Cyberscope

Audit Report

Catch

March 2024

Network	BSC
Address	0x9f919228Eadf474897A798dbEf169AcD4Ddd9DC7
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
●	L04	Conformance to Solidity Naming Conventions	Unresolved

Table of Contents

Review

Contract Name	CATCH
Compiler Version	v0.8.19+commit.7dd6d404
Optimization	200 runs
Explorer	https://bscscan.com/address/0x9f919228eadf474897a798dbef169acd4ddd9dc7
Address	0x9f919228eadf474897a798dbef169acd4ddd9dc7
Network	BSC
Symbol	CATCH
Decimals	18
Total Supply	90,000,000
Badge Eligibility	Yes

Audit Updates

Initial Audit	15 Jan 2024 https://github.com/cyberscope-io/audits/blob/main/catchcoin/v1/audit.pdf
Corrected Phase 2	23 Jan 2024 https://github.com/cyberscope-io/audits/blob/main/catchcoin/v2/audit.pdf
Corrected Phase 3	28 Mar 2024

Source Files

Filename	SHA256
contracts/CATCH.sol	cddff206e55216de986ebec997669e3a877e0ec7773f37ca88486bd78b12be7c

Findings Breakdown

Critical	0
Medium	0
Minor / Informative	1

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	0	0	0	0
Medium	0	0	0	0
Minor / Informative	1	0	0	0

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	contracts/catch.sol#L217,736,748,764,964,975,987,1000
Status	Unresolved

Description

The Solidity style guide is a set of guidelines for writing clean and consistent Solidity code. Adhering to a style guide can help improve the readability and maintainability of the Solidity code, making it easier for others to understand and work with.

The followings are a few key points from the Solidity style guide:

1. Use camelCase for function and variable names, with the first letter in lowercase (e.g., myVariable, updateCounter).
2. Use PascalCase for contract, struct, and enum names, with the first letter in uppercase (e.g., MyContract, UserStruct, ErrorEnum).
3. Use uppercase for constant variables and enums (e.g., MAX_VALUE, ERROR_CODE).
4. Use indentation to improve readability and structure.
5. Use spaces between operators and after commas.
6. Use comments to explain the purpose and behavior of the code.
7. Keep lines short (around 120 characters) to improve readability.

```
function WETH() external pure returns (address);
function setFundWallet(address _fundWallet) external onlyOwner
function setSwapAndLiquifyEnabled(bool _enabled) external
onlyOwner
function updateThreshold(uint256 _amount) external onlyOwner
function calculateTaxFee(uint256 _amount) private view returns
(uint256)
function calculateLiquidityFee(uint256 _amount) private view
returns (uint256)
function calculateCoinOperartionTax(uint256 _amount) private
view returns (uint256)
function calculateBurnTax(uint256 _amount) private view returns
(uint256)
```

Recommendation

By following the Solidity naming convention guidelines, the codebase increased the readability, maintainability, and makes it easier to work with.
Find more information on the Solidity documentation
https://docs.soliditylang.org/en/v0.8.17/style-guide.html#naming-convention.

Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
Ownable	Implementation	Context		
		Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	geUnlockTime	Public		-
	lock	Public	✓	onlyOwner

	unlock	Public	✓	-
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	✓	-

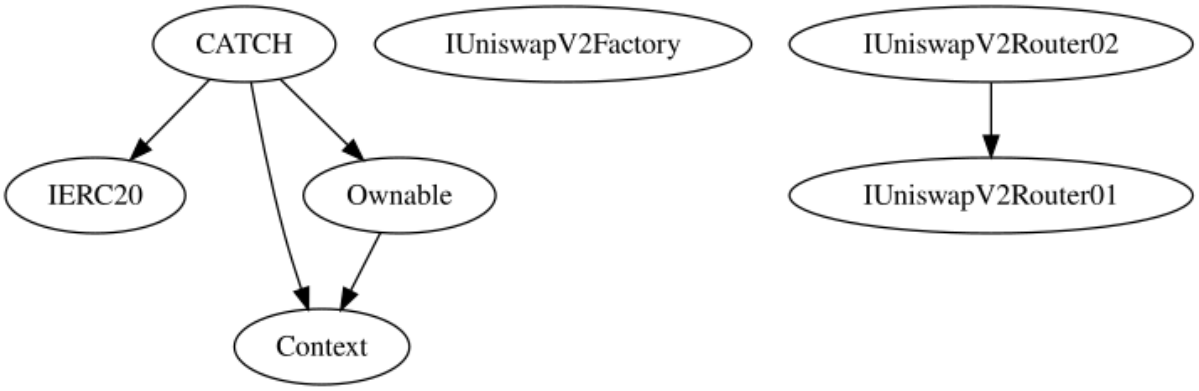
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
IUniswapV2Router02	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
CATCH	Implementation	Context, IERC20, Ownable		
		Public	✓	-
	name	External		-
	symbol	External		-

	decimals	External		-
	totalSupply	External		-
	balanceOf	Public		-
	transfer	External	✓	-
	allowance	External		-
	approve	Public	✓	-
	transferFrom	External	✓	-
	increaseAllowance	External	✓	-
	decreaseAllowance	External	✓	-
	isExcludedFromReward	External		-
	totalFees	External		-
	deliver	External	✓	-
	reflectionFromToken	External		-
	tokenFromReflection	Public		-
	excludeFromReward	External	✓	onlyOwner
	includeInReward	External	✓	onlyOwner
	_transferBothExcluded	Private	✓	
	excludeFromFee	External	✓	onlyOwner
	includeInFee	External	✓	onlyOwner
	setFundWallet	External	✓	onlyOwner
	setSwapAndLiquifyEnabled	External	✓	onlyOwner
	updateThreshold	External	✓	onlyOwner
		External	Payable	-

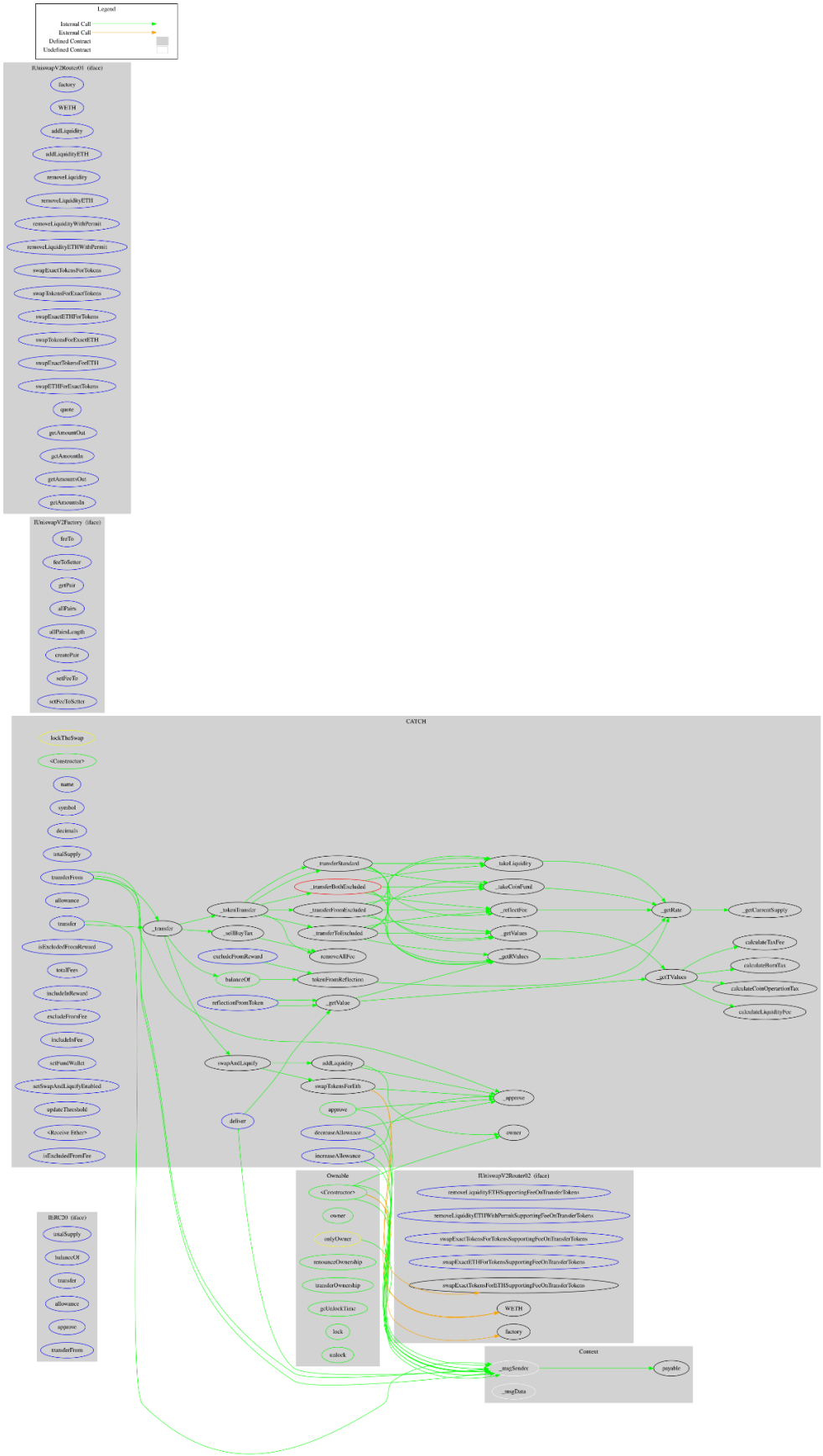
	_reflectFee	Private	✓	
	_takeCoinFund	Private	✓	
	_getValues	Private		
	_getValue	Private		
	_getTValues	Private		
	_getRValues	Private		
	_getRate	Private		
	_getCurrentSupply	Private		
	_takeLiquidity	Private	✓	
	calculateTaxFee	Private		
	calculateLiquidityFee	Private		
	calculateCoinOperartionTax	Private		
	calculateBurnTax	Private		
	removeAllFee	Private	✓	
	isExcludedFromFee	External		-
	_approve	Private	✓	
	_transfer	Private	✓	
	_sellBuyTax	Private	✓	
	swapAndLiquify	Private	✓	lockTheSwap
	swapTokensForEth	Private	✓	
	addLiquidity	Private	✓	
	_tokenTransfer	Private	✓	
	_transferStandard	Private	✓	

	_transferToExcluded	Private	✓	
	_transferFromExcluded	Private	✓	

Inheritance Graph



Flow Graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
IUniswapV2Router01 (iface)
factory
WETH
addLiquidity
addLiquidityETH
removeLiquidity
removeLiquidityETH
removeLiquidityWithPermit
removeLiquidityETHWithPermit
swapExactTokensForTokens
swapTokensForExactTokens
swapExactETHForTokens
swapTokensForExactETH
swapExactTokensForETH
swapETHForExactTokens
quote
getAmountOut
getAmountIn
getAmountsOut
getAmountsIn
IUniswapV2Factory (iface)
feeTo
feeToSetter
getPair
allPairs
allPairsLength
createPair
setFeeTo
setFeeToSetter
CATCH
lockTheSwap
<Constructor>
name
symbol
decimals
totalSupply
transferFrom
allowance
transfer
isExcludedFromReward
totalFees
includeInReward
excludeFromFee
includeInFee
setPrizeWallet
setSwapAndLiquifyEnabled
updateThreshold
<Receive Ether>
isExcludedFromFee
transferStandard
_transferBothExcluded
_transferFromExcluded
_transferToExcluded
removeAllFee
tokenFromReflection
_getValue
takeLiquidity
_takeCoinFund
_reflectFee
getValues
_getRValues
_tokenTransfer
_sellBuyTax
excludeFromReward
balanceOf
reflectionFromToken
_transfer
_getRate
_getCurrentSupply
_getTValues
calculateTaxFee
calculateBurnTax
calculateCoinOperationTax
calculateLiquidityFee
swapAndLiquify
addLiquidity
swapTokensForEth
approve
decreaseAllowance
increaseAllowance
_approve
owner
deliver
IERC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom
Ownable
<Constructor>
owner
onlyOwner
renounceOwnership
transferOwnership
getUnlockTime
lock
unlock
IUniswapV2Router02 (iface)
removeLiquidityETHSupportingFeeOnTransferTokens
removeLiquidityETHWithPermitSupportingFeeOnTransferTokens
swapExactTokensForTokensSupportingFeeOnTransferTokens
swapExactETHForTokensSupportingFeeOnTransferTokens
swapExactTokensForETHSupportingFeeOnTransferTokens
WETH
factory
Context
_msgSender
payable
_msgData

Summary

Catch contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. Catch 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. There is also a limit of a 3% fee on buy transactions and a 6% fee on sell transactions.

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The Cyberscope team

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