Smart Contract Security Audit V1

ToastFu Smart Contract Audit

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Background

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

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

Project Information

• Platform: Ethereum

• Name: ToastFu

• Language : solidity

• Contract Address: 0x6668e12A659A643bD5D7561630E17D5433375b2f

• Code Source: https://etherscan.io/token/0x6668e12A659A643bD5D7561630E17D5433375b2f#code

• Website: https://www.toastfu.com/

• Telegram: https://t.me/ToastFuPortal

• **X**: https://twitter.com/ToastFuTech

• Youtube: https://www.youtube.com/@ToastFuTech

• WhitePaper: https://toastfu.gitbook.io/toastfu

Executive Summary

According to our assessment, the customer's solidity smart contract is **Well-Secured**.



Automated checks are with remix IDE. All issues were performed by the team, which included the analysis of code functionality, manual audit found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the audit overview section. The general overview is presented in the Project Information section and all issues found are located in the audit overview section.

Team found 0 critical, 0 high, 0 medium, 2 low, 0 very low-level issues and 0 note in all solidity files of the contract

The files:

ToastFu.sol

Audit Score:

100% secure



File and Function Level Report

File in Scope:

Contract Name	SHA 256 hash	Contract Address		
ToastFu.sol	60a0f139635453eb4352dff2fb 53bc2877202fc2	0x6668e12A659A643bD5D7561630E17D5433 375b2f		

• Contract: ToastFu

• Inherit: Context, IERC20, Ownable

• Observation: All passed including security check

• Test Report: passed

• Score: passed

• Conclusion: passed

Function	Test Result	Type / Return Type	Score
allowance	✓	Read / public	Passed
buyFee	√	Read / public	Passed
decimals	√	Read / public	Passed
balanceOf	√	Read / public	Passed
deadWallet	√	Read / public	Passed
inSwapAndLiquify	√	Read / public	Passed
maxWallet	√	Read / public	Passed
minimumTokensBefore Swap	√	Read / public	Passed
sellFee	√	Read / public	Passed
name	√	Read / public	Passed
owner	√	Read / public	Passed
swapAndLiquifyEnabled	√	Read / public	Passed
taxWallet	✓	Read / public	Passed

taxTokensCollected	√	Read / public	Passed
swapOutput	√	Read / public	Passed
symbol	√	Read / public	Passed
totalSupply	√	Read / public	Passed
tradingActive	✓	Read / public	Passed
totalTaxTokensCollecte d	√	Read / public	Passed
uniswapV2Pair	✓	Read / public	Passed
uniswapV2Router	✓	Read / public	Passed
isExcludedFromFee	✓	Read / public	Passed
approve	✓	Write / public	Passed
transfer	✓	Write / public	Passed
transferFrom	√	Write / public	Passed
excludedFromFee	√	Write / public	Passed
includeInFee	✓	Write / public	Passed
decreaseAllowance	✓	Write / public	Passed
increaseAllowance	✓	Write / public	Passed
openTrading	✓	Write / public	Passed
transferOwnership	✓	Write / public	Passed
renounceOwnership	✓	Write / public	Passed
recoverETHfromContrac t	√	Write / public	Passed
recoverTokensFromCont ract	√	Write / public	Passed
setSwapAndLiquifyEna bled	√	Write / public	Passed
setTaxWallet	✓	Write / public	Passed
setTokensToSwap	✓	Write / public	Passed
swapAndLiquify	✓	Write / public	Passed
updateFee	✓	Write / public	Passed

Issues Checking Status

SWC Attack Analysis

The Smart Contract Weakness Classification Registry (SWC Registry) is an implementation of the weakness classification scheme proposed in EIP-1470. It is loosely aligned to the terminologies and structure used in the Common Weakness Enumeration (CWE) for more info check https://swcregistry.io/

No.	Issue Description	Checking Status
136	Unencrypted Private Data On-Chain	Passed
135	Code With No Effects	Passed
134	Message call with hardcoded gas amount	Passed
133	Hash Collisions With Multiple Variable Length Arguments	Passed
132	Unexpected Ether balance	Passed
131	Presence of unused variables	Passed
130	Right-To-Left-Override control character (U+202E)	Passed
129	Typographical Error	Passed
128	DoS with block gas limit.	Passed
127	Arbitrary Jump with Function Type Variable	Passed
126	Insufficient Gas Griefing	Passed
125	Incorrect Inheritance Order	Passed
124	Write to Arbitrary Storage Location	Passed
123	Requirement Violation	Passed
122	Lack of Proper Signature Verification	Passed
121	Missing Protection against Signature Replay Attacks	Passed
120	Weak Sources of Randomness from Chain Attributes	Passed
119	Shadowing State Variables	Passed

118	Incorrect Constructor Name	Passed
117	Signature Malleability	Passed
116	Block values as a proxy for time	Not Passed
115	Authorization through tx.origin	Passed
114	Transaction Order Dependence	Passed
113	DoS with Failed Call	Passed
112	Delegatecall to Untrusted Callee	Passed
111	Use of Deprecated Solidity Functions	Passed
110	Assert Violation	Passed
109	Uninitialized Storage Pointer	Passed
108	State Variable Default Visibility	Passed
107	Reentrancy	Passed
106	Unprotected SELFDESTRUCT Instruction	Passed
105	Unprotected Ether Withdrawal	Passed
104	Unchecked Call Return Value	Passed
103	3 Floating Pragma Passed	
102	Outdated Compiler Version	Passed
101	Integer Overflow and Underflow	Passed
100	Function Default Visibility	Passed

Severity Definitions

Risk Level	Description		
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to tokens loss etc.		
High	High-level vulnerabilities are difficult to exploit; however, they also have significant impact on smart contract execution, e.g. public access to crucial functions		
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to tokens lose		
Low	Low-level vulnerabilities are mostly related to outdated, unused etc. code snippets, that can't have significant impact on execution		
Note	Lowest-level vulnerabilities, code style violations and info statements can't affect smart contract execution and can be ignored.		

Audit Findings

Critical:

No Critical severity vulnerabilities were found.

High:

No High severity vulnerabilities were found.

Medium:

No Medium severity vulnerabilities were found.

Low:

Use of block.timestamp for comparisons

The value of block.timestamp can be manipulated by the miner. And conditions with strict equality is difficult to achieve - block.timestamp.

Recommendation

Avoid use of block.timestamp.

Status: Acknowledged.

#Owner privileges (In the period when the owner isn't renounced)

Description

The owner can change the buy and sell Fees max to 5%.

The owner can open the trading.

The owner can include / exclude any address in/ from Fees.

```
function excludeFromFee(address account) external onlyOwner {
        isExcludedFromFee[account] = true;
        emit AuditLog(
            "We have excluded the following walled in fees:",
            account
        ); }
    function includeInFee(address account) external onlyOwner {
        isExcludedFromFee[account] = false;
        emit AuditLog(
            "We have including the following walled in fees:",
            account
        );}
    function updateFees(uint256 buyFee, uint256 sellFee) external onlyOwner {
        require( buyFee <= 5, "Must keep buy fees at 5% or less");</pre>
        require( sellFee <= 5, "Must keep sell fees at 5% or less");</pre>
       buyFee = buyFee;
        sellFee = sellFee;}
    function openTrading() external onlyOwner {
        tradingActive = true;}
```

Remediation

Make these functions internal in next version or the team should announce the investors before doing anything to give them time if they want to do anything.

P.S: This issue is common to the majority of those smart contracts.

Status: Acknowledged.

Very Low:

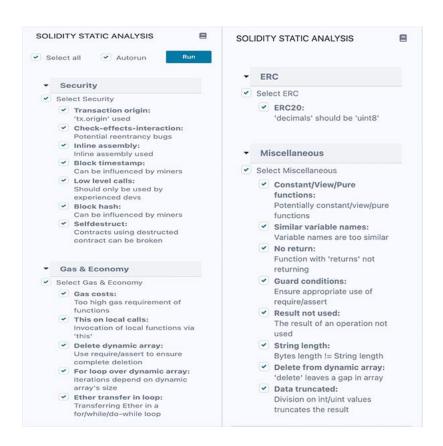
No Very Low severity vulnerabilities were found.

Notes:

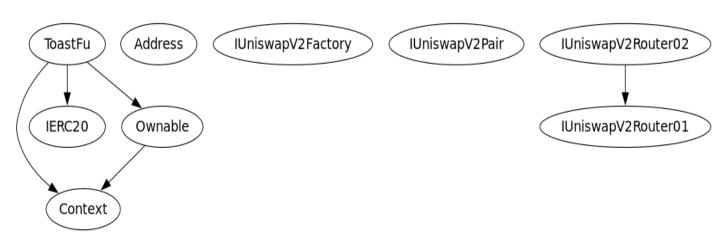
No Notes were found.

Automatic Testing

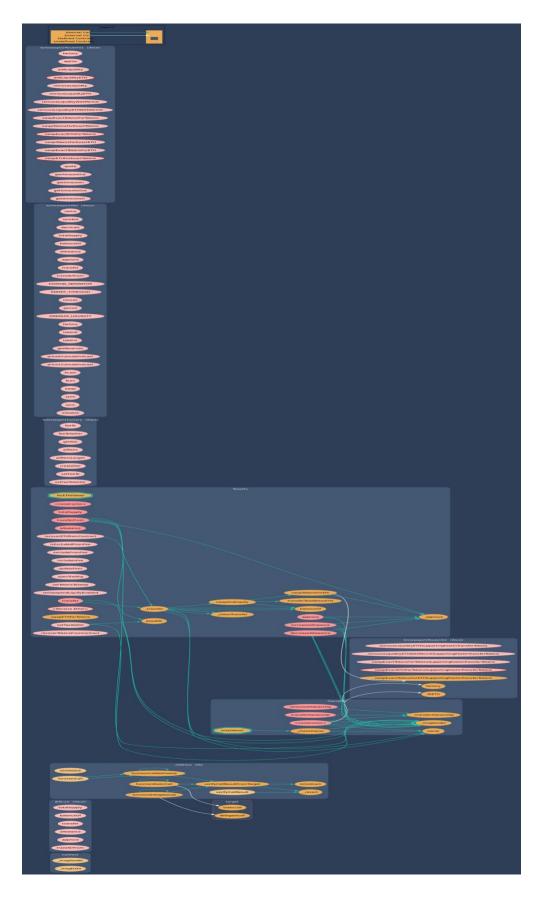
1- SOLIDITY STATIC ANALYSIS



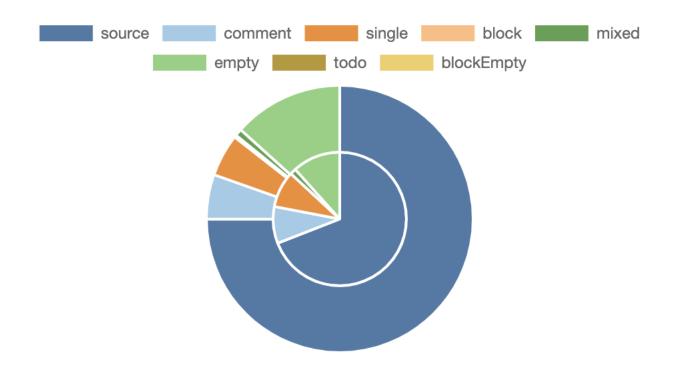
2- Inheritance graph



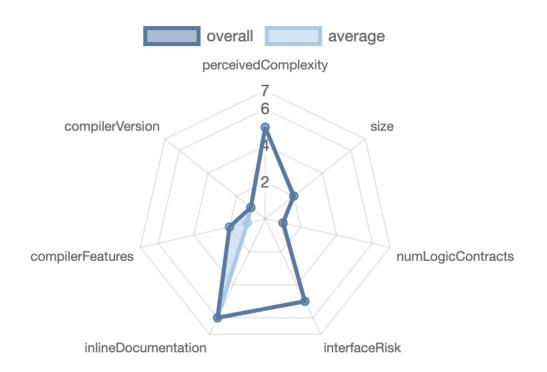
3- Call graph



Source lines



Risk level



Source units in scope

Source Units in Scope

Source Units Analyzed: 1 Source Units in Scope: 1 (100%)

Туре	File	Logic Contracts	Interfaces	Lines	nLines	nSLOC	Comment Lines	Complex. Score	Capabilities
>=Q	TaxTokenSample.sol	4	5	995	545	427	58	425	■ § ♣99 ※
<u> </u>	Totals	4	5	995	545	427	58	425	■ § ♣99 ☆

Legend: [-]

- . Lines: total lines of the source unit
- nLines: normalized lines of the source unit (e.g. normalizes functions spanning multiple lines)
- nSLOC: normalized source lines of code (only source-code lines; no comments, no blank lines)
- Comment Lines: lines containing single or block comments
- Complexity Score: a custom complexity score derived from code statements that are known to introduce code complexity (branches, loops, calls, external interfaces, ...)

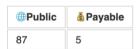
Capabilities

Components

⊘ Contracts ≅ Librarie		QInterfaces	Abstract	
1	1	5	2	

Exposed Functions

This section lists functions that are explicitly declared public or payable. Please note that getter methods for public stateVars are not included.



External Internal		Private	Pure	View
75	77	7	12	34

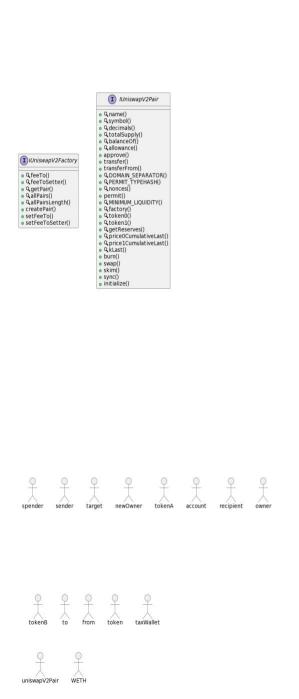
StateVariables

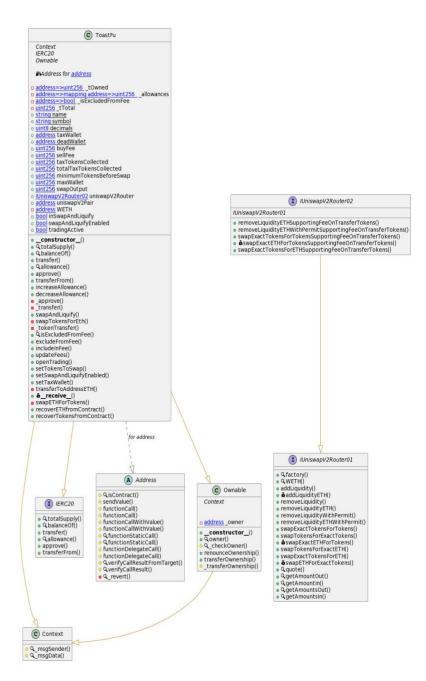


Capabilities



Unified Modeling Language (UML)





Functions signature

```
| Function Name | Sighash | Function Signature |
| ----- | ------ | ------- |
| totalSupply | 18160ddd | totalSupply() |
| balanceOf | 70a08231 | balanceOf(address) |
| transfer | a9059cbb | transfer(address, uint256) |
| allowance | dd62ed3e | allowance(address, address) |
| approve | 095ea7b3 | approve(address, uint256) |
| transferFrom | 23b872dd | transferFrom(address,address,uint256) |
| owner | 8da5cb5b | owner() |
| renounceOwnership | 715018a6 | renounceOwnership() |
| transferOwnership | f2fde38b | transferOwnership(address) |
| feeTo | 017e7e58 | feeTo() |
| feeToSetter | 094b7415 | feeToSetter() |
| getPair | e6a43905 | getPair(address, address) |
| allPairs | 1e3dd18b | allPairs(uint256) |
| allPairsLength | 574f2ba3 | allPairsLength() |
| createPair | c9c65396 | createPair(address, address) |
| setFeeTo | f46901ed | setFeeTo(address) |
| setFeeToSetter | a2e74af6 | setFeeToSetter(address) |
| name | 06fdde03 | name() |
| symbol | 95d89b41 | symbol() |
| decimals | 313ce567 | decimals() |
| totalSupply | 18160ddd | totalSupply() |
| balanceOf | 70a08231 | balanceOf(address) |
| allowance | dd62ed3e | allowance(address, address) |
| approve | 095ea7b3 | approve(address,uint256) |
| transfer | a9059cbb | transfer(address, uint256) |
| transferFrom | 23b872dd | transferFrom(address,address,uint256) |
| DOMAIN SEPARATOR | 3644e515 | DOMAIN SEPARATOR() |
| PERMIT TYPEHASH | 30adf81f | PERMIT TYPEHASH() |
| nonces | 7ecebe00 | nonces(address) |
| permit | d505accf | permit(address,address,uint256,uint256,uint8,bytes32,bytes32)
| MINIMUM LIQUIDITY | ba9a7a56 | MINIMUM LIQUIDITY() |
| factory | c45a0155 | factory() |
| token0 | Odfe1681 | token0() |
| token1 | d21220a7 | token1() |
| getReserves | 0902flac | getReserves() |
| priceOCumulativeLast | 5909cOd5 | priceOCumulativeLast() |
| price1CumulativeLast | 5a3d5493 | price1CumulativeLast() |
| kLast | 7464fc3d | kLast() |
| burn | 89afcb44 | burn(address) |
| swap | 022c0d9f | swap(uint256,uint256,address,bytes) |
| skim | bc25cf77 | skim(address) |
| sync | fff6cae9 | sync() |
| initialize | c4d66de8 | initialize(address) |
| factory | c45a0155 | factory() |
| WETH | ad5c4648 | WETH() |
| addLiquidity | e8e33700 |
addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256) |
| addLiquidityETH | f305d719 |
addLiquidityETH(address,uint256,uint256,uint256,address,uint256) |
| removeLiquidity | baa2abde |
removeLiquidity(address,address,uint256,uint256,uint256,address,uint256) |
| removeLiquidityETH | 02751cec |
removeLiquidityETH(address, uint256, uint256, uint256, address, uint256) |
```

```
| removeLiquidityWithPermit | 2195995c |
removeLiquidityWithPermit(address,address,uint256,uint256,uint256,address,uint256,b
ool, uint8, bytes32, bytes32) |
| removeLiquidityETHWithPermit | ded9382a |
removeLiquidityETHWithPermit(address,uint256,uint256,uint256,address,uint256,bool,u
int8, bytes32, bytes32)
| swapExactTokensForTokens | 38ed1739 |
swapExactTokensForTokens(uint256, uint256, address[], address, uint256) |
| swapTokensForExactTokens | 8803dbee |
swapTokensForExactTokens(uint256, uint256, address[], address, uint256) |
| swapExactETHForTokens | 7ff36ab5 |
swapExactETHForTokens(uint256,address[],address,uint256) |
| swapTokensForExactETH | 4a25d94a |
swapTokensForExactETH(uint256, uint256, address[], address, uint256) |
| swapExactTokensForETH | 18cbafe5 |
swapExactTokensForETH(uint256, uint256, address[], address, uint256) |
| swapETHForExactTokens | fb3bdb41 |
swapETHForExactTokens(uint256,address[],address,uint256) |
| quote | ad615dec | quote (uint256, uint256, uint256) |
| getAmountOut | 054d50d4 | getAmountOut(uint256,uint256,uint256) |
| getAmountIn | 85f8c259 | getAmountIn(uint256,uint256,uint256) |
| getAmountsOut | d06ca61f | getAmountsOut(uint256,address[]) |
| getAmountsIn | 1f00ca74 | getAmountsIn(uint256,address[]) |
| removeLiquidityETHSupportingFeeOnTransferTokens | af2979eb |
removeLiquidityETHSupportingFeeOnTransferTokens(address,uint256,uint256,uint256,add
ress, uint256) |
| removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | 5b0d5984 |
removeLiquidityETHWithPermitSupportingFeeOnTransferTokens (address, uint256, uint256, u
int256,address,uint256,bool,uint8,bytes32,bytes32) |
| swapExactTokensForTokensSupportingFeeOnTransferTokens | 5c11d795 |
swapExactTokensForTokensSupportingFeeOnTransferTokens(uint256, uint256, address[], add
ress, uint256)
| swapExactETHForTokensSupportingFeeOnTransferTokens | b6f9de95 |
swapExactETHForTokensSupportingFeeOnTransferTokens(uint256,address[],address,uint25
| swapExactTokensForETHSupportingFeeOnTransferTokens | 791ac947 |
swapExactTokensForETHSupportingFeeOnTransferTokens(uint256,uint256,address[],addres
s,uint256) |
| totalSupply | 18160ddd | totalSupply() |
| balanceOf | 70a08231 | balanceOf(address) |
| transfer | a9059cbb | transfer(address, uint256) |
| allowance | dd62ed3e | allowance(address, address) |
| approve | 095ea7b3 | approve(address, uint256) |
| transferFrom | 23b872dd | transferFrom(address,address,uint256) |
| increaseAllowance | 39509351 | increaseAllowance(address, uint256) |
| decreaseAllowance | a457c2d7 | decreaseAllowance(address,uint256) |
| swapAndLiquify | b29ad50a | swapAndLiquify() |
| isExcludedFromFee | 5342acb4 | isExcludedFromFee (address) |
| excludeFromFee | 437823ec | excludeFromFee(address) |
| includeInFee | ea2f0b37 | includeInFee(address) |
| updateFees | 6db79437 | updateFees(uint256,uint256) |
| openTrading | c9567bf9 | openTrading() |
| setTokensToSwap | 461d9476 | setTokensToSwap(uint256) |
| setSwapAndLiquifyEnabled | c49b9a80 | setSwapAndLiquifyEnabled(bool) |
| setTaxWallet | ea414b28 | setTaxWallet(address) |
| recoverETHfromContract | ce831ed5 | recoverETHfromContract() |
| recoverTokensFromContract | e6be4a72 | recoverTokensFromContract(address,uint256)
```

Automatic general report

```
Files Description Table
| File Name | SHA-1 Hash |
|-----|
| /Users/macbook/Desktop/smart contracts/ToastFu.sol |
60a0f139635453eb4352dff2fb53bc2877202fc2
 Contracts Description Table
| Contract |
                                         Type | Bases |
| **Function Name** | **Visibility** | **Mutability** |
**Modifiers** |
| **Context** | Implementation | ||| | | |
| L | _msgSender | Internal 🖺 | | |
| L | msgData | Internal 🖺 | | |
| **IERC20** | Interface | |||
| L | totalSupply | External | | | NO | |
| L | balanceOf | External | | NO| |
| L | allowance | External | | | | NO | |
| L | functionCall | Internal A |
| L | functionCall | Internal 🖺 | 🔘 | |
| L | functionCallWithValue | Internal A | DescriptionCallWithValue | Descr
| L | functionStaticCall | Internal A | | | | | | | | | | | | | | | |
| L | functionStaticCall | Internal A |
| L | functionDelegateCall | Internal A |
| L | verifyCallResultFromTarget | Internal 🖺 | | | |
| L | verifyCallResult | Internal 🖺 | | | |
| L | revert | Private 🖺 | | |
| **Ownable** | Implementation | Context | | |
| L | <Constructor> | Public | | | | | | | | | | | | | | | |
| L | owner | Public | | NO | |
| L | checkOwner | Internal 🖺 |
                                                                  | L | renounceOwnership | Public | | onlyOwner | L | transferOwnership | Public | onlyOwner |
| L | transferOwnership | Internal A | O | |
| **IUniswapV2Factory** | Interface | |||
| L | feeTo | External | | | NO | |
| L | feeToSetter | External | | NO| |
| L | getPair | External | | NO | |
```

```
| allPairs | External | | | NO | |
 L | allPairsLength | External | | NO| |
 L | createPair | External | | NO | NO |
 L | setFeeTo | External | | NO | |
 **IUniswapV2Pair** | Interface | ||
 | name | External | | NO
 L | symbol | External | | | NO | |
 L | decimals | External | |
 L | totalSupply | External | | | NO | |
 L | balanceOf | External | | | NO| |
 L | allowance | External | |
                             | NON |
 L | transfer | External | |
 | transferFrom | External | | | | NO |
 L | DOMAIN SEPARATOR | External | | NO | |
 PERMIT TYPEHASH | External | | NO | |
 | nonces | External | | | NO | |
 L | permit | External | | NO | |
 L | factory | External | | | NO | |
 L | token0 | External | | NO | | L | token1 | External | | NO | |
 L | getReserves | External | |
 └ | price0CumulativeLast | External | |
                                       |NON |
 L | price1CumulativeLast | External [ |
 | kLast | External | | | NO|
 |NOЙ |
 L | swap | External
                          INO
 L | skim | External | |
                          |NO|
 | sync | External | |
                          |NO|
 | initialize | External | | | | NO | |
| **IUniswapV2Router01** | Interface | ||
 L | factory | External | | | NO| |
 L | WETH | External | | | NO | |
 L | addLiquidity | External | |
                              NON I
 L | addLiquidityETH | External | | III | NO | |
 removeLiquidity | External | |
 | removeLiquidityETH | External | | | | | | | | | | | | | | |
 removeLiquidityWithPermit | External | |
 L | swapExactETHForTokens | External | | III | NO | | L | swapTokensForExactETH | External | | NO | | L | swapExactTokensForETH | External | | NO | |
   | swapETHForExactTokens | External | | I NO | |
 | quote | External | | | NO | |
 L | getAmountOut | External ॄ |
 | getAmountIn | External | |
                            | NO
 L | getAmountsOut | External | | | NO | |
 | getAmountsIn | External | | | NO | | |
| **IUniswapV2Router02** | Interface | IUniswapV2Router01 |||
 | removeLiquidityETHSupportingFeeOnTransferTokens | External | | | | NO| |
| L | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External 🌡 | 🌑
```

```
NO
| L | swapExactTokensForTokensSupportingFeeOnTransferTokens | External | | 🔘 | NO|
| **TaxToken** | Implementation | Context, IERC20, Ownable |||
| 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 | swapAndLiquify | Public | | | lockTheSwap |
 | swapTokensForEth | Private | | | | |
 | _tokenTransfer | Private 🖺 | 🔘 | |
| L | setSwapAndLiquifyEnabled | External | | M | onlyOwner |
| L | setTaxWallet | External | | ( NO | |
| L | transferToAddressETH | Private 🖺 | 📵
L | <Receive Ether> | External | | | | | | | | | | | | | | |
| L | swapETHForTokens | Private 🖺 | 🔘 | |
Legend
| Symbol | Meaning |
|:----|
  Function can modify state |
 Function is payable |
```

Conclusion

The contracts are written systematically. Team found no critical issues. So, it is good to go for production.

Since possible test cases can be unlimited and developer level documentation (code flow diagram with function level description) not provided, for such an extensive smart contract protocol, we provide no such guarantee of future outcomes. We have used all the latest static tools and manual observations to cover maximum possible test cases to scan Everything.

Security state of the reviewed contract is "Well Secured".

- ✓ No volatile code.
- √ No high severity issues were found.

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as of 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 the team on the basis of what it says or doesn't say, or how team produced it, and it is important for you to conduct your own independent investigations before making any decisions. team go into more detail on this in the below disclaimer below – please make sure to read it in full.

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