COINSCOPE

Audit Report
Cthulhu Token

January 2022

Type	BEP20
Network	BSC
Address	0xd4961cB176Ab4871afd89bc143141BC1355DF954
Audited by	© coinscope

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Contract Review

Contract Name	CthulhuToken
Compiler Version	v0.8.4+commit.c7e474f2
Optimization	200 runs
Licence	MIT
Explorer	https://bscscan.com/token/0xd4961cB176Ab4871afd89bc143141BC1355DF954
Symbol	CHTL
Decimals	9
Total Supply	10,000,000,000
Source	contract.sol
Domain	cthulhubsc.com

Audit Updates

Initial Audit	18th January 2022
Corrected	

Contract Analysis

● Critical   ● Medium   ● Minor   ● Pass

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
●	BT	Contract Owner is not able to burn tokens from specific wallet
●	BC	Contract Owner is not able to blacklist wallets from selling

Contract Diagnostics

● Critical   ● Medium   ● Minor

Severity	Code	Description
●	L01	Public Function could be Declared External
●	L04	Conformance to Solidity Naming Conventions
●	L09	Dead Code Elimination

L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L1706,L1688,L1670 and 34 more

Description

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

```
setMinTokensBeforeSwap
disableAutoSwapAndLiquify
disableReward
...
```

Recommendation

Use the external attribute for functions never called from the contract

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L458,L456,L453 and 7 more

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.

```
altarAccount
furnaceAccount
_uniswapV2Pair
...
```

Recommendation

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

L09 - Dead Code Elimination

Criticality	minor
Location	contract.sol#L1294,L328

Description

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

```
reflectionFromToken
_msgData
```

Recommendation

Remove unused functions.

Contract Functions

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
IUniswapV2Router01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
IUniswapV2Router02	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-

	swapExactETHForTokensSupporting FeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupporting FeeOnTransferTokens	External	✓	-
IUniswapV2Pair	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	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	✓	-
IUniswapV2Factory	Interface			

	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	_transferOwnership	Internal	✓	
CthulhuToken	Implementation	Context, IERC20, Ownable		
	<Constructor>	Public	✓	-
	<Receive Ether>	External	Payable	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-

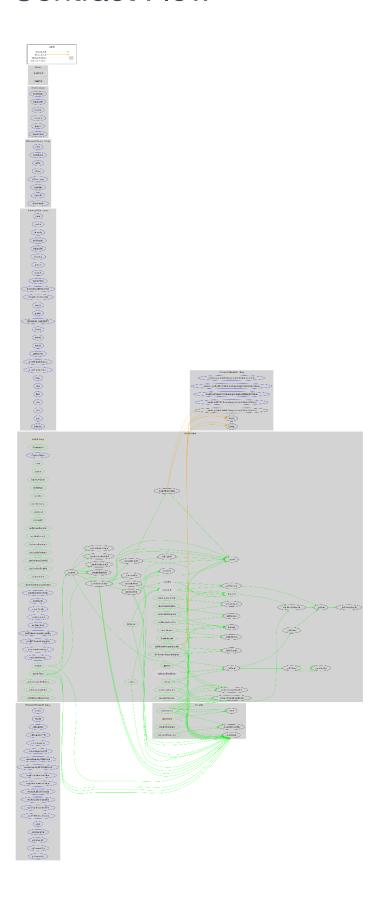|				
	uniswapV2Pair	Public		-
	taxFurnace	Public		-
	taxAltar	Public		-
	altarOfCthulhu	Public		-
	taxReward	Public		-
	taxLiquify	Public		-
	taxFurnaceDecimals	Public		-
	taxAltarDecimals	Public		-
	taxRewardDecimals	Public		-
	taxLiquifyDecimals	Public		-
	autoIncinerateEnabled	Public		-
	autoSacrificeEnabled	Public		-
	rewardEnabled	Public		-
	autoSwapAndLiquifyEnabled	Public		-
	minTokensBeforeSwap	External		-
	totalSupply	External		-
	currentSupply	External		-
	totalIncinerated	External		-
	totalSacrificed	External		-
	totalTokensLockedInLiquidity	External		-
	totalETHLockedInLiquidity	External		-
	balanceOf	Public		-
	isExcludedFromReward	External		-
	isExcludedFromFee	External		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_incinerate	Internal	✓	
	_sacrifice	Internal	✓	
	_approve	Internal	✓	
	_transfer	Internal	✓	
	_afterTokenTransfer	Internal	✓	

_transferStandard	Private	✓	
_transferToExcluded	Private	✓	
_transferFromExcluded	Private	✓	
_transferBothExcluded	Private	✓	
incinerate	Public	✓	-
sacrifice	Public	✓	-
incinerateFrom	Public	✓	-
sacrificeFrom	Public	✓	-
_excludeAccountFromReward	Public	✓	onlyOwner
_includeAccountInReward	Public	✓	onlyOwner
excludeAccountFromFee	Public	✓	onlyOwner
includeAccountInFee	Public	✓	onlyOwner
airdrop	Public	✓	-
reflectionFromToken	Internal		
tokenFromReflection	Internal		
swapAndLiquify	Private	✓	lockTheSwap
swapTokensForEth	Private	✓	
addLiquidity	Private	✓	
_distributeFee	Private	✓	
_getValues	Private		
_getTValues	Private		
_getRValues	Private		
_getRAmount	Private		
_getRate	Private		
_getCurrentSupply	Private		
_calculateTax	Private		
enableAutoIncinerate	Public	✓	onlyOwner
enableAutoSacrifice	Public	✓	onlyOwner
enableReward	Public	✓	onlyOwner
enableAutoSwapAndLiquify	Public	✓	onlyOwner
disableAutoIncinerate	Public	✓	onlyOwner
disableAutoSacrifice	Public	✓	onlyOwner
disableReward	Public	✓	onlyOwner
disableAutoSwapAndLiquify	Public	✓	onlyOwner
setMinTokensBeforeSwap	Public	✓	onlyOwner

	setTaxFurnace	Public	✓	onlyOwner
	setTaxAltar	Public	✓	onlyOwner
	setTaxReward	Public	✓	onlyOwner
	setTaxLiquify	Public	✓	onlyOwner

Contract Flow

Domain Info

Domain Name	cthulhubsc.com
Registry Domain ID	2653990813_DOMAIN_COM-VRSN
Creation Date	2021-11-10T18:47:22.000Z
Updated Date	2021-11-10T18:47:23.000Z
Registry Expiry Date	
Registrar WHOIS Server	whois.ionos.com
Registrar URL	http://ionos.com
Registrar	IONOS SE
Registrar IANA ID	83

The domain has been created 2 months before the creation of the audit.

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

Summary

Cthulhu is a meme token. The token has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. There is also a limit of max 11% fees.

The contract contains a novel tax functionality. The "furnace" fee moves the taxed amount to the "furnaceAccount" address and removes the amount from the total supply. The "alter" fee moves the taxed amount to the "altarAccount" address. Hence, every trade will slightly decrease the total supply and the furnace/alter accounts value will be increased. This will have a side effect on the market cap metric.

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Coinscope is aiming to make crypto discoverable and efficient globally. It provides all the essential tools to assist users draw their own conclusions.

The Coinscope.co team

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