



Cyberscope

Audit Report

Mafia Cat

June 2022

Type BEP20

Network BSC

Address 0xbd6ee9077648099a73aef6a7c2c9ca99181d6340

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Contract Review

Contract Name	MafiaCat
Compiler Version	v0.8.13+commit.abaa5c0e
Optimization	200 runs
Licence	None
Explorer	https://bscscan.com/token/0xbd6ee9077648099a73aef6a7c2c9ca99181d6340
Symbol	MCat
Decimals	18
Total Supply	1,000,000,000
Domain	mafiacat.app

Source Files

Filename	SHA256
contract.sol	2e0903875fb4ce77966b9433c05a0f58b48eb1d9830e1b2ee6e347a0d1286431

Audit Updates

Initial Audit	18th June 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
●	FSA	Fixed Swap Address
●	CO	Code Optimization
●	L01	Public Function could be Declared External
●	L04	Conformance to Solidity Naming Conventions
●	L09	Dead Code Elimination
●	L11	Unnecessary Boolean equality

FSA - Fixed Swap Address

Criticality	minor
Location	contract.sol#L1154

Description

The swap address is assigned once in the constructor and it can not be changed. The decentralized swaps sometimes create a new swap version or abandon the current. A contract that cannot change the swap address may not be able to catch-up the upgrade.

```
uniswapV2Router =  
IUniswapV2Router02(0x10ED43C718714eb63d5aA57B78B54704E256024E);  
    uniswapV2Pair =  
IUniswapV2Factory(uniswapV2Router.factory()).createPair(address(this),  
    uniswapV2Router.WETH());
```

Recommendation

It could be better to allow the swap address mutation in case of future swap updates.

CO - Code Optimization

Criticality

minor

Location

contract.sol#L1145, 1175, 1192

Description

There are code segments that could be optimized. A segment may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer operations. Liquidity and burn fees are fixed to 0, so calculations will have no effect on the amount.

```
uint256 public constant liquiditySellFee = 0;  
uint256 public constant liquidityBuyFee = 0;  
uint256 public constant burnSellFee = 0;  
uint256 public constant burnBuyFee = 0;
```

```
uint256 _LiquidityFee = amount.mul(liquiditySellFee).div(100);  
uint256 _BurnFee = amount.mul(burnSellFee).div(100);  
  
super._transfer(sender, marketingAddress, _MarketingFee);  
super._transfer(sender, uniswapV2Pair, _LiquidityFee);  
super._burn(sender, _BurnFee);  
  
amount = amount.sub(_MarketingFee.add(_BurnFee).add(_LiquidityFee));
```

```
uint256 _LiquidityFee = amount.mul(liquidityBuyFee).div(100);  
uint256 _BurnFee = amount.mul(burnBuyFee).div(100);  
  
super._transfer(sender, marketingAddress, _MarketingFee);  
super._burn(sender, _BurnFee);  
  
amount = amount.sub(_MarketingFee.add(_BurnFee).add(_LiquidityFee));
```

Recommendation

Remove `liquiditySellFee`, `liquidityBuyFee`, `burnSellFee` and `burnBuyFee` definitions and usage so the runtime will be more performant.

L01 - Public Function could be Declared External

Criticality

minor

Location

contract.sol#L800,808

Description

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

```
transferOwnership  
renounceOwnership
```

Recommendation

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

L04 - Conformance to Solidity Naming Conventions

Criticality

minor

Location

contract.sol#L27,1140,1143,1144,1145,1146,1147,1148,1149

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.

```
marketingAddress  
burnBuyFee  
burnSellFee  
liquidityBuyFee  
liquiditySellFee  
marketingBuyFee  
marketingSellFee  
maxSupply  
WETH
```

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#L350,360,379,393,439,449,412,422,301,325,466,1120

Description

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

```
_burnFrom  
verifyCallResult  
sendValue  
isContract  
functionStaticCall  
functionDelegateCall  
functionCallWithValue  
functionCall  
...
```

Recommendation

Remove unused functions.

L11 - Unnecessary Boolean equality

Criticality

minor

Location

contract.sol#L1167

Description

The comparison to boolean constants is redundant. Boolean constants can be used directly and do not need to be compared to true or false.

```
taxStatus == true
```

Recommendation

Remove the equality to the boolean constant.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
IUniswapV2Factory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
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	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
IERC20	Interface			
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Address	Library			
	isContract	Internal		
	sendValue	Internal	✓	
	functionCall	Internal	✓	
	functionCall	Internal	✓	
	functionCallWithValue	Internal	✓	
	functionCallWithValue	Internal	✓	
	functionStaticCall	Internal		

	functionStaticCall	Internal		
	functionDelegateCall	Internal	✓	
	functionDelegateCall	Internal	✓	
	verifyCallResult	Internal		
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		
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	_transferOwnership	Internal	✓	
ERC20	Implementation	Context, IERC20, Ownable		
	<Constructor>	Public	✓	-
	getOwner	External		-

	name	External		-
	decimals	External		-
	symbol	External		-
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
	increaseAllowance	External	✓	-
	decreaseAllowance	External	✓	-
	_transfer	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_burnFrom	Internal	✓	
MafiaCat	Implementation	ERC20		
	<Constructor>	Public	✓	ERC20
	setTax	External	✓	onlyOwner
	addExcludeFee	External	✓	onlyOwner
	_transfer	Internal	✓	

Contract Flow



Domain Info

Domain Name	mafiacat.app
Registry Domain ID	4933F53EA-APP
Creation Date	2022-06-17T04:49:34Z
Updated Date	2022-06-17T04:49:37Z
Registry Expiry Date	2023-06-17T04:49:34Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	https://www.namecheap.com/
Registrar	Namecheap Inc.
Registrar IANA ID	1068

The domain has been created 1 day 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

Mafia Cat is an interesting project that 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. The fees are fixed to 5% and can not be changed.

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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>