Auction Coin: A fair, decentralized, and free market token distribution protocol

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The Protocol

The concept behind Auction Coin can be seen as a comprehensive protocol for distributing tokens in the open market without the need for trust. It autonomously manages price discovery and ensures fairness in distribution, as it allows broad participation through various means.

The initial idea for Auction Coin was introduced on ErgoForum by Kushti. In essence, it involves locking tokens in a smart contract that governs the emission process. Emission occurs through periodic auctions. After several iterations aimed at enhancing the design, this concept has been refined to accommodate a wide range of financial use cases. These use cases can prove highly beneficial for new teams seeking to promote their dApps within the community. They can also instill trust within the community regarding the dApp and its tokenomics, thanks to its decentralized and trustless nature. This, in turn, facilitates further adoption. In the following discussion, we will explore how this protocol can be harnessed to achieve these goals.

Token Distribution: Teams have the option to distribute a portion, or even the entirety, of their tokens using the Auction Coin protocol. When compared to traditional distribution methods, this approach offers several advantages:
- **Fair distribution**
- **Decentralized**
- **Trustless**
- **Much better price discovery**

These advantages will result in healthier community involvement in the projects which boosts dAapp adoption.

Liquidity Provider: The Auction Coin protocol can be readily customized to facilitate the generation of liquidity for Liquidity Pools (LP). This involves periodic token auctions. The capital generated from these auctions, in conjunction with the essential tokens held in reserve, will be utilized to secure liquidity within LPs. The Auction Coin protocol can function as a spectrum encompassing these concepts, simultaneously offering all functionalities. For instance, 50% of the funds garnered through auctions can be allocated to repurchasing tokens from LPs, while the remaining half is dedicated to liquidity provision. This approach holds notable advantages over conventional trust-based methods for supplying liquidity to the market.

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- Decentralized
- Trustless
- Automatically Done: Done periodically based on the market situation which helps with avoiding losing funds due to significant fluctuations of LP.

The same concept can be applied to financing farms on Spectrum, which represents an indirect method of bolstering market liquidity. Once more, the Auction Coin protocol proves its versatility by accommodating all of these functions through the allocation of raised funds. This feature, akin to the previous ones, contributes to establishing the essential infrastructure by furnishing liquidity for community engagement with the dApp. Naturally, this has the potential to accelerate and enhance the adoption of dApps.

Raising Funds for Development: The funds generated from the auctions can be allocated to support the team's ongoing development efforts. This allocation can be structured in portions; for example, 50% can be directed towards team development, while the remaining half can be utilized to enhance liquidity. This approach offers several notable advantages compared to traditional fundraising methods:

- Free Market Evaluation: The essence of the Auction Coin protocol is its periodic initiation of auctions, with the open market determining the value of these auctions. This mechanism can be seen as a form of voting and a means for the community to assess the team's performance. If the team falls short in its endeavors, the auctions are likely to be unsuccessful. Conversely, when the team consistently delivers and fosters a positive interaction with the community, they will continue to secure funds for ongoing development. This approach serves as a safeguard against rug pulls, ensuring transparency and accountability within the project.

- Avoid Dumping on the Market: Teams commonly receive a portion of the tokens when they are issued, which are typically subject to a release schedule. However, there's nothing preventing them from flooding the market by providing these tokens through Liquidity Pools (LP). To mitigate this, Auction Coin can be effectively employed to enhance trust within the community and promote adoption. The Auction Coin protocol can readily be utilized to lock the tokens allocated to teams and auction them in the open market, with the market determining their value based on the LP conditions and the team's performance. This approach provides an additional incentive for teams to consistently deliver and develop, aligning their interests with the project's long-term success.

Auction Coin is Building on Existing Infrastructures!

The Auction Coin protocol is built upon the established Auction infrastructure, which has been developed by the Auction House team over an extended period. This integration significantly simplifies the complexity of the Auction Coin protocol, as it leverages a modular protocol for

managing the auction aspect. This approach enhances the versatility of Auction Coin, making it more adaptable to a broader range of use cases.

Moreover, the Auction Coin protocol features a trustless and modular design. This design facilitates the development of other protocols layered on top of it, expanding the potential applications of this protocol. The inherent modularity of this design not only fosters the adoption of existing and future protocols but also reduces the overall implementation costs.

Implementation

As previously mentioned, Auction Coin can be regarded as a comprehensive protocol with the potential to overcome various critical limitations for teams and the broader ecosystem. The AuctionCoin token represents the initial implementation of this protocol. In the forthcoming sections, we will delve into the details of the AuctionCoin token and how it harnesses the protocol to create an interesting financial game.

AuctionCoin: Degen Finance as an Example Implementation

Auction Coin presents an innovative financial game involving the emission of AuctionCoin tokens using auctions. AuctionCoins, except for a small reserve set aside for the team (5%) bootstrapping the Liquidity Pool (5%) on Spectrum, will be securely locked within a specialized smart contract designed to manage the emission process.

The emission of AuctionCoins will follow a predefined schedule, conducted through a sequence of auctions generated periodically from this central smart contract. The intricate mechanics of this process will be explained in greater detail in the following sections.

Main Contract

The main contract is in charge of locking AuctionCoins and starting auctions based on its parameters. For example, this contract may start a batch of 10 auctions every 6 days with each auction having a predefined number of AuctionCoin and prices which will be covered later.

BuyBack Contract

After each auction is sold or finished, the tokens and any funds made by the auction will be sent to this buyback contract. If the auction has been sold, this contract will use the funds to buy back AuctionCoins from the liquidity pool. Unsuccessful auctions and any bought-back AuctionCoins will be sent back to the main contract.

Auction Specification

Each auction in the batch of auctions that the main contract starts will have its own parameters. Here are the important parameters for each auction:
- Duration: specifies how long the auction will last
- Auction price coefficient: specifies the initial price of the auction. The initial price will be "coefficient * LP_price". For example, the auction can start from 2x the liquidity pool price. The price of the auction will decrease gradually (every hour) so that at the end of the auction the price matches the liquidity pool price!
- Number of tokens: specifies how many AuctionCoins will be auctioned.

Related work

In Ergo, scheduling emissions is conveniently achieved through the use of smart contracts. A prominent example of this is the Ergo re-emission contract. Similar instances can be found in projects such as Spectrum farming and ErgoPad's token release contract. While these serve as successful precedents, Auction Coin stands as the pioneering example of integrating emissions with auctions in the open market.

Future work and use cases

As previously discussed in the initial section, the Auction Coin protocol can be leveraged to alleviate various significant limitations encountered by decentralized ecosystems.

ErgoHack

AuctionCoin implementation, as an instance of the general protocol, is developed to be submitted to the ErgoHack contest. The protocol itself and its instance very well fit the theme of ErgoHack VII as it fills some of the existing gaps in the trust model of the token distribution, providing liquidity and raising funds as discussed. As discussed in the first section, these developed ideas and smart contracts, alongside off-chain code developed to handle the interactions, could in several ways boost the financial adoption of existing and future dApps.

Contributions

- Taking the initial idea by Kushti to the next level and generalizing it in various ways.
- Implementing smart contracts which will be fully released and open-sourced!
- Implementing an instance of the protocol, i.e., AuctionCoin degen finance!
- Implementing off-chain code to handle the off-chain part of the Auction Coin protocol which will be released and open-sourced!

- Developing UI for the AuctionCoin token instance which is capable of being extended to other implementation instances of the protocol.
- Working with the Auction House team closely to address some of the issues related to auctioning EIP-4 tokens which helps other teams to utilize these features.