



RugFreeCoins Audit



HOWLX Token Audit

Smart Contract Security Audit

December 2, 2021

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Audit details



Audited project

HOWLX Token



Contract Address

0x1D49ccE9C96c882737aD835F2dF2706A42E74116



Client contact

HOWLX Team



Blockchain

Binance smart chain



Project website

<https://howlxtoken.com/>

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

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Background

Rugfreecoins was commissioned by HOWLX to perform an audit of the smart contract.

<https://bscscan.com/token/0x1D49ccE9C96c882737aD835F2dF2706A42E74116>

The focus of this audit is to verify that the smart contract is secure, resilient and working according to the specifications.

The information in this report should be used to understand the risk exposure of the smart contract, project feasibility, long term sustainability and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

About the project

HOWLX is a token built on the Binance Smart Chain that consists of two free-to-play + play-to-earn games with a profit-sharing model and a Metaverse with integrated cross-chain NFT interoperability. It also has a limited series of comic books (NFTs), a staking platform, and a 2d/3d Cartoon animation series (to be featured on Netflix). Each transaction, purchase and sell incur a 10% fee.

Features

- ❖ The **automatic BNB rewards** will be distributed among every holder proportional to how many tokens each individual holds in values of 4% when buying and selling.
- ❖ The **sustainability fee of 1% when buying and selling for marketing** is what allows HOWLX Token to hold the aforementioned promise. Tokens will be swapped into BNB and will be sent to a marketing wallet per transaction. This way, HOWLX Token will have enough funds to promote the coin and spend for future development without selling tokens as the traditional way.
- ❖ The additional component included under the sustainability section is a **liquidity fee of 2%**, which is a redistribution mechanism that ensures the trading pool always has sufficient liquidity. This is a key element for decentralized exchanges like Pancakeswap.
- ❖ The **gaming pool fee of 3% when buying and selling** is what allows HOWLX to allocate funds for the development of the games.

Tokenomics

10% fee when buying & selling

- ❖ 4% of trade goes to holders pockets in BNB.
- ❖ 2% of trade goes to the liquidity pool.
- ❖ 3% of trade goes to the game pool.
- ❖ 1% of trade goes to the marketing wallet.

Roadmap

Q4 2021

- ❖ Presale
- ❖ Pancake listing
- ❖ Worldwide marketing
- ❖ NFT Sale
- ❖ CG Listing
- ❖ CMC Listing
- ❖ More Listings
- ❖ A bunch of character reveal

Q1 2022

- ❖ Game 2 beta reveal
- ❖ Reward platform reveal
- ❖ Metaverse & Movie Update
- ❖ Game 2 Alpha test
- ❖ First CEX listing
- ❖ Certik Audit

Q2 2022

- ❖ New website
- ❖ Game 2 launch
- ❖ Game 2 Public Tournament
- ❖ Reward platform launch
- ❖ Game 1 Beta & Alpha test
- ❖ Metaverse land sale
- ❖ Update on Movie

Target market and the concept

Target market

- ❖ Anyone who's interested in Crypto space with long term investment plans.
- ❖ Anyone who's ready to earn a passive income in BNB by holding tokens.
- ❖ Anyone who's interested in owning Digital comic book series NFTs.
- ❖ Any casual or hardcore gamers out there play games and win rewards.
- ❖ Anyone who's interested in collecting NFTs or trading NFTs.
- ❖ Anyone who's interested in trading tokens.
- ❖ Anyone who's interested in taking part with the future plans of the HOWLX token.
- ❖ Anyone who's interested in making financial transactions with any other party using HOWLX or BNB as the currency.

Core concept

The BNB reward system

4% of each transaction when selling gets sent amongst all holders in BNB rewards. The holders will be eligible to receive BNB, in every one hour, and rewards are proportional to how many tokens each individual holds.

Sustainable mechanism

The **sustainability fee of 4% when buying and selling for marketing and development of game** is what allows HOWLX Token to promote the token and use funds to further development of the platform. Tokens will be swapped into BNB and will be sent to a marketing and gaming pool wallet per transaction. This way, HOWLX Token will have access to the funds without selling tokens as the traditional way, which will enable them to consume funds without hurting the project.

The **liquidity fee of 2% when buying and selling**, which is a redistribution mechanism that ensures the trading pool always has sufficient liquidity.

WHY HAVE 1 GAME WHEN YOU CAN HAVE TWO BLOCKBUSTER GAMES?!!!!

GAME 1 - 5 vs 5 (PVP/PVE mode)

GAME 2 - 1 vs 1 (PVP/PVE mode) - Contains some cross over characters from Game 1.

GAME 1

Each player's character can be equipped with multiple weapons and a drone. The drone has a unique function to assist the player and can be set to different combat modes; mainly full assault or strategic defensive mode when engaging in gun fights.

The game will also have multiple seasons. Each season's storyline will be based off the comics and Netflix cartoon.



GAME 2

You will have the ability to design your own character and create your very own ultimate fighting machine. We have already created some interesting characters, however you can also modify them to your taste. You will earn points from beating people up and ultimately the more points you get the more token rewards you will be eligible for.



THE METAVERSE

THE HOWLX METAVERSE - MALLIAN ISLANDS

During the height of the pandemic the idea of the metaverse replacing the internet/ websites, became more of a reality than ever before.

Our goal is not just to create another wanna be Metaverse where people can build whatever they want or do what ever they like without having positive contribution to the real world. Our goal is to create a Metaverse that addresses real life problems and ultimately improves people's life.

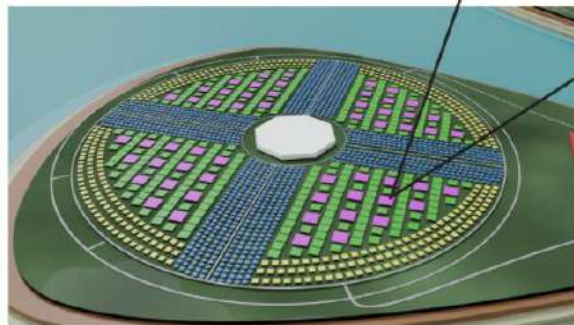
We have designed 5 identical Islands with the same layout and structure. (The reason we did this is to ensure fairness to all land owners). Each Island will have a town centre that will have a focus. For example; an Island's town centre can be focused on sports and essentially we will empower the Island to collaborate with industry leading entities like the NFL, NBA FIEA etc to create value and solve real life problems.

WHAT CAN LAND OWNERS DO IN THIS METAVERSE:

You will be able to build anything you want on the land. Our ambition is to make the metaverse plug and play; this is to allow anyone to easily design structures without any coding or experience.

Each Island will essentially have its own core functions and will be aimed at collaborating with industry leading entities to tackle real life problems.

***The land owners will have the ability to vote to decide what they want their city centre to focus on.**



BACKGROUND STORY OF THE MALLIAN ISLANDS

The Mallian Islands is a location that features in one of the missions in the HOWLX game. The six mysterious looking Islands were discovered by the founders of Mallian corp (The company responsible for creating

CLASSIFIED

The center Island was the Headquarters of Mallian corp. The other 5 Islands were converted into resorts/ holiday Island. However the 6 Islands were later seized by the authorities when a journalist infiltrated the HQ and exposed the secrets of the company by releasing a video footage of

CLASSIFIED

CLASSIFIED



NFTs



Aside from our game assets, we will be auctioning off our 5 limited series digital comic book on Opensea!



We are going big into the TV screens!!
NETFLIX ANIMATION MOVIE AND CARTOON SERIES

Potential to grow with score points

| | | |
|--------------|--------------------------|-------------|
| 1. | Project efficiency | 9/10 |
| 2. | Project uniqueness | 9/10 |
| 3 | Information quality | 9/10 |
| 4 | Service quality | 9/10 |
| 5 | System quality | 9/10 |
| 6 | Impact on the community | 9/10 |
| 7 | Impact on the business | 9/10 |
| 8 | Preparing for the future | 9/10 |
| Total Points | | 9/10 |

Contract details

Token contract details for 02nd December 2021

| | |
|---|--|
| Contract name | HOWLX TOKEN |
| Contract address | 0x1D49ccE9C96c882737aD835F2dF2706A42E74116 |
| Token supply | 100,000,000,000,000 |
| Token ticker | HWXT |
| Decimals | 9 |
| Token holders | 1 |
| Transaction count | 1 |
| Dividend tracker | 0x33483b0de44ea09d9df148cc5f772368e870d4d4 |
| Game wallet | 0x8abdf276fda153fcacc609f78536e71d1959bbd7 |
| Marketing wallet | 0x01186047926b31b4dafcf3afee749ae58628af60 |
| Contract deployer address | 0x6269eb79255e366CC2a4bDb4258301EFFB02A231 |
| Contract's current owner address | 0xf43b8dcf52ab41783d950d843c6d413960caa054 |

Token distribution

Tokens are distributed as follows:

- ❖ 37.16% of the total supply is locked and restricted.
- ❖ 5% will be unlocked every 120 days to be used if needed.
- ❖ Min % of unlocking will be used only for marketing or rewards.
- ❖ Max % of unused unlocks will be burned.
- ❖ All unlocks and burns will be announced in advance.
- ❖ Liquidity is locked for 5years.

Total Supply:

100,000,000,000,000

40.55% GAME ECOSYSTEM

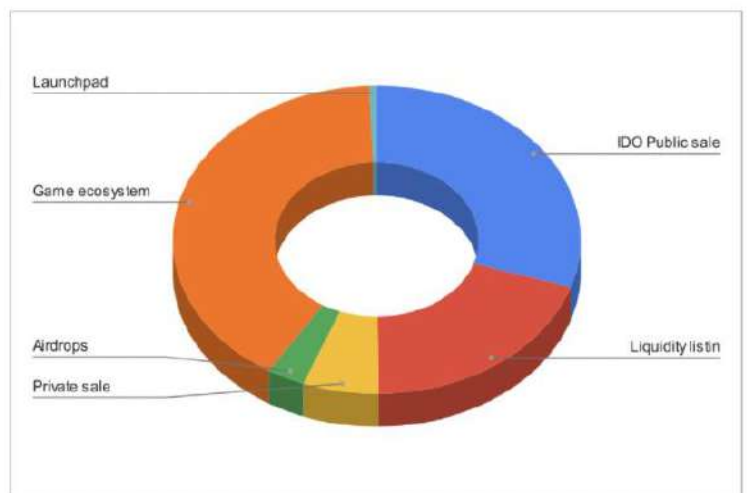
30% IDO PUBLIC SALE

19.85% LIQUIDITY LISTING

6% PRIVATE SALE

3% AIRDROPS

0.60% LAUNCHPAD









































Contract code function details



































| No | Category | Item | Result |
|----|---------------------------------------|--|--------|
| 1 | Coding conventions | BRC20 Token standards | pass |
| | | compile errors | pass |
| | | Compiler version security | pass |
| | | visibility specifiers | pass |
| | | Gas consumption | pass |
| | | SafeMath features | pass |
| | | Fallback usage | pass |
| | | tx.origin usage | pass |
| | | deprecated items | pass |
| | | Redundant code | pass |
| | | Overriding variables | pass |
| 2 | Function call audit | Authorization of function call | pass |
| | | Low level function (call/delegate call) security | pass |
| | | Returned value security | pass |
| | | Selfdestruct function security | pass |
| 3 | Business security | Access control of owners | pass |
| | | Business logics | pass |
| | | Business implementations | pass |
| 4 | Integer overflow/underflow | | pass |
| 5 | Reentrancy | | pass |
| 6 | Exceptional reachable state | | pass |
| 7 | Transaction ordering dependence | | pass |
| 8 | Block properties dependence | | pass |
| 9 | Pseudo random number generator (PRNG) | | pass |
| 10 | DoS (Denial of Service) | | pass |
| 11 | Token vesting implementation | | pass |
| 12 | Fake deposit | | pass |
| 13 | Event security | | pass |





















Contract description table
































Below table represents the summary of the contracts and methods in the token contract. We scanned the whole contract and listed down all the Interfaces, functions and implementations with its visibility and mutability.

| Contract | Type | Bases | | |
|-----------------------|------------------|---|---|--|
| L | Function Name | Visibility | Mutability | Modifiers |
| | | | | |
| IERC20 | Interface | | | |
| L | totalSupply | External  | | NO  |
| L | balanceOf | External  | | NO  |
| L | transfer | External  |  | NO  |
| L | allowance | External  | | NO  |
| L | approve | External  |  | NO  |
| L | transferFrom | External  |  | NO  |
| | | | | |
| IERC20Metadata | Interface | IERC20 | | |
| L | name | External  | | NO  |
| L | symbol | External  | | NO  |
| L | decimals | External  | | NO  |
| | | | | |

| Context | Implementation | | | |
|----------|----------------|---|---|--|
| L | _msgSender | Internal  | | |
| L | _msgData | Internal  | | |
| | | | | |
| SafeMath | Library | | | |
| L | add | Internal  | | |
| L | sub | Internal  | | |
| L | sub | Internal  | | |
| L | mul | Internal  | | |
| L | div | Internal  | | |
| L | div | Internal  | | |
| L | mod | Internal  | | |
| L | mod | Internal  | | |
| | | | | |
| ERC20 | Implementation | Context, IERC20, IERC20Metadata | | |
| L | | Public  |  | NO  |
| L | name | Public  | | NO  |
| L | symbol | Public  | | NO  |









| | | | | |
|---------------------|----------------------|---|---|--|
| L | decimals | Public  | | NO  |
| L | totalSupply | Public  | | NO  |
| L | balanceOf | Public  | | NO  |
| L | transfer | Public  |  | NO  |
| L | allowance | Public  | | NO  |
| L | approve | Public  |  | NO  |
| L | transferFrom | Public  |  | NO  |
| L | increaseAllowance | Public  |  | NO  |
| L | decreaseAllowance | Public  |  | NO  |
| L | _transfer | Internal  |  | |
| L | _mint | Internal  |  | |
| L | _burn | Internal  |  | |
| L | _approve | Internal  |  | |
| L | _beforeTokenTransfer | Internal  |  | |
| | | | | |
| SafeMathUint | Library | | | |
| L | toInt256Safe | Internal  | | |
| | | | | |












| SafeMathInt | Library | | | |
|--------------------------------------|------------------------|---|---|--|
| L | mul | Internal  | | |
| L | div | Internal  | | |
| L | sub | Internal  | | |
| L | add | Internal  | | |
| L | abs | Internal  | | |
| L | toUint256Safe | Internal  | | |
| | | | | |
| DividendPayingTokenInterface | Interface | | | |
| L | dividendOf | External  | | NO  |
| L | distributeDividends | External  |  | NO  |
| L | withdrawDividend | External  |  | NO  |
| | | | | |
| DividendPayingTokenOptionalInterface | Interface | | | |
| L | withdrawableDividendOf | External  | | NO  |
| L | withdrawnDividendOf | External  | | NO  |
| L | accumulativeDividendOf | External  | | NO  |
| | | | | |














| DividendPayingToken | Implementation | ERC20, DividendPayingTo kenInterface, DividendPayingTo kenOptionalInterfa ce | | |
|----------------------------|-----------------------------|---|---|--|
| L | | Public  |  | ERC20 |
| L | | External  |  | NO  |
| L | distributeDividend s | Public  |  | NO  |
| L | withdrawDividend | Public  |  | NO  |
| L | _withdrawDividend OfUser | Internal  |  | |
| L | dividendOf | Public  | | NO  |
| L | withdrawableDivid endOf | Public  | | NO  |
| L | withdrawnDividend Of | Public  | | NO  |
| L | accumulativeDivid endOf | Public  | | NO  |
| L | _transfer | Internal  |  | |
| L | _mint | Internal  |  | |
| L | _burn | Internal  |  | |
| L | _setBalance | Internal  |  | |
| | | | | |
| IterableMapping | Library | | | |
| L | get | Public  | | NO  |





































| | | | | |
|-----------------------|-----------------------|----------------|---|-----------|
| L | getIndexOfKey | Public ¶ | | NO¶ |
| L | getKeyAtIndex | Public ¶ | | NO¶ |
| L | size | Public ¶ | | NO¶ |
| L | set | Public ¶ | ⦿ | NO¶ |
| L | remove | Public ¶ | ⦿ | NO¶ |
| | | | | |
| Ownable | Implementation | Context | | |
| L | | Public ¶ | ⦿ | NO¶ |
| L | owner | Public ¶ | | NO¶ |
| L | renounceOwnership | Public ¶ | ⦿ | onlyOwner |
| L | transferOwnership | Public ¶ | ⦿ | onlyOwner |
| | | | | |
| IUniswapV2Pair | Interface | | | |
| L | name | External ¶ | | NO¶ |
| L | symbol | External ¶ | | NO¶ |
| L | decimals | External ¶ | | NO¶ |
| L | totalSupply | External ¶ | | NO¶ |
| L | balanceOf | External ¶ | | NO¶ |
| L | allowance | External ¶ | | NO¶ |

| | | | | |
|---|----------------------|------------|---|-----|
| L | approve | External ¶ | ⦿ | NO¶ |
| L | transfer | External ¶ | ⦿ | NO¶ |
| L | transferFrom | External ¶ | ⦿ | NO¶ |
| L | DOMAIN_SEPARATOR | External ¶ | | NO¶ |
| L | PERMIT_TYPEHASH | External ¶ | | NO¶ |
| L | nonces | External ¶ | | NO¶ |
| L | permit | External ¶ | ⦿ | NO¶ |
| L | MINIMUM_LIQUIDITY | External ¶ | | NO¶ |
| L | factory | External ¶ | | NO¶ |
| L | token0 | External ¶ | | NO¶ |
| L | token1 | External ¶ | | NO¶ |
| L | getReserves | External ¶ | | NO¶ |
| L | price0CumulativeLast | External ¶ | | NO¶ |
| L | price1CumulativeLast | External ¶ | | NO¶ |
| L | kLast | External ¶ | | NO¶ |
| L | mint | External ¶ | ⦿ | NO¶ |
| L | burn | External ¶ | ⦿ | NO¶ |
| L | swap | External ¶ | ⦿ | NO¶ |







| | | | | |
|---------------------------|------------------|------------|---|-----|
| L | skim | External ¶ |  | NO¶ |
| L | sync | External ¶ |  | NO¶ |
| L | initialize | External ¶ |  | NO¶ |
| | | | | |
| IUniswapV2Factory | Interface | | | |
| L | feeTo | External ¶ | | NO¶ |
| L | feeToSetter | External ¶ | | NO¶ |
| L | getPair | External ¶ | | NO¶ |
| L | allPairs | External ¶ | | NO¶ |
| L | allPairsLength | External ¶ | | NO¶ |
| L | createPair | External ¶ |  | NO¶ |
| L | setFeeTo | External ¶ |  | NO¶ |
| L | setFeeToSetter | External ¶ |  | NO¶ |
| | | | | |
| IUniswapV2Router01 | Interface | | | |
| L | factory | External ¶ | | NO¶ |
| L | WETH | External ¶ | | NO¶ |
| L | addLiquidity | External ¶ |  | NO¶ |
| L | addLiquidityETH | External ¶ |  | NO¶ |

| | | | | |
|---------------------------|---|---------------------------|---|-----|
| L | removeLiquidity | External ¶ |  | NO¶ |
| L | removeLiquidityETH | External ¶ |  | NO¶ |
| L | removeLiquidityWithPermit | External ¶ |  | NO¶ |
| L | removeLiquidityETHWithPermit | External ¶ |  | NO¶ |
| L | swapExactTokensForTokens | External ¶ |  | NO¶ |
| L | swapTokensForExactTokens | External ¶ |  | NO¶ |
| L | swapExactETHForTokens | External ¶ |  | NO¶ |
| L | swapTokensForExactETH | External ¶ |  | NO¶ |
| L | swapExactTokensForETH | External ¶ |  | NO¶ |
| L | swapETHForExactTokens | External ¶ |  | NO¶ |
| L | quote | External ¶ | | NO¶ |
| L | getAmountOut | External ¶ | | NO¶ |
| L | getAmountIn | External ¶ | | NO¶ |
| L | getAmountsOut | External ¶ | | NO¶ |
| L | getAmountsIn | External ¶ | | NO¶ |
| | | | | |
| IUniswapV2Router02 | Interface | IUniswapV2Router01 | | |
| L | removeLiquidityETHSupportingFeeOnTransferTokens | External ¶ |  | NO¶ |



| | | | | |
|--------------|---|-----------------------|---|-----------|
| L | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External ¶ |  | NO ¶ |
| L | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ¶ |  | NO ¶ |
| L | swapExactETHForTokensSupportingFeeOnTransferTokens | External ¶ |  | NO ¶ |
| L | swapExactTokensForETHSupportingFeeOnTransferTokens | External ¶ |  | NO ¶ |
| | | | | |
| HOWLX | Implementation | ERC20, Ownable | | |
| L | | Public ¶ |  | ERC20 |
| L | | External ¶ |  | NO ¶ |
| L | updateDividendTracker | Public ¶ |  | onlyOwner |
| L | updateUniswapV2Router | Public ¶ |  | onlyOwner |
| L | excludeFromFees | Public ¶ |  | onlyOwner |
| L | excludeMultipleAccountsFromFees | Public ¶ |  | onlyOwner |
| L | excludeFromRewards | Public ¶ |  | onlyOwner |
| L | allowAddLiquidity | Public ¶ |  | onlyOwner |
| L | setAutomatedMarketMakerPair | Public ¶ |  | onlyOwner |

| | | | | |
|---|--------------------------------|---|---|--|
| L | _setAutomatedMarketMakerPair | Private  |  | |
| L | updateMaxBuyTransactionAmount | Public  |  | onlyOwner |
| L | updateMaxSellTransactionAmount | Public  |  | onlyOwner |
| L | updateMaxWalletToken | Public  |  | onlyOwner |
| L | updateSwapTokensAtAmount | Public  |  | onlyOwner |
| L | updateMarketingWallet | Public  |  | onlyOwner |
| L | startTrading | Public  |  | onlyOwner |
| L | liftAllLimits | Public  |  | onlyOwner |
| L | updateGasForProcessing | Public  |  | onlyOwner |
| L | updateClaimWait | External  |  | onlyOwner |
| L | updateGameFeeReceiver | External  |  | onlyOwner |
| L | updateBuyFees | External  |  | onlyOwner |
| L | updateSellFees | External  |  | onlyOwner |
| L | getClaimWait | External  | | NO  |
| L | getTotalDividendsDistributed | External  | | NO  |
| L | isExcludedFromFees | Public  | | NO  |
| L | withdrawableDividendOf | Public  | | NO  |
| L | dividendTokenBalanceOf | Public  | | NO  |

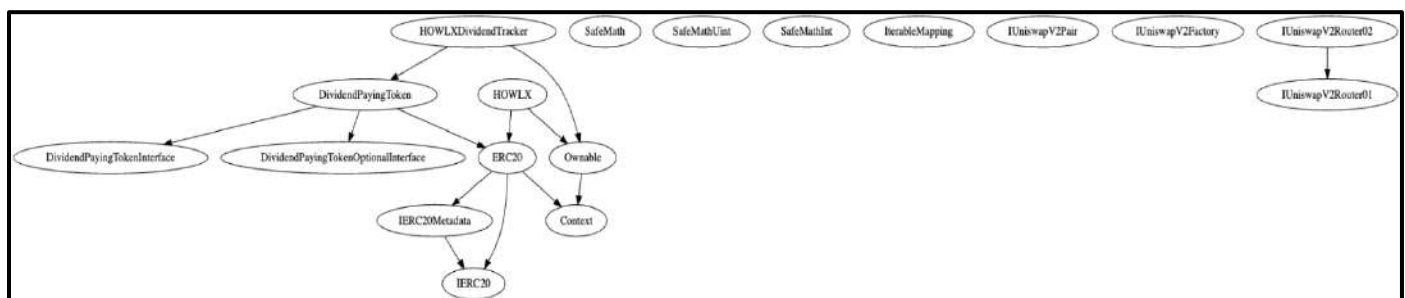
| | | | | |
|-----------------------------|---------------------------------|-------------------------------------|---|---------------------|
| L | getAccountDividendsInfo | External 🔒 | | NO 🔒 |
| L | getAccountDividendsInfoAtIndex | External 🔒 | | NO 🔒 |
| L | processDividendTracker | External 🔒 | ⬢ | NO 🔒 |
| L | claim | External 🔒 | ⬢ | NO 🔒 |
| L | getLastProcessedIndex | External 🔒 | | NO 🔒 |
| L | getNumberOfDividendTokenHolders | External 🔒 | | NO 🔒 |
| L | getLiquidityIsAdded | Public 🔒 | | NO 🔒 |
| L | setLiquidityIsAdded | External 🔒 | ⬢ | onlyOwner |
| L | _transfer | Internal 🔒 | ⬢ | |
| L | swapAndLiquify | Private 🔒 | ⬢ | |
| L | swapTokensForEth | Private 🔒 | ⬢ | |
| L | addLiquidity | Private 🔒 | ⬢ | |
| L | swapAndSendDividends | Private 🔒 | ⬢ | |
| | | | | |
| HOWLXDividendTracker | Implementation | DividendPayingToken, Ownable | | |
| L | | Public 🔒 | ⬢ | DividendPayingToken |
| L | _transfer | Internal 🔒 | ⬢ | |
| L | withdrawDividend | Public 🔒 | ⬢ | NO 🔒 |

| | | | | |
|---|-------------------------|--|---|-----------|
| L | excludeFromDividends | External ¶ |  | onlyOwner |
| L | updateClaimWait | External ¶ |  | onlyOwner |
| L | getLastProcessedIndex | External ¶ | | NO¶ |
| L | getNumberOfTokenHolders | External ¶ | | NO¶ |
| L | getAccount | Public ¶ | | NO¶ |
| L | getAccountAtIndex | Public ¶ | | NO¶ |
| L | canAutoClaim | Private  | | |
| L | setBalance | External ¶ |  | onlyOwner |
| L | process | Public ¶ |  | NO¶ |
| L | processAccount | Public ¶ |  | onlyOwner |

Legend

| Symbol | Meaning |
|---|---------------------------|
|  | Function can modify state |
|  | Function is payable |

Inheritance Hierarchy



Security issue checking status

❖ High severity issues

No high severity issues found.

❖ Medium severity issues

No medium severity issues found.

❖ Low severity issues

No low severity issues found.

❖ Informational

- The owner can enable/disable trading.

```
ftrace | funcSig  
function startTrading(bool _status↑) public onlyOwner {  
    tradingIsEnabled = _status↑;  
}
```

- The owner can update all buy and sell fees.

```
// update total buy fees
ftrace | funcSig
function updateBuyFees(
    uint256 rewardFee↑,
    uint256 liquidityFee↑,
    uint256 marketingFee↑,
    uint256 gameFee↑
) external onlyOwner {
    buyRewardFee = rewardFee↑;
    buyLiquidityFee = liquidityFee↑;
    buyMarketingFee = marketingFee↑;
    buyGameFee = gameFee↑;

    // calculate total buy fees
    totalBuyFees = buyRewardFee
        .add(buyLiquidityFee)
        .add(buyMarketingFee)
        .add(buyGameFee);
}

// update total sell fees
ftrace | funcSig
function updateSellFees(
    uint256 rewardFee↑,
    uint256 liquidityFee↑,
    uint256 marketingFee↑,
    uint256 gameFee↑
) external onlyOwner {
    sellRewardFee = rewardFee↑;
    sellLiquidityFee = liquidityFee↑;
    sellMarketingFee = marketingFee↑;
    sellGameFee = gameFee↑;

    // calculate total sell fees
    totalSellFees = sellRewardFee
        .add(sellLiquidityFee)
        .add(sellMarketingFee)
        .add(sellGameFee);
}
```


Owner privileges

- ❖ The owner can update the dividend tracker.

```
ftrace | funcSig
function updateDividendTracker(address newAddress↑) public onlyOwner {
    require(
        newAddress↑ != address(dividendTracker),
        "HOWLX: The dividend tracker already has that address"
    );

    HOWLXDividendTracker newDividendTracker = HOWLXDividendTracker(
        payable(newAddress↑)
    );

    require(
        newDividendTracker.owner() == address(this),
        "HOWLX: The new dividend tracker must be owned by the HOWLX token contract"
    );

    newDividendTracker.excludeFromDividends(address(newDividendTracker));
    newDividendTracker.excludeFromDividends(address(this));
    newDividendTracker.excludeFromDividends(owner());
    newDividendTracker.excludeFromDividends(address(uniswapV2Router));

    emit UpdateDividendTracker(newAddress↑, address(dividendTracker));

    dividendTracker = newDividendTracker;
}
```

- ❖ The owner can update the router address.

```
ftrace | funcSig
function updateUniswapV2Router(address newAddress↑) public onlyOwner {
    require(
        newAddress↑ != address(uniswapV2Router),
        "HOWLX: The router already has that address"
    );

    emit UpdateUniswapV2Router(newAddress↑, address(uniswapV2Router));
    uniswapV2Router = IUniswapV2Router02(newAddress↑);
}
```

- ❖ The owner can exclude wallets from fees.

```
ftrace | funcSig
function excludeFromFees(address account↑, bool excluded↑) public onlyOwner {
    require(
        _isExcludedFromFees[account↑] != excluded↑,
        "HOWLX: Account is already the value of 'excluded'"
    );
    _isExcludedFromFees[account↑] = excluded↑;

    emit ExcludeFromFees(account↑, excluded↑);
}
```

- ❖ The owner can exclude wallets from rewards.

```
ftrace | funcSig
function excludeFromRewards(address account↑) public onlyOwner {
    dividendTracker.excludeFromDividends(account↑);
}
```

- ❖ The owner can allow wallets to add liquidity when trading disable.

```
ftrace | funcSig
function allowAddLiquidity(address account↑) public onlyOwner {
    canTransferBeforeLiquidityIsEnabled[account↑] = true;
}
```

- ❖ The owner can add/remove marker pair.

```
ftrace | funcSig
function setAutomatedMarketMakerPair(address pair↑, bool value↑)
    public
    onlyOwner
{
    require(
        pair↑ != uniswapV2Pair,
        "HOWLX: The PancakeSwap pair cannot be removed from automatedMarketMakerPairs"
    );

    _setAutomatedMarketMakerPair(pair↑, value↑);
}
```

- ❖ The owner can update transaction limit and max wallet token amount.

```
ftrace | funcSig
function updateMaxBuyTransactionAmount(uint256 newMaxBuyTransactionAmount↑)
    public
    onlyOwner
{
    require(
        newMaxBuyTransactionAmount↑ != maxBuyTransactionAmount,
        "HOWLX: The max buy transaction amount is already this amount"
    );
    emit maxBuyTransactionAmountUpdated(
        newMaxBuyTransactionAmount↑,
        maxBuyTransactionAmount
    );
    maxBuyTransactionAmount = newMaxBuyTransactionAmount↑;
}

ftrace | funcSig
function updateMaxSellTransactionAmount(uint256 newMaxSellTransactionAmount↑)
    public
    onlyOwner
{
    require(
        newMaxSellTransactionAmount↑ != maxSellTransactionAmount,
        "HOWLX: The max sell transaction amount is already this amount"
    );
    emit maxSellTransactionAmountUpdated(
        newMaxSellTransactionAmount↑,
        maxSellTransactionAmount
    );
    maxSellTransactionAmount = newMaxSellTransactionAmount↑;
}

ftrace | funcSig
function updateMaxWalletToken(uint256 newMaxWalletToken↑) public onlyOwner {
    require(
        newMaxWalletToken↑ != maxWalletToken,
        "HOWLX: The max wallet token is already this amount"
    );
    emit maxWalletTokenUpdated(newMaxWalletToken↑, maxWalletToken);
    maxWalletToken = newMaxWalletToken↑;
}
```

- ❖ The owner can update swap point.

```
ftrace | funcSig
function updateswapTokensAtAmount(uint256 newswapTokensAtAmount↑)
{
    public
    onlyOwner

    require(
        newswapTokensAtAmount↑ != swapTokensAtAmount,
        "HOWLX: The swap tokens at amount is already this amount"
    );
    emit setswapTokensAtAmount(newswapTokensAtAmount↑, swapTokensAtAmount);
    swapTokensAtAmount = newswapTokensAtAmount↑;
}
```

- ❖ The owner can update marketing wallet.

```
ftrace | funcSig
function updateMarketingWallet(address newMarketingWallet↑)
{
    public
    onlyOwner

    require(
        newMarketingWallet↑ != marketingWallet,
        "HOWLX: The marketing wallet is already this address"
    );
    excludeFromFees(newMarketingWallet↑, true);
    emit MarketingWalletUpdated(newMarketingWallet↑, marketingWallet);
    marketingWallet = newMarketingWallet↑;
}
```

- ❖ The owner can enable/disable trading.

```
ftrace | funcSig
function startTrading(bool _status↑) public onlyOwner {
    tradingIsEnabled = _status↑;
}
```


- ❖ The owner can update maximum gas usage amount when sending rewards.

```
ftrace | funcSig
function updateGasForProcessing(uint256 newValue↑) public onlyOwner {
    require(
        newValue↑ >= 200000 && newValue↑ <= 500000,
        "HOWLX: gasForProcessing must be between 200,000 and 500,000"
    );
    require(
        newValue↑ != gasForProcessing,
        "HOWLX: Cannot update gasForProcessing to same value"
    );
    emit GasForProcessingUpdated(newValue↑, gasForProcessing);
    gasForProcessing = newValue↑;
}

ftrace | funcSig
function updateClaimWait(uint256 claimWait↑) external onlyOwner {
    dividendTracker.updateClaimWait(claimWait↑);
}
```

- ❖ The owner can update game fee wallet.

```
// update game Fee receiver
ftrace | funcSig
function updateGameFeeReceiver(address newGameFeeReceiver↑)
    external
    onlyOwner
{
    gameWallet = newGameFeeReceiver↑;
}
```

- ❖ The owner can update all buy and sell fees.

```
// update total buy fees
ftrace | funcSig
function updateBuyFees(
    uint256 rewardFee↑,
    uint256 liquidityFee↑,
    uint256 marketingFee↑,
    uint256 gameFee↑
) external onlyOwner {
    buyRewardFee = rewardFee↑;
    buyLiquidityFee = liquidityFee↑;
    buyMarketingFee = marketingFee↑;
    buyGameFee = gameFee↑;

    // calculate total buy fees
    totalBuyFees = buyRewardFee
        .add(buyLiquidityFee)
        .add(buyMarketingFee)
        .add(buyGameFee);
}

// update total sell fees
ftrace | funcSig
function updateSellFees(
    uint256 rewardFee↑,
    uint256 liquidityFee↑,
    uint256 marketingFee↑,
    uint256 gameFee↑
) external onlyOwner {
    sellRewardFee = rewardFee↑;
    sellLiquidityFee = liquidityFee↑;
    sellMarketingFee = marketingFee↑;
    sellGameFee = gameFee↑;

    // calculate total sell fees
    totalSellFees = sellRewardFee
        .add(sellLiquidityFee)
        .add(sellMarketingFee)
        .add(sellGameFee);
}
```

Audit conclusion

While conducting the audit of the HOWLX Token smart contract, it was observed that there is nothing alarming with the code and it only contains informational concerns.