



**NOVOS**

## **KYC & AUDIT.**

Novos is an agency specializing in blockchain technology solutions, Audits, KYC / Doxx.



# CERTIFICATE OF COMPLIANCE

Smart Contract Audit by NOVOS



TwitCoin

Audit Passed

11/21/2022

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# Audit Summary

This report has been prepared for Twit Coin Token on the BSC network. Novos provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Ensuring contract logic meets the specifications and intentions of the client without exposing the user's funds to risk.
- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Thorough line-by-line manual review of the entire codebase by industry experts.



## Project Overview

Parameter	Result
Address	0x17C19534c9efFDc8467A9F7E8896B7ceE2B289A3
Name	TwitCoin
Token Tracker	TC
Decimals	18
Supply	1,000,000,000
Platform	BSC
Compiler	v0.8.16+commit.07a7930e
Optimization	Yes with 200 runs
Other Settings:	default evmVersion
Language	Solidity
Codebase	<a href="https://bscscan.com/address/0x17c19534c9effdc8467a9f7e8896b7cee2b289a3#code">https://bscscan.com/address/0x17c19534c9effdc8467a9f7e8896b7cee2b289a3#code</a>
Url	<a href="https://twitterchain.net/">https://twitterchain.net/</a>

## Main Contract Assessed

Name	Contract	Live
TwitCoin	0x17C19534c9efFDc8467A9F7E8896B7ceE2B289A3	Yes



# Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
❖ Unencrypted Private Data On-Chain	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Code With No Effects	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Message call with hardcoded gas amount	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Hash Collisions With Multiple Variable Length Arguments	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Unexpected Ether balance	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Presence of unused variables	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Right-To-Left-Override control character (U+202E)	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Typographical Error	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ DoS With Block Gas Limit	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Arbitrary Jump with Function Type Variable	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Insufficient Gas Griefing	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Incorrect Inheritance Order	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Write to Arbitrary Storage Location	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Requirement Violation	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Missing Protection against Signature Replay Attacks	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Weak Sources of Randomness from Chain Attributes	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>





# Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
❖ Authorization through tx.origin	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Delegatecall to Untrusted Callee	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Use of Deprecated Solidity Functions	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Assert Violation	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Reentrancy	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Unprotected SELFDESTRUCT Instruction	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Unprotected Ether Withdrawal	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Unchecked Call Return Value	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Outdated Compiler Version	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Integer Overflow and Underflow	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>
❖ Function Default Visibility	✓ Complete	✓ Complete	✓ <b>Low / No Risk</b>





# Contract Ownership

The contract ownership of Twit Coin is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

01

The current owner is the address `0x3Cf61a93De551d34F5CcB5EC2162609EF1d07ef5` which can be viewed from: [HERE](#)

02

The owner wallet has the power to call the functions displayed on the privileged functions chart below, if the owner wallet is compromised this privileges could be exploited.

03

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

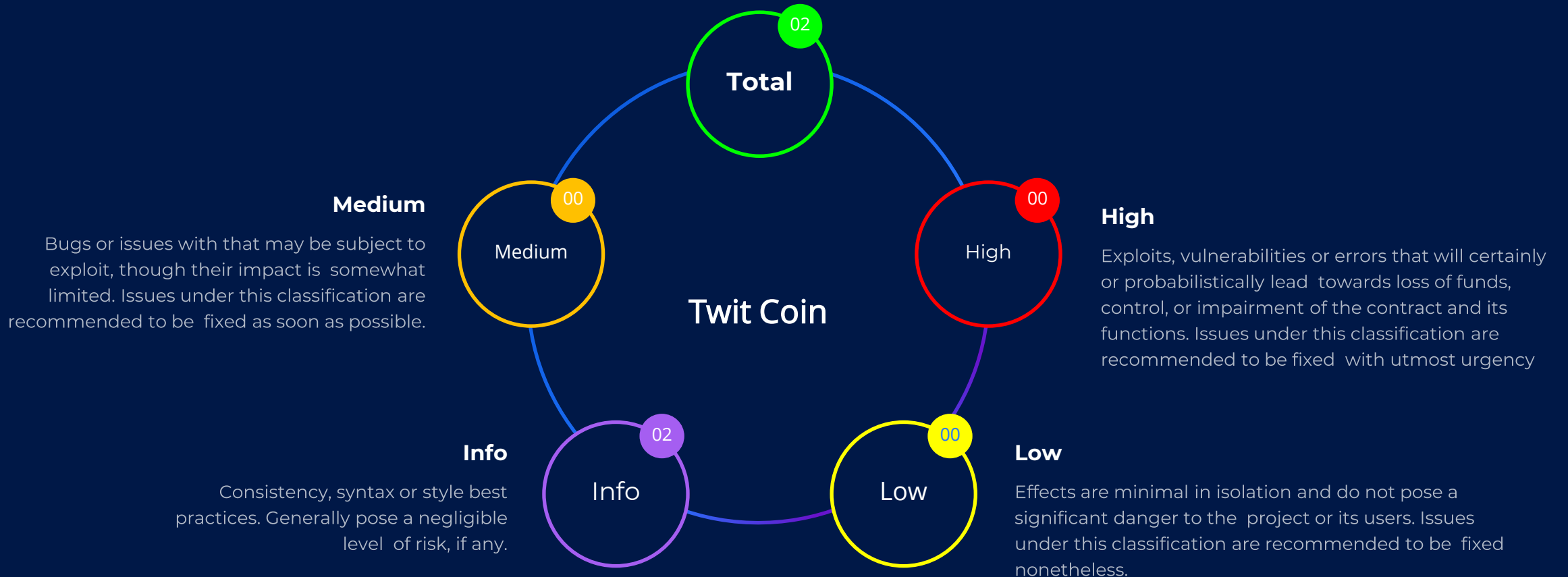


# Technical Findings Summary

## Classification of Issues

### Total

What you should pay attention to



# Findings

Public function that could be declared external



ID	Severity	Contract	Function
01	Informational	TwitCoin	Functions: size, getKeyAtIndex, getIndexOfKey

## Description

Gas Optimization. Public function that could be declared external

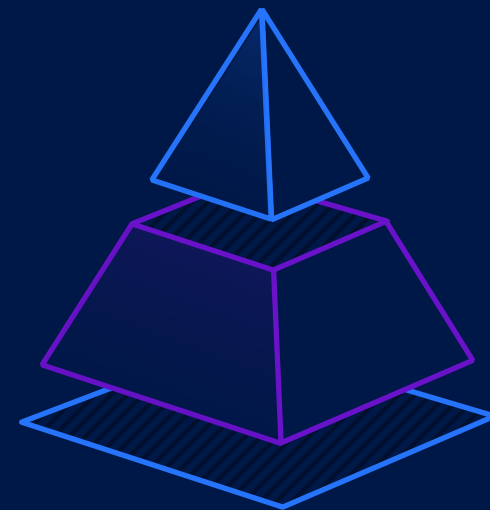
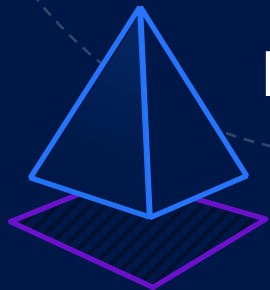
## Recommendation

Public functions that are never called by the contract should be declared external to save gas.



# Findings

## Missing events arithmetic



ID	Severity	Contract	Function
02	Informational	TwitCoin	Missing events for setWalletBalance, setMaxBuyTransaction, setMaxSellTransaction, setSwapTokensAtAmount, setSellTransactionMultiplier

### Description

Functions that change critical arithmetic parameters should emit an event.

### Recommendation

Emit corresponding events for critical parameter changes.

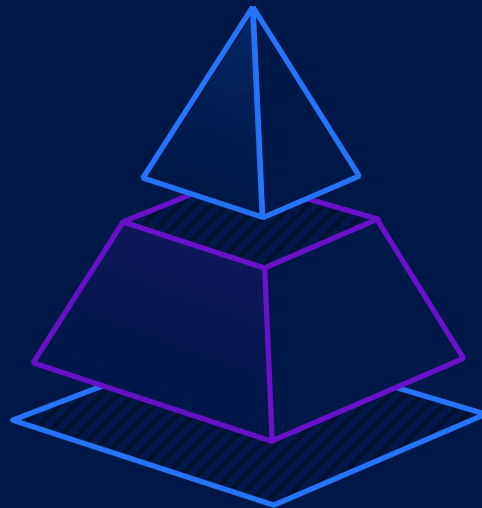


# Privileged Functions (onlyOwner & Others)

Function Name	Parameters	Visibility
✓ renounceOwnership	<ul style="list-style-type: none"><li>▪ none</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ transferOwnership	<ul style="list-style-type: none"><li>▪ address newOwner</li></ul>	<ul style="list-style-type: none"><li>▪ <b>public</b></li></ul>
✓ prepareForPartnerOrExchangeListing	<ul style="list-style-type: none"><li>▪ address_partnerOrExchangeAddress</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setWalletBalance	<ul style="list-style-type: none"><li>▪ uint256 _maxWalletBalance</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setMaxBuyTransaction	<ul style="list-style-type: none"><li>▪ uint256 _maxTxn</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setMaxSellTransaction	<ul style="list-style-type: none"><li>▪ uint256 _maxTxn</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ updateBusdDividendToken	<ul style="list-style-type: none"><li>▪ address _newContract</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ updateMarketingWallet	<ul style="list-style-type: none"><li>▪ address _newWallet</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setSwapTokensAtAmount	<ul style="list-style-type: none"><li>▪ uint256 _swapAmount</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setSellTransactionMultiplier	<ul style="list-style-type: none"><li>▪ uint256 _multiplier</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setTradingIsEnabled	<ul style="list-style-type: none"><li>▪ none</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setBusdDividendEnabled	<ul style="list-style-type: none"><li>▪ bool _enabled</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setMarketingEnabled	<ul style="list-style-type: none"><li>▪ bool _enabled</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ setSwapAndLiquifyEnabled	<ul style="list-style-type: none"><li>▪ bool _enabled</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ updatebusdDividendTracker	<ul style="list-style-type: none"><li>▪ address newAddress</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>
✓ updateUniswapV2Router	<ul style="list-style-type: none"><li>▪ address newAddress</li></ul>	<ul style="list-style-type: none"><li>▪ <b>external</b></li></ul>

# Privileged Functions (onlyOwner & Others)

Function Name	Parameters	Visibility
✓ <code>excludeFromFees</code>	▪ <code>address account, bool excluded</code>	▪ <b>public</b>
✓ <code>excludeFromDividend</code>	▪ <code>address account</code>	▪ <b>public</b>
✓ <code>setAutomatedMarketMakerPair</code>	▪ <code>address pair, bool value</code>	▪ <b>external</b>
✓ <code>updateGasForProcessing</code>	▪ <code>uint256 newValue</code>	▪ <b>external</b>
✓ <code>updateMinimumBalanceForDividends</code>	▪ <code>uint256 newMinimumBalance</code>	▪ <b>external</b>
✓ <code>updateClaimWait</code>	▪ <code>uint256 claimWait</code>	▪ <b>external</b>
✓ <code>processDividendTracker</code>	▪ <code>uint256 gas</code>	▪ <b>external</b>





# Statistics

## Liquidity Info



Parameter	Result
Pair Address	0xAF6229e53617B7917E5e38F898Fe925db057c552
TwitCoin Reserves	59,158,355.406 TC
Reserves, WBNB	144.548 WBNB
Liquidity Value	\$37,226.18





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