Cyberscope

Audit Report

Teddinu

July 2022

Type	BEP20
Network	BSC
Address	0x7d8565f7eEf475CfbBB21c6d3B171186892F9d79
Audited by	© cyberscope

Table of Contents

Contract Review

Contract Name	Teddinu
Compiler Version	v0.8.4+commit.c7e474f2
Optimization	1 runs
Explorer	https://bscscan.com/token/0x7d8565f7eEf475CfbBB21c6d3B171186892F9d79
Symbol	TED
Decimals	5
Total Supply	800,000
Domain	https://teddinu.com

Source Files

Filename	**SHA256**
contract.sol	e81886f88a1ef5cd0fc298f9c35484134c81605487675582c91c4f08240942cc

Audit Updates

Initial Audit	25th July 2022
Corrected	1st August 2022

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

ST - Stop Transactions

Criticality	critical
Location	contract.sol#L757,L760,L787

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 antiBotAmount to zero and by setting the antiBotDuration to maximum amount.

```
if ((sender == pair) || (recipient == pair)) {
    if (!isAntiBotEnded())
    {
        if (!(addLPaddress[sender] || addLPaddress[recipient]))
                { require(amount <= antiBotAmount, "antiBot"); }
    }
}
```

The contract owner can also turn the contract to honey by setting sell fees to maximum amount with the function setFee.

```
 if (recipient == pair) {
            _liquidityFee = sellLiquidityFee;
            _treasuryFee = sellTreasuryFee;
            _tedRiskFreeValueFee = sellTedRiskFreeValueFe;
}
```

Recommendation

The contract could embody a check for not allowing setting the antiBotAmount, antiBotDuration and the sell fees 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. In addition, the anti-bot duration should be restricted to a reasonable amount.

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#L787

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 setFee(
        uint256 firePitFee_,
        uint256 sellLiquidityFee_,
        uint256 sellTreasuryFee_,
        uint256 sellTedRiskFreeValueFee,
        uint256 buyLiquidityFee_,
        uint256 buyTreasuryFee_,
        uint256 buyTedRiskFreeValueFee_
    ) external onlyOwner {
        firePitFee = firePitFee_;
        sellLiquidityFee = sellLiquidityFee_;
        sellTreasuryFee = sellTreasuryFee_;
        sellTedRiskFreeValueFe = sellTedRiskFreeValueFee;
        buyLiquidityFee = buyLiquidityFee_;
        buyTreasuryFee = buyTreasuryFee_;
        buyTedRiskFreeValueFee = buyTedRiskFreeValueFee_;
}
```

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.

ULTW - Unlimited Liquidity to Team Wallet

Criticality	minor
Location	contract.sol#L928

Description

The contract owner has the authority to transfer funds without limit to the team wallet. These funds have been accumulated from fees collected from the contract. The owner may take advantage of it by calling the `withdrawAllToTreasury` method.

```
function withdrawAllToTreasury() external swapping onlyOwner {
    uint256 amountToSwap = _gonBalances[address(this)].div(
        _gonsPerFragment
    );
    require(
        amountToSwap > 0,
        "There is no TED token deposited in token contract"
    );
    address[] memory path = new address[](2);
    path[0] = address(this);
    path[1] = router.WETH();
    router.swapExactTokensForETH(
        amountToSwap,
        0,
        path,
        treasuryReceiver,
        block.timestamp
    );
}
```

Recommendation

The contract could embody a check for the maximum amount of funds that can be swapped. Since a huge amount may volatile the token's price.

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

Critical Medium Minor

Severity	Code	Description
	MTS	Manipulate Total Supply
	L01	Public Function could be Declared External
	L04	Conformance to Solidity Naming Conventions
	L05	Unused State Variable
	L07	Missing Events Arithmetic
	L09	Dead Code Elimination
	L13	Divide before Multiply Operation

MTS - Manipulate Total Supply

Criticality	minor
Location	contract.sol#L701

Description

Owner is able to manipulate total supply. This change will have a direct impact on the token price and Market Cap.

```
for (uint256 i = 0; i < times; i++) {
            _totalSupply = _totalSupply
              .mul((10**RATE_DECIMALS).add(rebaseRate))
              .div(10**RATE_DECIMALS);
}
```

Recommendation

The contract owner should carefully manage the adjustment of the circulating supply (increases or decreases), according to the token's price fluctuations.

L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L534,530,526,495,482,628,500,623

Description

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

```
setAddLPAddress
transferOwnership
setAntiBotAmount
owner
renounceOwnership
name
symbol
decimals
```

Recommendation

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

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L608,610,623,977,609,1092,583,1071,566,628,1088,607,160,1069,564,550,565,546,237,606,611,1070,1049,158,191,986,1096,579,547,545

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.

```
_name
_decimals
feeDenominator
_address
_flag
MINIMUM_LIQUIDITY
DOMAIN_SEPARATOR
_addr
_treasuryReceiver
...
```

Recommendation

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

L05 - Unused State Variable

Criticality	minor
Location	contract.sol#L7

Description

There are segments that contain unused state variables.

```
MAX_INT256
```

Recommendation

Remove unused state variables.

L07 - Missing Events Arithmetic

Criticality	minor
Location	contract.sol#L628,787

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.

```
firePitFee = firePitFee_
antiBotDuration = _duration
```

Recommendation

Emit an event for critical parameter changes.

L09 - Dead Code Elimination

Criticality	minor
Location	contract.sol#L35

Description

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

```
abs
```

Recommendation

Remove unused functions.

L13 - Divide before Multiply Operation

Criticality	minor
Location	contract.sol#L682,1078

Description

Performing divisions before multiplications may cause lose of prediction.

```
times = deltaTime.div(720)
liquidityBalance = _gonBalances[pair].div(_gonsPerFragment)
```

Recommendation

The multiplications should be prior to the divisions.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
SafeMathInt	Library			
	mul	Internal		
	div	Internal		
	sub	Internal		
	add	Internal		
	abs	Internal		
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	transfer	External	✓	-
	approve	External	✓	-
	transferFrom	External	✓	-
IPancakeSwapPair	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-

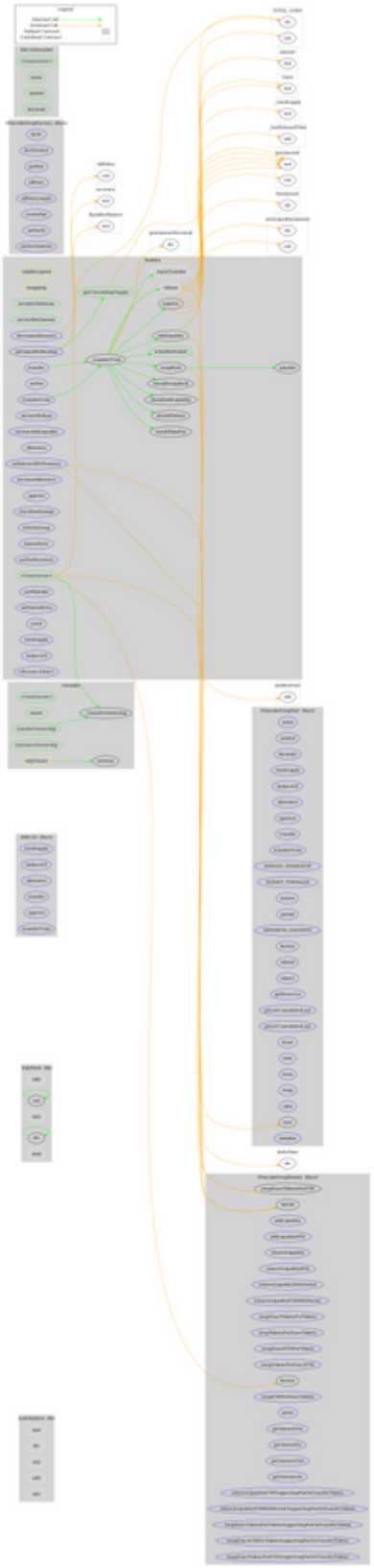
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	mint	External	✓	-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
IPancakeSwap Router	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		-
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
IPancakeSwapFactory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
Ownable	Implementation			
	<Constructor>	Public	✓	-
	owner	Public		-
	isOwner	Public		-

	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	_transferOwnership	Internal	✓	
ERC20Detailed	Implementation	IERC20		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
Teddinu	Implementation	ERC20Detailed, Ownable		
	setAddLPAddress	Public	✓	onlyOwner
	setAntiBotAmount	Public	✓	onlyOwner
	isAntiBotEnded	Public		-
	<Constructor>	Public	✓	ERC20Detailed Ownable
	rebase	Internal	✓	
	transfer	External	✓	validRecipient
	transferFrom	External	✓	validRecipient
	_basicTransfer	Internal	✓	
	_transferFrom	Internal	✓	
	setFee	External	✓	onlyOwner
	takeFee	Internal	✓	
	addLiquidity	Internal	✓	swapping
	swapBack	Internal	✓	swapping
	withdrawAllToTreasury	External	✓	swapping onlyOwner
	shouldTakeFee	Internal		
	shouldRebase	Internal		
	shouldAddLiquidity	Internal		
	shouldSwapBack	Internal		
	setAutoRebase	External	✓	onlyOwner
	setAutoAddLiquidity	External	✓	onlyOwner

	allowance	External		-
	decreaseAllowance	External	✓	-
	increaseAllowance	External	✓	-
	approve	External	✓	-
	checkFeeExempt	External		-
	getCirculatingSupply	Public		-
	isNotInSwap	External		-
	manualSync	External	✓	-
	setFeeReceivers	External	✓	onlyOwner
	getLiquidityBacking	External		-
	setWhitelist	External	✓	onlyOwner
	setPairAddress	External	✓	onlyOwner
	setLP	External	✓	onlyOwner
	totalSupply	External		-
	balanceOf	External		-
	<Receive Ether>	External	Payable	-

Contract Flow



Domain Info

Domain Name	teddinu.com
Registry Domain ID	2707321532_DOMAIN_COM-VRSN
Creation Date	2022-06-29T05:43:48.00Z
Updated Date	0001-01-01T00:00:00.00Z
Registry Expiry Date	2023-06-29T05:43:48.00Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	http://www.namecheap.com
Registrar	NAMECHEAP INC
Registrar IANA ID	1068

The domain has been created in 11 months before the creation of the audit.

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, manipulating fees and transferring funds to the team’s wallet. The contract can be converted into a honeypot and prevent users from selling if the owner abuses the admin functions. 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