

Audit Report

Niffler Coin

May 2022

Type BEP20

Network BSC

Address 0x78BF179854e37a58B1F77CB0E6857D780e591FbE

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Contract Review

Contract Name	CoinToken
Compiler Version	v0.8.4+commit.c7e474f2
Optimization	200 runs
Licence	None
Explorer	https://bscscan.com/token/0x78BF179854e37a58B1F 77CB0E6857D780e591FbE
Symbol	NIFF
Decimals	9
Total Supply	2,000,000,000
Domain	nifflercoin.co

Source Files

Filename	SHA256
contract.sol	ae1802065067a40d29a2f8934166f1069a06f7f5d239ec b9030450f54581c9f3

Audit Updates

Initial Audit	3rd June 2022
Corrected	

Contract Analysis

CriticalMediumMinorPass

Severity	Code	Description
•	ST	Contract Owner is not able to stop or pause transactions
•	OCTD	Contract Owner is not able to transfer tokens from specific address
•	OTUT	Owner Transfer User's Tokens
•	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
•	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
•	MT	Contract Owner is not able to mint new tokens
•	ВТ	Contract Owner is not able to burn tokens from specific wallet
•	ВС	Contract Owner is not able to blacklist wallets from selling



ST - Stop Transactions

Criticality	medium
Location	contract.sol#L785

Description

The contract owner has the authority to stop transactions for all users excluding the owner. The owner may take advantage of it by setting the _maxTxAmount to zero.

```
require(amount <= _maxTxAmount, "Transfer amount exceeds the
maxTxAmount.");</pre>
```

Recommendation

The contract could embody a check for not allowing setting the _maxTxAmount less than a reasonable amount. A suggested implementation could check that the maximum amount should be more than a fixed percentage of the total supply.

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.



ELFM - Exceed Limit Fees Manipulation

Criticality	critical
Location	contract.sol#L640

Description

The contract owner has the authority to increase over the allowed limit of 25%. The owner may take advantage of it by calling the setTaxFeePercent function with a high percentage value.

```
function setTaxFeePercent(uint256 taxFee) external onlyOwner() {
    _taxFee = taxFee;
}
```

Recommendation

The contract could embody a check for the maximum acceptable value.

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

Contract Diagnostics

CriticalMediumMinor

Severity	Code	Description
•	L01	Public Function could be Declared External
•	L04	Conformance to Solidity Naming Conventions
•	L07	Missing Events Arithmetic
•	L09	Dead Code Elimination
•	L13	Divide before Multiply Operation



L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L213,219,227,235,514,518,522,526,535,540,544,549,555,560,565,56 9,573,582,599,632,636,652,656,661,764

Description

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

isExcludedFromFee
setSwapAndLiquifyEnabled
setDevWalletAddress
setMaxTxPercent
includeInFee
excludeFromFee
excludeFromReward
reflectionFromToken
deliver
...

Recommendation

Use the external attribute for functions never called from the contract.



L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L194,196,267,268,282,300,656,661,730,736,742,442,450,452,454,46

Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
_maxTxAmount
_liquidityFee
_devFee
_taxFee
_devWalletAddress
_amount
_enabled
_addr
WETH
...
```

Recommendation

Follow the Solidity naming convention.

https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions



L07 - Missing Events Arithmetic

Criticality	minor
Location	contract.sol#L640,644,648,652,908

Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
numTokensSellToAddToLiquidity = amountToUpdate
_maxTxAmount = maxTxPercent * 10 ** _decimals
_liquidityFee = liquidityFee
_devFee = devFee
_taxFee = taxFee
```

Recommendation

Emit an event for critical parameter changes.



L09 - Dead Code Elimination

Criticality	minor
Location	contract.sol#L175,135,139,143,147,165,169,154,158,123,129

Description

Functions that are not used in the contract, and make the code's size bigger.

sendValue
isContract
functionStaticCall
functionDelegateCall
functionCallWithValue
functionCall
_verifyCallResult

Recommendation

Remove unused functions.



L13 - Divide before Multiply Operation

Criticality	minor
Location	contract.sol#L476

Description

Performing divisions before multiplications may cause lose of prediction.

```
numTokensSellToAddToLiquidity = (_tTotal * 5 / 10000) * 10 ** _decimals
_maxTxAmount = (_tTotal * 5 / 1000) * 10 ** _decimals
```

Recommendation

The multiplications should be prior to the divisions.



Contract Functions

Contract	Туре	Bases		
	Function Name	Visibility	Mutability	Modifiers
IEDO00	Interfere			
IERC20	Interface	F		
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	√	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	√	-
0 (14 .)				
SafeMath	Library			
	tryAdd	Internal		
	trySub	Internal		
	tryMul	Internal		
	tryDiv	Internal		
	tryMod	Internal		
	add	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	mod	Internal		
	sub	Internal		
	div	Internal		
	mod	Internal		
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
Address	Library			
	isContract	Internal		



	sendValue	Internal	✓	
	functionCall	Internal	✓	
	functionCall	Internal	✓	
	functionCallWithValue	Internal	1	
	functionCallWithValue	Internal	✓	
	functionStaticCall	Internal		
	functionStaticCall	Internal		
	functionDelegateCall	Internal	✓	
	functionDelegateCall	Internal	✓	
	_verifyCallResult	Private		
Ownable	Implementation	Context		
	<constructor></constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	lock	Public	✓	onlyOwner
	unlock	Public	✓	-
IUniswapV2Fa	Interface			
ctory	meriace			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IUniswapV2Pa ir	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-



	totalSupply balanceOf	External External		-
	balanceOf	External		
		Extorrial		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	mint	External	✓	-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
IUniswapV2Ro uter01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	√	-
	removeLiquidityWithPermit	External	√	-
	removeLiquidityETHWithPermit	External	✓	-



	swapExactTokensForTokens	External	1	-
	swapTokensForExactTokens	External	1	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	1	-
	swapExactTokensForETH	External	1	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
IUniswapV2Ro uter02	Interface	IUniswapV2 Router01		
	removeLiquidityETHSupportingFeeOn TransferTokens	External	1	-
	removeLiquidityETHWithPermitSuppo rtingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupporti ngFeeOnTransferTokens	External	√	-
	swapExactETHForTokensSupporting FeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupporting FeeOnTransferTokens	External	1	-
CoinToken	Implementation	Context, IERC20, Ownable		
	<constructor></constructor>	Public	Payable	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	1	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	1	-



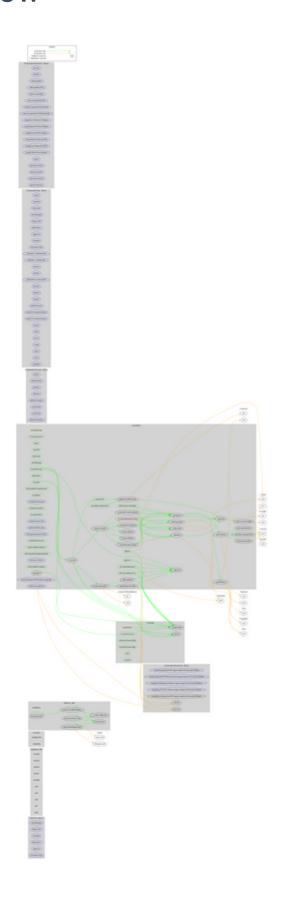
increaseAllowance	Public	✓	-
decreaseAllowance	Public	√	-
isExcludedFromReward	Public		_
totalFees	Public		_
deliver	Public	/	_
reflectionFromToken	Public		_
tokenFromReflection	Public		_
excludeFromReward	Public	/	onlyOwner
includeInReward	External	1	onlyOwner
_transferBothExcluded	Private	✓	, , ,
excludeFromFee	Public	1	onlyOwner
includeInFee	Public	/	onlyOwner
setTaxFeePercent	External	1	onlyOwner
setDevFeePercent	External	<i>y</i>	onlyOwner
setLiquidityFeePercent	External	/	onlyOwner
setMaxTxPercent	Public	✓	onlyOwner
setDevWalletAddress	Public	✓	onlyOwner
setSwapAndLiquifyEnabled	Public	✓	onlyOwner
<receive ether=""></receive>	External	Payable	-
_reflectFee	Private	✓	
_getValues	Private		
_getTValues	Private		
_getRValues	Private		
_getRate	Private		
_getCurrentSupply	Private		
_takeLiquidity	Private	✓	
_takeDev	Private	1	
calculateTaxFee	Private		
calculateDevFee	Private		
calculateLiquidityFee	Private		
removeAllFee	Private	✓	
restoreAllFee	Private	✓	
isExcludedFromFee	Public		-
	Private	1	
_approve	Private	V	



swapAndLiquify	Private	1	lockTheSwap
swapTokensForEth	Private	✓	
addLiquidity	Private	1	
_tokenTransfer	Private	1	
_transferStandard	Private	1	
_transferToExcluded	Private	1	
_transferFromExcluded	Private	✓	
setRouterAddress	External	✓	onlyOwner
setNumTokensSellToAddToLiquidity	External	✓	onlyOwner



Contract Flow





Domain Info

Domain Name	nifflercoin.co
Registry Domain ID	DA4E87AE97ADB471F992B4025C95973A4-GDREG
Creation Date	2022-05-18T18:44:54Z
Updated Date	2022-05-23T18:44:54Z
Registry Expiry Date	2023-05-18T18:44:54Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	http://www.namecheap.com
Registrar	NameCheap, Inc.
Registrar IANA ID	1068

The domain has been created 15 days before the creation of the audit. It will expire in 12 months.

There is no public billing information, the creator is protected by the privacy settings.



Summary

There are some functions that can be abused by the owner like stopping transactions for everyone except the owner and manipulating fees up to 100%. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.



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About Cyberscope

Coinscope audit and K.Y.C. service has been rebranded to Cyberscope.

Coinscope is the leading early coin listing, voting and auditing authority firm. The audit process is analyzing and monitoring many aspects of the project. That way, it gives the community a good sense of security using an informative report and a generic score.

Cyberscope and Coinscope are aiming to make crypto discoverable and efficient globally. They provide all the essential tools to assist users draw their own conclusions.



The Cyberscope team

https://www.cyberscope.io