Halloween Finance

We are Halloween Finance, an algorithmic stable coin platform with our main token Candy pegged to the value of 1 USDC. An Algorithmic Stable Coin (ASC) is a non-collateralized stablecoin tailored for improving price stability.

The beauty of algorithmic stable coins is that they are much more capital efficient than their collateralized cousins.

With our experience in the defi space and us working towards expanding this idea of capital-efficient algorithmic stable coin, we are able to build on previous iterations to expand the basis of the Aurora ecosystem.

Halloween Finance's full focus is to build a true cross-chain (future) algorithmic stable coin protocol that is stabilized with true use-cases all around the DeFi Ecosystem.

The Candy algorithmic token serves as the backbone of a rapidly growing ecosystem aimed towards bringing liquidity and new use cases to the Aurora. The protocol's underlying mechanism dynamically adjusts Candy's supply, pushing its price up or down relative to the price of USDC.

Candy Token : the algorithmic token pegged to USDC

Pumpkin Token (SHARE): which holders can claim Candy inflation when the network expands

Ghost Token (BOND): which can be purchased when the network is in contraction and can be redeemed for Candy when the network comes to its deflationary phase

We adopted a three token structure: Candy, Pumpkin, Ghost. Here is what makes Halloween Finance different:

Candy token will be algorithmically pegged to USDC .

Primary liquidity will be held in Candy-USDC LP pools: This creates a huge lock-up in Candy tokens into liquidity, creating more utility for Candy tokens.

Addition of a bailout fund: If all mechanics fail to allow the protocol to regain peg, the devs will step in with USDC to help Candy regain its peg to USDC.

Tokens

Candy Token

Candy token is designed to be used as a medium of exchange. The built-in stability mechanism in the protocol aims to maintain peg to 1 USDC token in the long run.

When Candy price is below Current Market Price (Peg), token holders can purchase Ghost and Candy will be burnt to reduce the circulating supply when users redeem Candy tokens with a 1:1 ratio.

When Candy price is above Current Market Price (Peg), the token supply will have to expand to push it back down to Peg and the contract will allow the redemption of the Ghost.

When the price of Candy continues trading above the Current Market Price (Peg) after bond redemption, the contract mints an appropriate amount of new Candy and this will be distributed to the Ghost stakers.

Pumpkin Token

Pumpkin are one of the ways to measure the value of the Protocol and shareholder trust in its ability to maintain Candy close to peg. During epoch expansions the protocol mints Candy and distributes it proportionally to all Pumpkin holders who have staked their tokens.

Pumpkin holders have voting rights (governance) on proposals to improve the protocol and future use cases within the ecosystem.

Pumpkin has a maximum total supply of 100000 tokens distributed as follows:

1. 70% - Liquidity Provision: 70000 are allocated for incentivising Liquidity Providers in Shares pools over 1 year

2. 15% - DAO: 15000 vested over 1 year
3. 10% - Team Reserves: 10000 vested over 1 year
4. 5% - Treasury: 5000 vested over 1 year

Ghost Token

Ghost main job is to help incentivise changes in Candy supply during an epoch contraction period. When the TWAP (Time Weighted Average Price) of Candy falls below 1 USDC, Ghosts are issued and can be bought with Candy at the current price. Exchanging Candy for Ghost burns Candy tokens, taking them out of circulation (deflation) and helping to get the price back up to 1 USDC.

These Ghost can be redeemed for Candy when the price is above peg in the future, plus an extra incentive for the longer they are held above peg. This amounts to inflation and sell pressure for Candy when it is above peg, helping to push it back toward 1 USDC.

Contrary to early algorithmic protocols, Ghost do not have expiration dates.

All holders are able to redeem their Ghost for Candy tokens as long as the Treasury has a positive Candy balance, which typically happens when the protocol is in epoch expansion periods.

Bonds Mechanism

Ghost tokens are unique tokens that can be utilized to help stabilize Candy price around peg (1 USDC) by reducing circulating supply of Candy if the TWAP (time-weighted-average-price) goes below peg (1 USDC).

Ghost can be purchased only on contraction periods, when TWAP of Candy is below 1. Every new epoch on contraction periods, Ghosts are issued in the amount of 3% of current Candy circulating supply, with a max debt amount of 35%. This means that if bonds reach 35% of circulating supply of Candy , no more bonds will be issued. Note: Ghost TWAP (time-weighted average price) is based on Candy price TWAP from the previous epoch as it ends. This mean that Candy TWAP is real-time and Ghost TWAP is not.

You can buy Ghosts if any are available, through the PIT on Savanna Finance, anyone can buy as many Ghosts as they want as long as they have enough Candy to pay for them. There is a limit amount (3% of Candy current circulating supply) of available Ghosts per epoch while on contraction periods, and are sold as first come first serve.

First and most important reason is Bonds help maintain the peg, but will not be the only measure use to keep the protocol on track. Ghosts don't have a expiration date, so you can view them as a investment on the protocol, because long-term you get benefits from holding bonds.

The idea is to reward Ghost buyers for helping the protocol, while also protecting the protocol from being manipulated from big players. So after you buy Ghost using Candy, you get 2 possible ways to get your Candy back:

1. Sell back your Ghost for Candy while peg is between 1 - 1.1 (1 USDC) with no redemption bonus. This to prevent instant dump after peg is recovered

2. Sell back your Ghost for Candy while peg is above 1.1 (1 USDC) with a bonus redemption rate

The longer you hold, the more both the protocol and you benefit from Ghost tokens.

1. When Candy = 0.8, burn 1 Candy to get 1 Ghost (Ghost price = 0.8)

2. When Candy = 1.15, redeem 1 Ghost to get 1.105 Candy (Ghost price = 1.27)

If I buy Candy at 0.8, and hold it until 1.15 and then sell, I'm getting +$0.35 per Candy
But, if I buy Candy at 0.8, burn it for Ghost, and redeem it at 1.15, I'm getting 1.105 Candy * 1.15 (Candy current price) = 1.271 (+$0.47) per Ghost redeemed.

But what if getting back to peg is taking too long? We are going to adjust our use cases, to have different behaviors on contraction and expansion periods to benefit Candy and Ghost holders when needed.

Ghost TWAP (time-weighted average price) is based on Candy price TWAP from the previous epoch as it ends. This mean that Candy TWAP is real-time and Ghost TWAP is not. In other words, you can redeem Ghost for a bonus when the previous epoch's TWAP > 1.1.