other features of DeFi/Dapp projects and Tez based assets.

Build Timeline Assessment:

Timeline 1

React Front End:

Chart JS - Overhauling for new behavior set - 1.5 months.

Smart Contract Modal Assembly - 1.5 months

All Other Display Elements - 1.5 months

Timeline 2

Server Classes:

Sub Classes - DeFi Rewards, Capital Gains, Block Rewards, Payment Consolidation Smart Contract - 5 months

Superclass and Routes **-** System State functionality - 1.5 months

User Functionality **-** 0auth, Custom - .5 months

Timeline 3

Database Updater:

DeFi Token Price, Market Cap, TVL Data - DeFi/Dapp project data - 1 month

Build Timeline Summary:

Timeline 1 - 4 months, Timeline 2 - 7.5 months, Timeline 3 - 1 month:

TOTAL TIME: 12.5 MONTHS.

Economic Impact

The Economic impact section details two methods for evaluating the economic impact of CryptoCount 0.3.0 as it is live.

CryptoCount Stats

CryptoCount Stats will track the impact of CryptoCount throughout the entirety of its existence. CryptoCount Stats is a system level software that will track realizations and capital gain calculations as they happen. The following is a breakdown of the two tracked metrics.

1) Native Block Rewards and DeFi/Dapp Project Rewards

   The CryptoCount impact on Tezos DeFi/Dapp Users is assessed by the difference between the True Economic Income of Rewards from FMV Assessment and Point of Sale (PoS) Assessment of the same reward assets.

   CryptoCount will track netDiffFMV (the difference between FMV and PoS) for every realization of rewards. This metric will be caught upon a user's generation of the superclass and translated to be expressed in a percent value.

   The distribution of netDiffFMV is expected to be a normal distribution of percentile returns. Every *positive* netDiffFMV will be averaged against all pre-existing positive netDiffFMV values to yield the average amount per 1 Tez of DeFi/Dapp rewards that CryptoCount saves users with its FMV assessment methodology.

   This metric will be displayed on the homepage of CryptoCount.

2) Capital Gains

   Every time a capital gain is calculated by a user of CryptoCount, the capital gain will be added to the total of all capital gains ever performed by CryptoCount.

   This metric will be displayed on the homepage of CryptoCount.

Build Cost

The CryptoCount 0.3.0 build timeline factors the minimum amount of time required to be for a single engineer to complete the build at about 50-60 hour weeks.

The time and quality of the CryptoCount 0.3.0 build can be improved by scaling labor across different sectors of the build operation. Delegation of labor to specific development sectors will improve the quality of the development sectors by specialization.

The build cost is broken down into price levels.

Minimum CryptoCount 0.3.0 Build Cost :

$125,000
Operators: 1
TimeFrame Adjustment: + 2.5 months

Medium CryptoCount 0.3.0 Build Cost :

$420,000
Operators: 2.8 (2 full time operators, 2 part time operators)
TimeFrame Adjustment: 0 months

Maximum CryptoCount 0.3.0 Build Cost:

$650,000
Operators: 4
TimeFrame Adjustment: -1.5 months

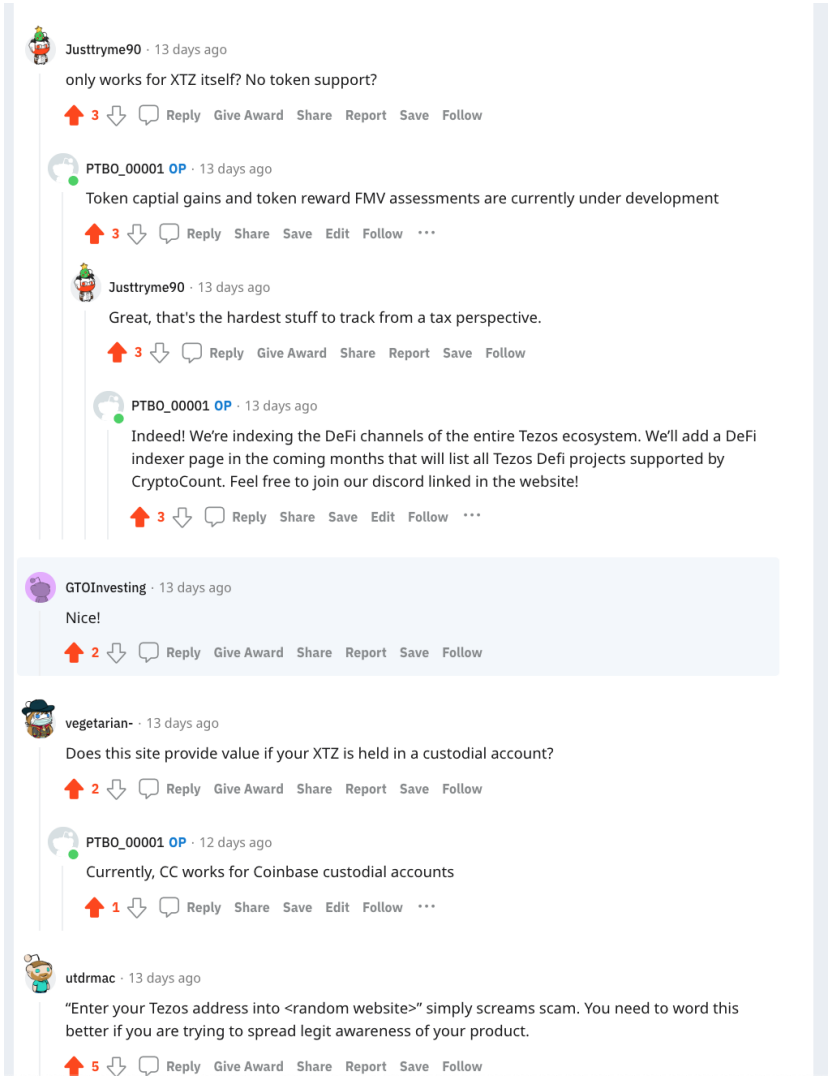
Glossary

The CryptoCount 0.3.0 **browser extension** features a DeFi/Dapp reward chart display and a group of dropdown boxes that allow a user to select and deselect DeFi/Dapp activities to include in realizations. Users can select date domains or select/enter a FIFO quantity for the realization, and observe a dropdown displaying the resulting income metrics, download the statement, save, and undo. For capital gain accounting needs and for creating tax payment smart contracts, links to the full CryptoCount website will be listed.

The DeFi/Dapp Indexer Page will display information about each DeFi/Dapp project supported by CryptoCount. The information listed will include links to the project's website and social channels and include a description of the project.

The Regulatory Tracker Page will be updated with more high quality sources to stay up-to-date with laws from domains CryptoCount users reside in.

DeFi FMV Assessment Demand Samples:



Capital Gain and Income Tax Rates:

USA

2023 capital gains tax rates

For taxes due in April 2024.

Tax-filing status	0% tax rate	15% tax rate	20% tax rate
Single	$0 to $44,625.	$44,626 to $492,300.	$492,301 or more.
Married, filing jointly	$0 to $89,250.	$89,251 to $553,850.	$553,851 or more.
Married, filing separately	$0 to $44,625.	$44,626 to $276,900.	$276,901 or more.
Head of household	$0 to $59,750.	$59,751 to $523,050.	$523,051 or more.

Switzerland

- Note Swiss CryptoCount users will be prompted to select their Canton.

Income Federal:

Personal income tax rates

Direct federal tax on income (for 2021)

I - Single taxpayers

Taxable income (CHF*)		Tax on column 1 (CHF)	Percentage on excess (%)
Over	Not over		
0	17,800	-	-
17,800	31,600	-	0.77
31,600	41,400	131.65	0.88
41,400	55,200	217.90	2.64
55,200	72,500	582.20	2.97
72,500	78,100	1,096.00	5.94
78,100	103,600	1,428.60	6.60
103,600	134,600	3,111.60	8.80
134,600	176,000	5,839.60	11.00
176,000	755,200	10,393.60	13.20
755,200		86,848.00	11.50

* Swiss francs

For taxable income above CHF 755,200 the overall tax rate will be 11.5%.

II - Married taxpayers and single taxpayers with minor children

Taxable income (CHF)		Tax on column 1 (CHF)	Percentage on excess (%)
Over	Not over		
0	30,800	-	-
30,800	50,900	-	1
50,900	58,400	226	2
58,400	75,300	376	3
75,300	90,300	883	4
90,300	103,400	1,483	5
103,400	114,700	2,138	6
114,700	124,200	2,816	7
124,200	131,700	3,481	8
131,700	137,300	4,081	9
137,300	141,200	4,585	10
141,200	143,100	4,975	11
143,100	145,000	5,184	12
145,000	895,900	5,412	13
895,900		103,040	11.5

For taxable income above CHF 895,900 the overall tax rate will be 11.5%.

Income Zurich:

Zurich cantonal tax (basic tax)

III - Single taxpayers (income taxes)

Taxable income (CHF)		Basic tax on column 1 (CHF)	Percentage on excess (%)
Over	Not over		
0	6,700	-	0
6,700	11,400	-	2
11,400	16,100	94	3
16,100	23,700	235	4
23,700	33,000	539	5
33,000	43,700	1,004	6
43,700	56,100	1,646	7
56,100	73,000	2,514	8
73,000	105,500	3,866	9
105,500	137,700	6,791	10
137,700	188,700	10,011	11
188,700	254,900	15,621	12
254,900		23,565	13

IV - Married taxpayers and single taxpayers with minor children (income taxes)

Taxable income (CHF)		Basic tax on column 1 (CHF)	Percentage on excess (%)
Over	Not over		
0	13,500	-	0
13,500	19,600	-	2
19,600	27,300	122	3
27,300	36,700	353	4
36,700	47,400	729	5
47,400	61,300	1,264	6
61,300	92,100	2,098	7
92,100	122,900	4,254	8
122,900	169,300	6,718	9
169,300	224,700	10,894	10
224,700	284,800	16,434	11
284,800	354,100	23,045	12
354,100		31,361	13

V - Calculation of effective taxes

For Zurich cantonal taxes, the above rates can be applied directly. For the additional municipal taxes, the above rate has to be multiplied by the respective municipal tax factor, which varies between 0.75 and 1.34 (City of Zurich: 1.19). For church tax the basic tax above is multiplied by the church tax factor, which is between 0.06 and 0.15.

Income Geneva:

Geneva cantonal tax (basic tax)

The Geneva tax table is quite complex as it does not apply a tax bracket system. The tax rates are increasing continuously in small increments with each increase in income. The table below therefore only provides a general overview (for 2021).

Taxable income (CHF)		Tax Rate (%)
From	To	
0	17,748	0.00
17,749	21,383	8.00
21,384	23,522	9.00
23,523	25,660	10.00
25,661	27,798	11.00
27,799	33,144	12.00
33,145	37,421	13.00
37,422	41,698	14.00
41,699	45,975	14.50
45,976	73,773	15.00
73,774	120,817	15.50
120,818	162,514	16.00
162,515	183,898	16.50
183,899	263,017	17.00
263,018	280,124	17.50
280,125	394,525	18.00
394,526	617,982	18.50
More than 617,982		19.00

The tax rate applicable to a married couple or individuals in a Swiss registered partnership is the rate applicable to 50% of their combined income (so-called 'splitting'). The tax rate applicable to single, widowed, divorced, or separated individuals living with a dependant (child or adult) is the rate applicable to 50% of the income.

The above tax rates are basically applicable to taxpayers filing a tax return. Effective cantonal income and wealth tax is determined by multiplying the basic tax by the multiplier applicable for the tax (calendar) year in question, and then by adding the supplementary tax on wealth.

Local income taxes

Geneva communal tax

Each commune of the canton of Geneva determines the multiplier applied on the cantonal tax rate and hence its communal tax rate autonomously depending on its financial needs. As result, the communal taxes can vary significantly. The communal taxes are, as mentioned above, a percentage of the cantonal taxes, and are levied in conjunction with the cantonal taxes. For example, the effective communal tax of the city of Geneva is 45.5% of basic cantonal tax. The highest communal tax rate is 51% of the basic cantonal tax and is levied in the communes of Chancy and Avully. On the contrary, the lowest communal tax rate is applicable in the communes of Genthod (25%), Cologny (27%), and Collonge-Bellerive (29%).

- https://taxsummaries.pwc.com/switzerland/individual/taxes-on-personal-income

United Kingdom

Tax Allowance:

Capital gains tax allowance

An annual exemption of £12,300 for the tax year 2022/23 is available to individuals and therefore total gains made in the tax year up to this amount are exempt. Any unused annual exemption is lost and cannot be carried forward or transferred to another person.

Previous years capital gains tax allowances:

Income Tax:

Band	Taxable income	Tax rate
Personal Allowance	Up to £12,570	0%
Basic rate	£12,571 to £50,270	20%
Higher rate	£50,271 to £150,000	40%
Additional rate	over £150,000	45%

6 April 2017 onwards

The following Capital Gains Tax rates apply:

- 10% and 20% tax rates for individuals (not including residential property and carried interest)
- 18% and 28% tax rates for individuals for residential property and carried interest
- 20% for trustees or for personal representatives of someone who has died (not including residential property)
- 28% for trustees or for personal representatives of someone who has died for disposals of residential property
- 10% for gains qualifying for Business Asset Disposal Relief — previously known as Entrepreneurs Relief
- 28% for Capital Gains Tax on property where the Annual Tax on Enveloped Dwellings is paid, annual exempt amount is not applicable
- 20% for companies (non-resident Capital Gains Tax on the disposal of a UK residential property)

https://www.gov.uk/income-tax-rates

https://www.gov.uk/guidance/capital-gains-tax-rates-and-allowances#:~:text=Capital%20Gains%20Tax%20is%20charged%20at%20a%20flat%20rate%20of%2018%25.

France

Capital Gains Tax in France

In France, capital gains on real estate are taxable at a rate of 19% plus social charges at 7.5%. The social charge rate is increased to 17.2% if you are affiliated to the French healthcare system. This will generally be the case if you have previously worked in France and paid French social security contributions.

Germany

Capital gains

Capital gains from financial investments (e.g. sale of shares) are subject to a flat tax rate of 25% plus 5,5% solidarity surcharge (in total 26.375%, plus church tax if applicable), which is basically withheld at source. Related expenses cannot be deducted. Capital gains qualify for the 'investor's allowance' of EUR 801 per taxpayer and year for the total of all financial investment income. This amount is doubled in the case of married taxpayers filing jointly. Special rules apply on the taxation of capital gains from the sale of a significant interest in a corporation (1% or more).