



# Smart Contract Audit

FOR  
**SRG**

DATED : 3 MAY 23'



# AUDIT SUMMARY

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**Project name – SRG**

**Date:** 5 May, 2023

**Scope of Audit-** Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

**Audit Status:** **Passed**

## Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	0	1
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0

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# USED TOOLS

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## Tools:

**1. Manual Review:** The code has undergone a line-by-line review by the Ace team.

**2. BSC Test Network:** All tests were conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

**3. Slither:** The code has undergone static analysis using Slither.

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# Token Information

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**Name :** Scrooge Inu

**Symbol :** SRG

**Decimals:** 9

**Network:** Binance smart chain

**Token Type:** BEP20

**Token Address :**

0xf9A1f359b4D2e822F25200adD1E6B5ee716083F3

**Owner:**

0x811Bf4f7695e56b1c1C5926103CA023c82a919dc  
(at time of audit)

**Deployer:**

0x811Bf4f7695e56b1c1C5926103CA023c82a919dc

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# Token Information

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## **Fees:**

Buy Fees: up to 8%

Sell Fees: up to 8%

Transfer Fees: 8%

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**Fees Privilege:** Owner

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**Ownership :** Owned

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**Minting:** None

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**Max Tx Amount/ Max Wallet Amount:** Yes

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**Blacklist:** No

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**Other Privileges:** Toggling internal swap - excluding wallets from fee - including wallets in fee - modifying fee

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# AUDIT METHODOLOGY

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The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
  - Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
  - Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
  - Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
  - Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
  - Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.
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# VULNERABILITY CHECKLIST

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- |                                    |                               |
|------------------------------------|-------------------------------|
| ✓ Return values of low-level calls | ✓ Gasless Send                |
| ✓ Private modifier                 | ✓ Using block.timestamp       |
| ✓ Multiple Sends                   | ✓ Re-entrancy                 |
| ✓ Using Suicide                    | ✓ Tautology or contradiction  |
| ✓ Gas Limitand Loops               | ✓ Timestamp Dependence        |
| ✓ Address hardcoded                | ✓ Revert/require functions    |
| ✓ Exception Disorder               | ✓ Use of tx.origin            |
| ✓ Using inline assembly            | ✓ Integer overflow/underflow  |
| ✓ Divide before multiply           | ✓ Dangerous strict equalities |
| ✓ Missing Zero Address Validation  | ✓ Using SHA3                  |
| ✓ Compiler version not fixed       | ✓ Using throw                 |
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# CLASSIFICATION OF RISK

## Severity

## Description

### ◆ Critical

These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.

### ◆ High-Risk

A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.

### ◆ Medium-Risk

A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.

### ◆ Low-Risk

A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.

### ◆ Gas Optimization /Suggestion

A vulnerability that has an informational character but is not affecting any of the code.

## Findings

### Severity

### Found

#### ◆ Critical

0

#### ◆ High-Risk

0

#### ◆ Medium-Risk

0

#### ◆ Low-Risk

0

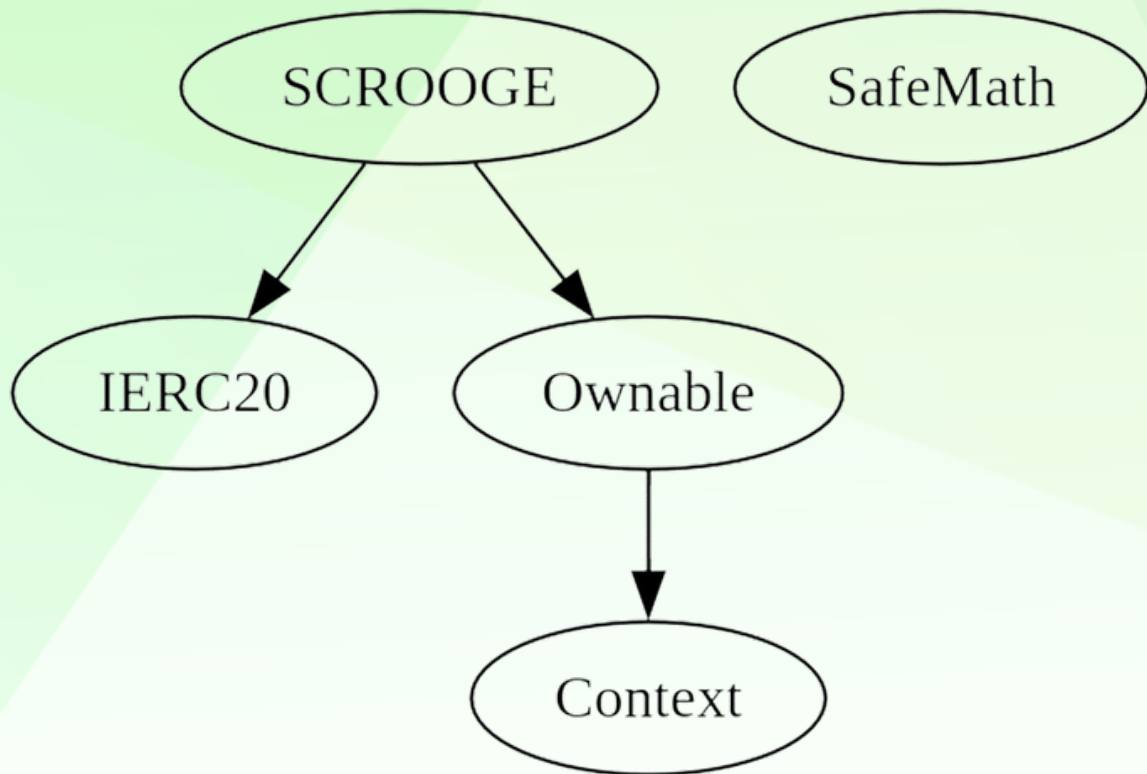
#### ◆ Gas Optimization / Suggestions

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# INHERITANCE TREE

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# POINTS TO NOTE

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




















- Owner is not able to set buy/sell fees more than 10% (20% max fee)
  - Owner is not able to set transfer fees (0% always)
  - Owner is not able to set max buy/sell/transfer/hold amount
  - Owner is not able to blacklist an arbitrary wallet
  - Owner is not able to disable trades
  - Owner is not able to mint new tokens
  - **Owner must enable trading for investors**
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# CONTRACT ASSESMENT

Contract	Type	Bases			
:-----: :-----: :-----: :-----: :-----:					
L	**Function Name**	**Visibility**	**Mutability**	**Modifiers**	
**IERC20**   Interface					
L	totalSupply	External	!	NO !	
L	balanceOf	External	!	NO !	
L	transfer	External	!	NO !	
L	allowance	External	!	NO !	
L	approve	External	!	NO !	
L	transferFrom	External	!	NO !	
**SafeMath**   Library					
L	add	Internal	🔒		
L	sub	Internal	🔒		
L	sub	Internal	🔒		
L	mul	Internal	🔒		
L	div	Internal	🔒		
L	div	Internal	🔒		
**Context**   Implementation					
L	_msgSender	Internal	🔒		
L	_msgData	Internal	🔒		
**IDEXFactory**   Interface					
L	createPair	External	!	NO !	
**IPancakePair**   Interface					
L	sync	External	!	NO !	
**IDEXRouter**   Interface					
L	factory	External	!	NO !	
L	WETH	External	!	NO !	
L	addLiquidityETH	External	!	NO !	
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External	!	NO !	
**Ownable**   Implementation   Context					
L	<Constructor>	Public	!	NO !	
L	owner	Public	!		
L	renounceOwnership	Public	!	onlyOwner	
L	transferOwnership	Public	!	onlyOwner	
**SCROOGE**   Implementation   IERC20, Ownable					
L	<Constructor>	Public	!	NO !	

# CONTRACT ASSESSMENT

	<Receive Ether>	External !		NO !
	totalSupply	External !		NO !
	decimals	External !		NO !
	name	External !		NO !
	symbol	External !		NO !
	getOwner	External !		NO !
	balanceOf	Public !		NO !
	allowance	External !		NO !
	viewFeesBuy	External !		NO !
	viewFeesSell	External !		NO !
	approve	Public !		NO !
	approveMax	External !		NO !
	transfer	External !		NO !
	transferFrom	External !		NO !
	\_transferFrom	Internal 		
	tokensToProportion	Public !		NO !
	tokenFromReflection	Public !		NO !
	\_basicTransfer	Internal 		
	shouldTakeFee	Internal 		
	checkTxLimit	Internal 		
	getTotalFeeBuy	Public !		NO !
	getTotalFeeSell	Public !		NO !
	takeFeeInProportions	Internal 		
	clearStuckBalance	External !		onlyOwner
	clearForeignToken	Public !		NO !
	shouldSwapBack	Internal 		
	swapBack	Internal 		swapping
	setSwapBackSettings	External !		onlyOwner
	enableTrading	Public !		onlyOwner
	changeFees	External !		onlyOwner
	setMaxWalletPercent\_base1000	External !		onlyOwner
	setMaxTxPercent\_base1000	External !		onlyOwner
	setIsFeeExempt	External !		onlyOwner
	setIsTxLimitExempt	External !		onlyOwner
	setMinWalletRewardAmount	External !		onlyOwner
	setFeeReceivers	External !		onlyOwner
	getCirculatingSupply	Public !		NO !
	getLiquidityBacking	Public !		NO !
	isOverLiquified	Public !		NO !

Legend

Symbol	Meaning
:	-----
●	Function can modify state
💰	Function is payable



# STATIC ANALYSIS

```
Low level call in SCR00GE.clearStuckBalance() (contracts/SCB.sol#594-600):
- (success) = address(msg.sender).call{gas: 30000,value: address(this).balance}() (contracts/SCB.sol#595-598)
Low level call in SCR00GE.swapBack() (contracts/SCB.sol#621-682):
- (tmpSuccess) = address(marketingFeeReceiver).call{gas: 30000,value: amountBNBMarketing}() (contracts/SCB.sol#660-663)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function IDEXRouter.WETH() (contracts/SCB.sol#180) is not in mixedCase
Parameter SCR00GE.setSwapBackSettings(bool,uint256,uint256,bool)._enabled (contracts/SCB.sol#685) is not in mixedCase
Parameter SCR00GE.setSwapBackSettings(bool,uint256,uint256,bool)._amountS (contracts/SCB.sol#686) is not in mixedCase
Parameter SCR00GE.setSwapBackSettings(bool,uint256,uint256,bool)._amountL (contracts/SCB.sol#687) is not in mixedCase
Parameter SCR00GE.setSwapBackSettings(bool,uint256,uint256,bool)._alternate (contracts/SCB.sol#688) is not in mixedCase
Parameter SCR00GE.changeFees(uint256,uint256,uint256,uint256,uint256,uint256)._liquidityFeeBuy (contracts/SCB.sol#702) is not in mixedCase
Parameter SCR00GE.changeFees(uint256,uint256,uint256,uint256,uint256,uint256)._reflectionFeeBuy (contracts/SCB.sol#703) is not in mixedCase
Parameter SCR00GE.changeFees(uint256,uint256,uint256,uint256,uint256,uint256)._marketingFeeBuy (contracts/SCB.sol#704) is not in mixedCase
Parameter SCR00GE.changeFees(uint256,uint256,uint256,uint256,uint256,uint256)._liquidityFeeSell (contracts/SCB.sol#705) is not in mixedCase
Parameter SCR00GE.changeFees(uint256,uint256,uint256,uint256,uint256,uint256)._reflectionFeeSell (contracts/SCB.sol#706) is not in mixedCase
Parameter SCR00GE.changeFees(uint256,uint256,uint256,uint256,uint256,uint256)._marketingFeeSell (contracts/SCB.sol#707) is not in mixedCase
Function SCR00GE.setMaxWalletPercent_base1000(uint256) (contracts/SCB.sol#727-735) is not in mixedCase
Parameter SCR00GE.setMaxWalletPercent_base1000(uint256).maxWallPercent_base1000 (contracts/SCB.sol#728) is not in mixedCase
Function SCR00GE.setMaxTxPercent_base1000(uint256) (contracts/SCB.sol#737-742) is not in mixedCase
Parameter SCR00GE.setMaxTxPercent_base1000(uint256).maxTXPercentage_base1000 (contracts/SCB.sol#738) is not in mixedCase
Parameter SCR00GE.setFeeReceivers(address,address)._marketingFeeReceiver (contracts/SCB.sol#762) is not in mixedCase
Parameter SCR00GE.setFeeReceivers(address,address)._liquidityReceiver (contracts/SCB.sol#763) is not in mixedCase
Variable SCR00GE._name (contracts/SCB.sol#269) is not in mixedCase
Variable SCR00GE._symbol (contracts/SCB.sol#270) is not in mixedCase
Constant SCR00GE._decimals (contracts/SCB.sol#271) is not in UPPER_CASE_WITH_UNDERSCORES
Variable SCR00GE._totalSupply (contracts/SCB.sol#273) is not in mixedCase
Variable SCR00GE._maxTxAmount (contracts/SCB.sol#274) is not in mixedCase
Variable SCR00GE._maxWalletSize (contracts/SCB.sol#275) is not in mixedCase
Variable SCR00GE._minWalletRewardsAmount (contracts/SCB.sol#276) is not in mixedCase
Variable SCR00GE._rOwned (contracts/SCB.sol#279) is not in mixedCase
Variable SCR00GE._totalProportion (contracts/SCB.sol#280) is not in mixedCase
Variable SCR00GE._allowances (contracts/SCB.sol#282) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/SCB.sol#161)" inContext (contracts/SCB.sol#155-164)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

SCR00GE._name (contracts/SCB.sol#269) should be constant
SCR00GE._symbol (contracts/SCB.sol#270) should be constant
SCR00GE._totalSupply (contracts/SCB.sol#273) should be constant
SCR00GE.feeDenominator (contracts/SCB.sol#295) should be constant
SCR00GE.targetLiquidity (contracts/SCB.sol#304) should be constant
SCR00GE.targetLiquidityDenominator (contracts/SCB.sol#305) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

SCR00GE.pair (contracts/SCB.sol#308) should be immutable
SCR00GE.router (contracts/SCB.sol#307) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
```

**Result => A static analysis of contract's source code has been performed using slither,**

**No issues found**



# FUNCTIONAL TESTING

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## 1- Adding liquidity (passed):

<https://testnet.bscscan.com/tx/0x528daa394eafe3c274369bc6fd1685e0fe6d7cd0416d76af65087ef10a213175>

## 2- Buying when excluded from fees (0% tax) (passed):

<https://testnet.bscscan.com/tx/0x5dbdf3b07fc5f5a9c681761ad01a3c75203ea76160de25f150fb0370bc38ae13>

## 3- Selling when excluded from fees (0% tax) (passed):

<https://testnet.bscscan.com/tx/0x949a3aab985523beeecc8ef76c7f071cfc89fdd4a8b9b1fcdf159443180d4145>

## 4- Transferring when excluded from fees (0% tax) (passed):

<https://testnet.bscscan.com/tx/0xa38cc1f17ce16507c44d40c2c439c0f9e839f8a65dbce61bdd85212d77f33294>

## 5- Buying when not excluded from fees ( up to 12% tax) (passed):

<https://testnet.bscscan.com/tx/0x6d81ddbd8771f60b40229afe1f66bad3996a00f8a7c1c306b74cf484399e67a5>

## 6- Selling when not excluded from fees ( up to 12% tax) (passed):

<https://testnet.bscscan.com/tx/0x3280b6d5558ef6512ad6d3af3103e1f6b3ccba3257b738bc914f6df1a093f821>

## 7- Transferring when not excluded from fees (0% tax) (passed):

<https://testnet.bscscan.com/tx/0x8250e159bc31e3a474b11ddf70c91631a9f9086183c489d6d8c48bead5985863>

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# FUNCTIONAL TESTING

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## 8- Internal swap (passed):

As can seen in this transaction, marketing wallet received BNB

<https://testnet.bscscan.com/token/0xbaf6001499915a03b5dd2e020e9e721df4e36955?>

a=0x322dab6325de6f5bc2ba8efecc2bcbecac4f89f3

## 9- Auto Liquidity (passed):

Auto liquidity generated tokens are burnt, as can be seen in this transaction

<https://testnet.bscscan.com/token/0xbaf6001499915a03b5dd2e020e9e721df4e36955?>

a=0x322dab6325de6f5bc2ba8efecc2bcbecac4f89f3

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# MANUAL TESTING

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## Centralization - Owner must enable trading

**Severity:** Informational

**Function:** enableTrading

**Status:** Not Resolved

**Overview:**

The owner must activate trading for investors to buy, sell, or transfer tokens. If trading remains disabled, token holders will be unable to trade their tokens.

```
function enableTrading() public onlyOwner {  
    tradingOpen = true;  
}
```



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# ABOUT AUDITACE

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We specialize in providing thorough and reliable audits for Web3 projects. With a team of experienced professionals, we use cutting-edge technology and rigorous methodologies to evaluate the security and integrity of blockchain systems. We are committed to helping our clients ensure the safety and transparency of their digital assets and transactions.



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