Cheezburger: An Innovative Memecoin Celebrating an Iconic Culinary Innovation

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Abstract

This paper introduces Cheezburger (CHZ) [1], an innovative new memecoin launching on the National Cheeseburger Day and in honor of the 100th anniversary of the cheeseburger. We detail CHZ's novel tokenomics including a dynamic Dutch auction model and elastic wallet caps designed to enhance fairness. Through the Cheezburger Factory, we aim to enable easy one-click deployment of the same innovative tokenomics that power CHZ, allowing more projects to benefit from these advances. CHZ demonstrates engaged blockchain developers and communities can positively shape the crypto ecosystem while also celebrating an iconic food in memecoin form. In homage to its namesake, CHZ brings its own twist of innovation, like the slice of cheese that makes an hamburger perfect.

1   Introduction

In 1924, a creative teenager named Lionel Sternberger forever altered culinary history by placing a slice of cheese on a burger [2]. This simple yet revolutionary idea birthed the now globally beloved cheeseburger. On both the National Cheeseburger Day [3] and its coming 100th anniversary, we are proudly launching Cheezburger (CHZ) [1], a new memecoin project on the Base Network [4] that pays tribute to Sternberger's innovation in both name and ethos.

Beyond celebrating cheeseburgers, CHZ implements thoughtful tokenomics and aims to be a model for community-driven cryptocurrencies. This paper details CHZ's launch mechanics and technological innovations, including the Cheezburger Factory which enables projects to easily adopt the same innovative and fair launch tokenomics pioneered by CHZ, that set it apart from other cryptocurrency projects. We hope to prove that classics can be reinvented with a dash of creativity.

2 Background

Memecoins are cryptocurrencies that gain popularity and value through viral online memes, engagement from dedicated communities, and speculative interest rather than just their technical utility. Examples like Dogecoin and Shiba Inu surged in popularity in 2021 [6], building active communities attracted to their lighthearted nature and viral marketing. However, many new memecoin projects have lacked innovative token designs, only relying on theme-based hype.

In contrast, CHZ combines entertainment with intelligent tokenomics addressing issues like manipulation, unfair launches, and wealth concentration. CHZ shows memecoins can make technical contributions beyond speculation.

Additionally, CHZ and the Factory are developed using highly optimized Solidity code. The codebase also underwent rigorous testing and internal audits prior to launch to validate correctness and robustness. This enables enhanced security and efficiency.

By leveraging Solidity best practices and extensive QA, CHZ demonstrates that memecoin projects can produce professional-grade implementations while still maintaining their community-driven ethos. The technical rigor applied ensures a robust and secure foundation for CHZ's innovative tokenomics.

3 Cheezburger Tokenomics

CHZ uses innovative tokenomics for fair distribution and to prevent misconduct. A key design goal is enabling broad, equitable participation over insider advantage.

3.1 Supply

At genesis, a fixed supply of 1,000,000,000 CHZ is minted, valued at $0,000003 each based on the initial $3,000 equivalent liquidity pool. The contract implements burn functions to allow anyone to burn their tokens for any purpose thus allowing buy back and burn events. There are no team allocations - all CHZ must be purchased fairly according to the Dynamic Dutch Auction Mechanics below.

3.2 Dynamic Dutch Auction Mechanics

At launch, the liquidity pool is seeded with $3,000 value, which allows early participants to acquire a sizeable token share while contributing meaningful liquidity for the community. CHZ employs a novel declining Dutch auction model to facilitate fair participation over time, with the early access premium decaying quadratically from 30% down to 2% over a 4-hour period. This aligns with the Balanced Recipe settings of the CheezburgerFactory.
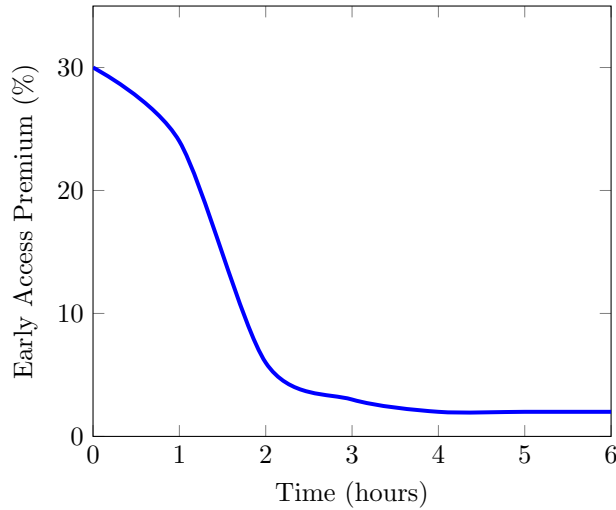
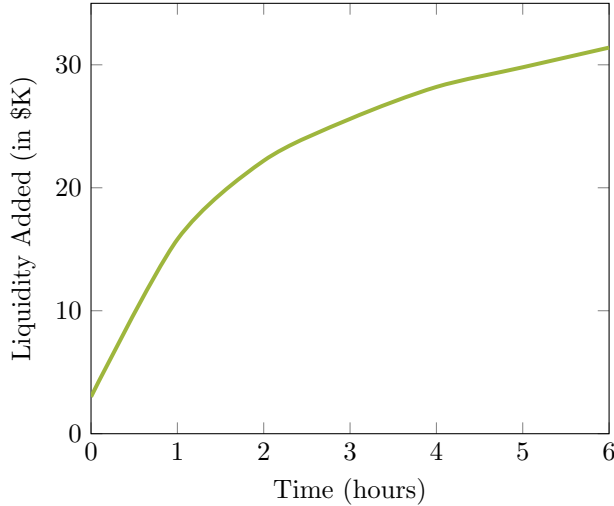$$B(t) = B_0 - (B_0 - B_f) \times \left(\frac{t}{\text{duration}} \right)^2 \tag{1}$$

Where $B(t)$ represents the early access premium percentage at time t, B_0 is the initial 30% early access premium, B_f is the final 2% buy fee, and duration is 4 hours.

The Balanced Recipe provides a moderate starting premium and decay duration to balance participation incentives with price stability. The 30% initial premium prevents front-running as early participants face high fees to contribute to the liquidity that gradually decrease over the window. It allows broad access rather than advantage to just immediate bots and insiders. After launch, the early access premium remains permanently fixed at 2%. Sells have constant 2% fees as well. There are no team allocations - all CHZ must be purchased fairly.

For example, assuming $200,000 total trading volume during the first 5 hours:

Hour	Avg. Early Access Premium	EAP Fees	Sell Fees	Volume
1	24%	$9,600	$800	$40,000
2	6%	$2,400	$800	$40,000
3	3%	$1,200	$800	$40,000
4	2%	$800	$800	$40,000
5+	2%	$800	$800	$40,000

This example would result in an average of \$26,400 in collected liquidity fees during the launch window to strengthen the liquidity, since 100% of the total fees goes towards liquidity to ensure smoother trading and minimal price impact for investors as volume increases.

The UNI-V2 liquidity tokens are then distributed to wallets designated for community-aligned purposes (e.g. marketing, development, partnerships, donations). Importantly, these wallets do not withdraw any of the added liquidity unless needed for their intended utility, thus maintaining trading smoothness and stability.

The dynamic Dutch auction model ensures fair and transparent community participation during the launch, unlike traditional presales and ICOs that can concentrate access on top of being opaque. By starting with a premium that decay over time, users can join more evenly throughout the window as it normalize, creating a mechanism for broader, more equitable involvement.
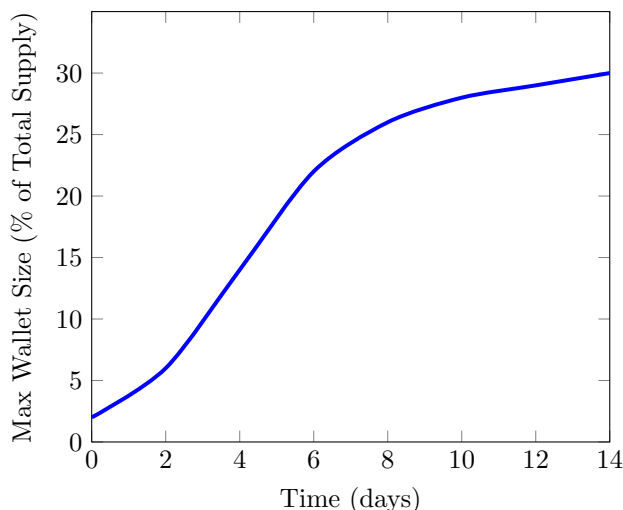
In summary, the design of CHZ's tokenomics ensures that all fees feed into liquidity, which is strategically pooled in community-aligned wallets to support growth. However, withdrawal only occurs when aligned with community benefit, maintaining overall liquidity strength at all times.

3.3 Elastic Wallet Caps

CHZ uses balanced recipe that enforces a dynamic maximum wallet size, progressively increasing in a quadratic fashion from 2% to 30% of total supply over two weeks. This restricts concentration during launch while still allowing exchange integrations later. The wallet cap $W(t)$ changes over time t according to:

$$W(t) = W_0 + (W_f - W_0) \times \left(\frac{t}{duration} \right)^2 \tag{2}$$

Where $W_0 = 2\%$ is the initial cap, $W_f = 30\%$ is the final cap, and duration = 14 days. This causes $W(t)$ to increase slowly initially, rapidly in the middle, and slowly again approaching W_f. Quadratic progression enables fine tuning of the curve progression while maintaining the overall shape. Lower powers result in slower initial growth, while higher powers make it faster.

This enables broad distribution rather than takeover by a few entities, while also encouraging dollar cost averaging as investors can only purchase limited amounts over time.

3.4   Dynamic Liquidity Swaps

Unlike other tokens that conduct automated swapping using a fixed amount of their tokens for ETH, potentially leading to high price impact as the token price increases, Cheezburger (CHZ) adopts an innovative approach to liquidity management. The CheezburgerFactory conducts automated liquidity swaps sized at 2% of the existing pool, dynamically adjusting the swap size based on the current liquidity pool.

This dynamic approach significantly reduces price impact and ensures smoother trading, as the amount of tokens sold in each swap never becomes excessively large relative to the liquidity pool, even if the CHZ token price would increases significantly. This dynamic liquidity swap mechanism is a key innovation of CHZ, contributing to more stable and predictable trading conditions for all participants.

4   Community Engagement

Cheezburger aims to bring flavor to the world through community events and outreach. We'll fire up recurring "Cheezburger Showdowns" where CHZ holders

can share and tag us with their tastiest burger photos for a chance to win mouthwatering prizes. We'll also launch epic #CheeseburgersForAll challenges where CHZ holders purchase and gift juicy cheeseburgers to those in need. Their social media videos will not only get the meal reimbursed but also enter them into competitions with prizes hot enough to melt cheese.

Because we believe no one should go bun-less or cheese-less, we'll also donate and sponsor hunger relief organizations and host volunteer events at local food banks to help fill empty stomachs. Our goal is to build lasting bonds within communities while providing short-term relief during difficult times.

5 CheezburgerFactory

The CheezburgerFactory is where meme coin dreams come gouda! This powerful smart contract enables the trustless and easy creation of new tokens with innovative tokenomics like CHZ.

This cheesy toolkit allows anyone to quickly deploy their own optimized and customizable ERC-20 token with EIP-2612 support, no coding required. Projects can launch fully-featured tokens without getting their hands doughy with complex contracts.

We've melted away the messy details so creators can focus on shipping delicious new memes and tokenomics. The Factory provides a user-friendly interface to mint fresh tokens by simply selecting parameters and adding liquidity.

By opening up token creation to all, the CheezburgerFactory aims to nurture an ecosystem of innovative community tokens. No longer must projects spend gouda money on devs when they can DIY with our cheesy kit!

5.1 Why?

Unfortunately, smart contracts deployed by most memecoin and utility token projects today are often just copy-pasted from other projects and evolving in concerning directions. These contracts are frequently not optimized, with short-sighted features added without considering long-term consequences. For example, fixed wallet size limits fail to account for needs of future exchange listings and bridges. Basic anti-bot measures like toggling between high and normal taxes are trivial to circumvent by waiting for taxes to normalize. Even well-intentioned transfer fees create usability issues for users with cold wallets or multiple addresses, and friction for exchange integration.

As developers copy-paste and make minor modifications to existing token contracts without a comprehensive perspective, issues compound and contracts grow increasingly bloated and suboptimal. This presents serious reliability, security, and adoption risks for communities relying on these contracts long-term.

The CheezburgerFactory provides a robust solution through an optimized, immutable contract architecture designed for both fairness and longevity. By using standardized recipes that encode best practices, projects can launch tokens with innovative features like dynamic fees and caps that adapt to usage

rather than hindering it. The predictable Factory contracts also enable seamless integration and interoperability down the line.

While the proliferation of flawed token contracts represents a systemic issue threatening the sustainability of many cryptocurrency projects, the CheezburgerFactory offers a path forward by blending accessibility with best practices and a community-first perspective. Widespread usage of the Factory could significantly improve the reliability and usability of token projects, while also freeing developers to focus on more productive work than repeatedly deploying mediocre contracts. The Factory allows the true potential of tokenized communities to be unlocked.

5.2 Overview

The CheezburgerFactory are a set of immutable and non-upgradeable smart contracts that enables easy deployment of new tokens with automated liquidity provisioning against either a native coin or any ERC20 token specified.

At deployment, the creator can specify the token details like name, symbol, and supply along with the UniswapV2-like router address to integrate with. The creator then sends either ETH or the address and amount of an ERC20 token they wish to provide as liquidity.

The Factory handles all of the token creation, approval, and liquidity pooling automatically via the specified Uniswap router. Any router that implements the Uniswap V2 standard is compatible.

Behind the scenes, the Factory mints the new tokens, creates the Uniswap pair against the selected liquidity asset, pools the specified amounts, and sends the liquidity tokens to the creator. This abstracts all of the token and liquidity provisioning complexity into a seamless one-click deployment.

By supporting both ETH and ERC20 tokens as liquidity, the Factory provides flexibility for projects to launch with the assets they have available. Automating the entire process dramatically lowers the barrier to creating a new token with built-in liquidity and exchange listing in a completely trustless and decentralized way.

5.3 Recipes

The Factory provides preset configurations called "recipes" that allow new tokens to launch with curated parameters right out of the box. Recipes come in various flavors to match different goals:

5.3.1 Degen Recipe

Ideal for tokens with smaller liquidity pools seeking to quickly build volume and liquidity. Uses higher initial fees and shorter durations to strongly incentivize early holders to grow the pool. Rewards early risk takers but results in higher volatility.

Liquidity:

```
1  {
2      feeThresholdPercent: 4
3  }
```

Premium:

```
1  {
2      duration: 3600, // 1 hour
3      percentStart: 3000, // 30%
4      percentEnd: 300 // 3%
5  }
```

Wallet:

```
1  {
2      duration: 1209600, // 2 weeks
3      percentStart: 200, // 2%
4      percentEnd: 3500 // 35%
5  }
```

5.3.2 Smooth Recipe

Better suited for tokens with large initial liquidity pools or highly anticipated launches for more organic growth goals. Lower fees and longer durations discourage early dumping and promote stability. Favors long-term holding over short-term gains.

Liquidity:

```
1  {
2      feeThresholdPercent: 2
3  }
```

Premium:

```
1  {
2      duration: 10800, // 3 hours
3      percentStart: 2000, // 20%
4      percentEnd: 100 // 1%
5  }
```

Wallet:

```
1  {
2      duration: 604800, // 1 week
3      percentStart: 200, // 2%
4      percentEnd: 2000 // 20%
5  }
```

5.3.3   Balanced Recipe

A flexible default for tokens with varying liquidity pool sizes. Moderate fee and wallet lock parameters aim to balance growth incentives with stability. Appeals to a wide range of projects.

Liquidity:

```
1  {
2      feeThresholdPercent: 3
3  }
```

Premium:

```
1  {
2      duration: 7200, // 2 hours
3      percentStart: 2500, // 25%
4      percentEnd: 200 // 2%
5  }
```

Wallet:

```
1  {
2      duration: 1209600, // 2 weeks
3      percentStart: 200, // 2%
4      percentEnd: 3000 // 30%
5  }
```

Recipes encode best practices to avoid risky configurations. But projects can still customize settings if desired. This flexibility paired with smart defaults promotes healthy, sustainable ecosystems.

5.4   Token deployment

The CheezburgerFactory charges no upfront fees for deploying new tokens. Creators receive 100% of the initial liquidity they provide.

To sustain the platform, the Factory collects a 4% commission on all liquidity fees generated by newly created tokens. This commission applies to liquidity events, not all trades.

For example, if a token produced \$1 million in total trade volume and \$30,000 of that went to liquidity fees (flat 3% fee), the Factory would receive 4% of the \$30,000 in fees, equaling \$1,200.

Importantly, this 4% Factory commission does not get fees from all trades, only on liquidity swap events. However, it does continue for the lifetime of the token as long as liquidity fees are generated. This maintains project economics while providing ongoing support for platform development.

After deploying a token, the Factory sends all initial liquidity directly to the creator's address. The creator has full control over managing liquidity transparency.

By eliminating upfront costs and empowering creators, the Factory aims to build an ecosystem where projects thrive through innovative token designs

rather than fees. The 4% commission funds continual improvement of the platform.

5.5 Referral Program

The CheezburgerFactory includes a referral program designed to incentivize third-party developers to build custom deployments and integrations utilizing the platform.

When deploying a token, developers can specify their own referral address and receive a 1-4% commission from that token's trading fees. This provides monetization for their custom integration work.

For example, a Telegram bot for automated deployments could take 2% of fees from tokens it deploys as ongoing commissions, encouraging bot development.

The capped referral to 4% percentage ensures projects don't lose excessive fees to integrators. Automated distribution of referral commissions maintains lightweight integration.

By sharing revenues, the program incentivizes developers to integrate with the Factory, accelerating adoption of the platform's innovative token designs. Projects benefit from easy access to advanced tokenomics while developers become stakeholders via fee commissions.

Importantly, the official Cheezburger platform does not take any referral commissions, avoiding risks of abuse. Only third-party integrations are able to take commissions, subject to the 1-4% cap.

Overall, the referral program incentivizes ecosystem integration in a controlled manner, aligning incentives between projects, developers, and the Factory to encourage adoption of robust community-driven token designs.

5.6 Security

The CheezburgerFactory implements strict validation on all inputs and parameters to prevent malformed tokens or misuse.

While we encourage token owners to lock or burn their liquidity, the token owner is subject to the same limits they configure, preventing abuse of elevated privileges. For example, the owner cannot withdraw more liquidity than allowed by the caps they set without investors having time to react. This deliberate design choice discourages malicious behavior by aligning the owner's interests with those of their communities.

The Factory uses CREATE2 with randomized salts to generate unpredictable token addresses. This prevents insiders front-running deployments. Addresses are only revealed once liquidity is added, enhancing fairness and overall security.

To promote fair participation during the fair launch window, the CheezburgerFactory contract implements anti-bot protections. This temporarily blocks bots or scripts from buying excessive amounts in one block by transferring purchased tokens between multiple wallets. The contract only allows one successful

token purchase per block per wallet while the early access premium is still decreasing, forcing more equitable distribution by preventing bulk purchases via smart contracts in a single block. The anti-bot logic is active during launch to promote fair access across users when it matters most.

Since the Factory deploys the same immutable contract code for every token, malicious additions cannot be inserted like in individually developed contracts. The predictable Factory codebase prevents malicious deployments.

5.7 Conclusion

In summary, the CheezburgerFactory provides enhanced security and fairness for both developers and investors. By using immutable contract code and strict validations, the unpredictability and risks associated with individually customized contracts are eliminated.

The Factory guarantees predictable and reliable outcomes, removing the human error variable from deployments. The built-in recipes allow projects to launch with robust tokenomics in just a few clicks.

The anti-bot protections ensure more equitable participation during crucial launch phases. Combined with the dynamic early access premium, this promotes broad access rather than advantage to select insiders.

For developers, integrating the Factory provides monetization opportunities through the referral program while simplifying the process of securely deploying innovative tokens.

For communities, the Factory enables easy creation of tokens with cutting-edge designs focused on fairness and long-term viability. Everything from supply caps to early access premium can be configured to align incentives.

By blending accessibility with security, the CheezburgerFactory empowers developers and communities to come together in shaping the next generation of community-driven cryptocurrencies. We believe the Factory provides the trust and innovation needed to nurture an ecosystem of collaborative projects with thoughtful tokenomics benefitting all participants.

6 Roadmap

The Cheezburger roadmap outlines our development plans to grow the ecosystem and drive value for CHZ holders. This roadmap is subject to change based on feasibility, market conditions, and community feedback.

6.1 Q3 2023 - Launch Phase

- Launch of the website and social media platforms

- CHZ and Factory deployment on Base Network

- Initial liquidity offering seeded

- Release one-click UI for easy token deployment with the Factory

- Deploy the Factory on additional chains (Ethereum, Polygon, Binance, Arbitrum, Avalanche...)

- Listing applications submitted to Coinmarketcap and Coingecko

- First marketing campaigns rolled out

- Onboarding initial partners for hunger relief efforts

- Targeting 500 holders in first 2 months post-launch

6.2   Q4 2023 - Growth Phase

- Launch portal on Chz.lol to list all tokens created with the Cheezburger-Factory

- Target first CEX listings

- Ramp up marketing and partnership efforts

- Aim for 1,000 holders and cheezburgers donated

6.3   Q1 2024 - Utility Phase

- Explore Uniswap V4 support and community suggestions for the CheezburgerFactory V2

- Explore ideas for a CheezSwap aggregation DEX

- Attempt listings on additional exchanges

- Target 3,000 holders and expanded hunger relief impact

This roadmap represents the current plans for scaling CHZ into a vibrant and impactful community. We will adapt based on learnings and feedback, turning ideas into action. The future of CHZ is community-driven!

7   Conclusion

While created for entertainment and in honor of a cultural icon, CHZ distinguishes itself through an innovative token design while helping others do the same. It shows strong tokenomics and community can drive positive change. As we celebrate the monumental cheeseburger centennial, Cheezburger exemplifies how classics can be reinvented to continue delighting people for another century of cheesy goodness.

References

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