Cyberscope

Audit Report

Maincoon

November 2024

Network BSC

Address 0x7e84aC3b1eea1ef60b1a58Fc3679829CC19f19e6

Audited by © cyberscope

Analysis

Critical Medium Minor / Informative Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
●	PLPI	Potential Liquidity Provision Inadequacy	Unresolved
●	L02	State Variables could be Declared Constant	Unresolved

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Risk Classification

The criticality of findings in Cyberscope's smart contract audits is determined by evaluating multiple variables. The two primary variables are:

1. **Likelihood of Exploitation**: This considers how easily an attack can be executed, including the economic feasibility for an attacker.
2. **Impact of Exploitation**: This assesses the potential consequences of an attack, particularly in terms of the loss of funds or disruption to the contract's functionality.

Based on these variables, findings are categorized into the following severity levels:

1. **Critical**: Indicates a vulnerability that is both highly likely to be exploited and can result in significant fund loss or severe disruption. Immediate action is required to address these issues.
2. **Medium**: Refers to vulnerabilities that are either less likely to be exploited or would have a moderate impact if exploited. These issues should be addressed in due course to ensure overall contract security.
3. **Minor**: Involves vulnerabilities that are unlikely to be exploited and would have a minor impact. These findings should still be considered for resolution to maintain best practices in security.
4. **Informative**: Points out potential improvements or informational notes that do not pose an immediate risk. Addressing these can enhance the overall quality and robustness of the contract.

Severity	Likelihood / Impact of Exploitation
Critical	Highly Likely / High Impact
Medium	Less Likely / High Impact or Highly Likely/ Lower Impact
Minor / Informative	Unlikely / Low to no Impact

Review

Contract Name	MainCoonCatToken
Compiler Version	v0.8.4+commit.c7e474f2
Optimization	200 runs
Explorer	https://bscscan.com/address/0x7e84ac3b1eea1ef60b1a58fc3679829cc19f19e6
Address	0x7e84ac3b1eea1ef60b1a58fc3679829cc19f19e6
Network	BSC
Symbol	Coon
Decimals	18
Total Supply	100,000,000,000
Badge Eligibility	Yes

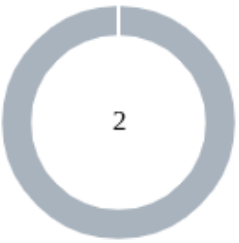
Audit Updates

Initial Audit	09 May 2024 https://github.com/cyberscope-io/audits/blob/main/maincoon/v1/audit.pdf
Corrected Phase 2	14 May 2024 https://github.com/cyberscope-io/audits/blob/main/maincoon/v2/audit.pdf
Corrected Phase 3	27 Nov 2024

Source Files

Filename	SHA256
MainCoonCatToken.sol	3a1b843495dbb32cb755f10436ea15cdd40c3d1e51034baeec0bcaa24f090d80

Findings Breakdown



Critical	0
Medium	0
Minor / Informative	2

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	0	0	0	0
Medium	0	0	0	0
Minor / Informative	2	0	0	0

PLPI - Potential Liquidity Provision Inadequacy

Criticality	Minor / Informative
Location	MainCoonCatToken.sol#L1062
Status	Unresolved

Description

The contract operates under the assumption that liquidity is consistently provided to the pair between the contract's token and the native currency. However, there is a possibility that liquidity is provided to a different pair. This inadequacy in liquidity provision in the main pair could expose the contract to risks. Specifically, during eligible transactions, where the contract attempts to swap tokens with the main pair, a failure may occur if liquidity has been added to a pair other than the primary one. Consequently, transactions triggering the swap functionality will result in a revert.

```
function swapTokensForEth(uint256 tokenAmount) private {
    // generate the uniswap pair path of token -> weth
    address[] memory path = new address[](2);
    path[0] = address(this);
    path[1] = uniswapV2Router.WETH();

    _approve(address(this), address(uniswapV2Router),
tokenAmount);

    // make the swap

uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTok
ens(
        tokenAmount,
        0, // accept any amount of ETH
        path,
        address(this), // The contract
        block.timestamp
    );
    emit SwapTokensForETH(tokenAmount, path);
}
```

Recommendation

The team is advised to implement a runtime mechanism to check if the pair has adequate liquidity provisions. This feature allows the contract to omit token swaps if the pair does not have adequate liquidity provisions, significantly minimizing the risk of potential failures.

Furthermore, the team could ensure the contract has the capability to switch its active pair in case liquidity is added to another pair.

Additionally, the contract could be designed to tolerate potential reverts from the swap functionality, especially when it is a part of the main transfer flow. This can be achieved by executing the contract's token swaps in a non-reversible manner, thereby ensuring a more resilient and predictable operation.

L02 - State Variables could be Declared Constant

Criticality	Minor / Informative
Location	MainCoonCatToken.sol#L551
Status	Unresolved

Description

State variables can be declared as constant using the constant keyword. This means that the value of the state variable cannot be changed after it has been set. Additionally, the constant variables decrease gas consumption of the corresponding transaction.

```
uint256 private tTotal = 100000 * 10**6 * 10**18
```

Recommendation

Constant state variables can be useful when the contract wants to ensure that the value of a state variable cannot be changed by any function in the contract. This can be useful for storing values that are important to the contract's behavior, such as the contract's address or the maximum number of times a certain function can be called. The team is advised to add the constant keyword to state variables that never change.

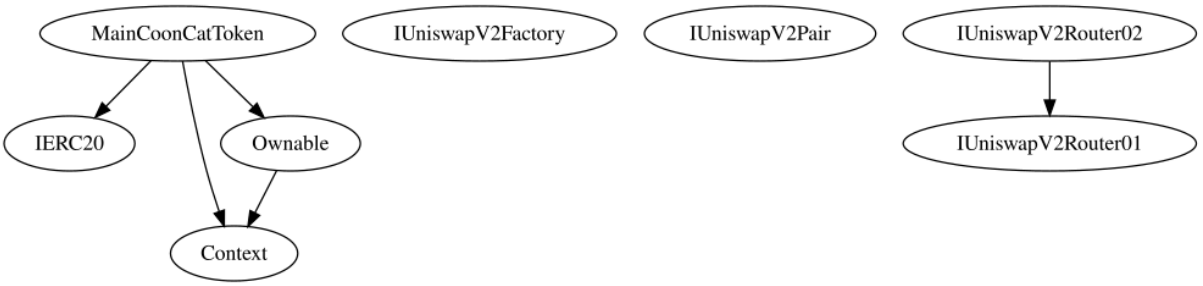
Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
MainCoonCatToken	Implementation	Context, IERC20, Ownable		
		Public	✓	-
	setFees	External	✓	onlyOwner
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	manualSendMa	External	✓	onlyOwner
	setMainAddress	External	✓	onlyOwner
	transferFrom	Public	✓	-
	excludeFromAddressPair	Public	✓	onlyOwner
	includeFromAddressPair	Public	✓	onlyOwner
	excludeFromFee	Public	✓	onlyOwner
	includeInFee	Public	✓	onlyOwner

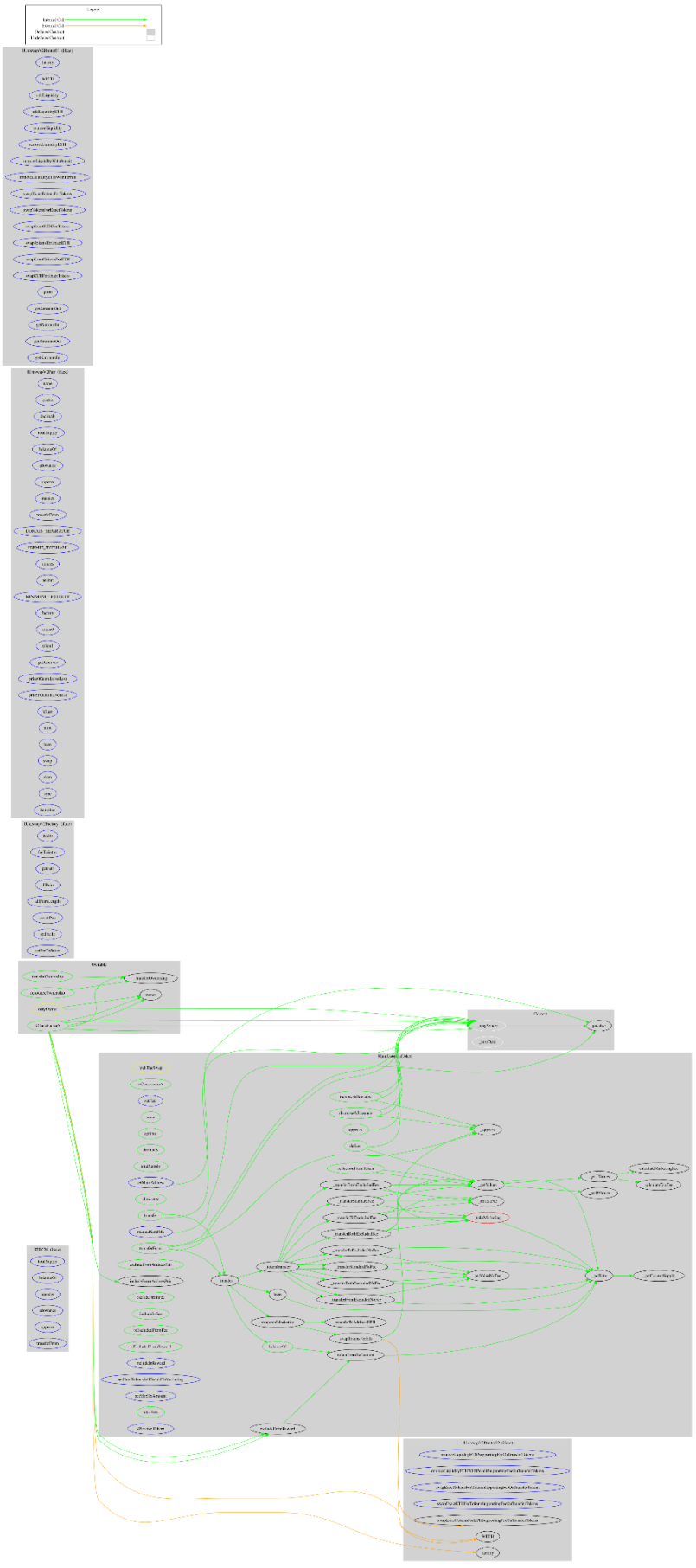
	isExcludedFromFee	Public		-
	isExcludedFromReward	Public		-
	deliver	Public	✓	-
	excludeFromReward	Public	✓	onlyOwner
	includeInReward	External	✓	onlyOwner
	setNumTokensSellToAddToMarketing	External	✓	onlyOwner
	setMaxTxAmount	External	✓	onlyOwner
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	totalFees	Public		-
	reflectionFromToken	Public		-
	tokenFromReflection	Public		-
		External	Payable	-
	_reflectFee	Private	✓	
	_getValues	Private		
	_getTValues	Private		
	_getRValues	Private		
	getValueNoFee	Private		
	_getRate	Private		
	_getCurrentSupply	Private		
	_takeMarketing	Private	✓	
	calculateTaxFee	Private		
	calculateMarketingFee	Private		

	_approve	Private	✓	
	_transfer	Private	✓	
	swapAndMarketing	Private	✓	lockTheSwap
	swapTokensForEth	Private	✓	
	transferToAddressETH	Private	✓	
	_tokenTransfer	Private	✓	
	_transferStandardFee	Private	✓	
	_transferToExcludedFee	Private	✓	
	_transferFromExcludedFee	Private	✓	
	_transferBothExcludedFee	Private	✓	
	_transferStandardNoFee	Private	✓	
	_transferToExcludedNoFee	Private	✓	
	_transferFromExcludedNoFee	Private	✓	
	_transferBothExcludedNoFee	Private	✓	
	burn	Private	✓	

Inheritance Graph



Flow Graph



Summary

Maincoon contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. Maincoon 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 contract's ownership has been renounced. The information regarding the transaction can be accessed through the following link:

https://bscscan.com/tx/0x9cd4e8cadc6dd6c236fbc152b610bebcac30e10b14caff7cdc4a1a28e9b539de

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Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.

The Cyberscope team

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