



Cyberscope

# Audit Report

## Godfather

June 2023

SHA256     76b0c93fe6d37d47d7c89fe69cf01c85b01dcf24e2953f29956bb4c251708496

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# Analysis

● Critical   ● Medium   ● Minor / Informative   ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Unresolved
●	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
●	IDI	Immutable Declaration Improvement	Unresolved
●	L09	Dead Code Elimination	Unresolved
●	L20	Succeeded Transfer Check	Unresolved

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## Review

Contract Name	GODFATHER
Testing Deploy	<a href="https://testnet.bscscan.com/address/0x3d3c930890c5bf16075c5c4b6be68b70202afd5a">https://testnet.bscscan.com/address/0x3d3c930890c5bf16075c5c4b6be68b70202afd5a</a>
Symbol	\$GOD
Decimals	9
Total Supply	69,000,000

## Audit Updates

Initial Audit	28 Jun 2023
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## Source Files

Filename	SHA256
contracts/GODFATHER.sol	76b0c93fe6d37d47d7c89fe69cf01c85b01dcf24e2953f29956bb4c251708496

## Findings Breakdown



Critical	1
Medium	0
Minor / Informative	3

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	1	0	0	0
Medium	0	0	0	0
Minor / Informative	3	0	0	0

## ST - Stops Transactions

<b>Criticality</b>	Critical
<b>Location</b>	contracts/GODFATHER.sol#L287
<b>Status</b>	Unresolved

### Description

The transactions are initially disabled for all users excluding the authorized addresses. The owner can enable the transactions for all users. Once the transactions are enable the owner will not be able to disable them again.

```
require(tradingEnabled || !_isExcludedFromFees[from] ||
_isExcludedFrom[to], "Trading not yet enabled!");
```

### Recommendation

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. Some suggestions are:

- Introduce a multi-sign wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

## IDI - Immutable Declaration Improvement

<b>Criticality</b>	Minor / Informative
<b>Location</b>	contracts/GODFATHER.sol#L247
<b>Status</b>	Unresolved

### Description

The contract declares state variables that their value is initialized once in the constructor and are not modified afterwards. The `immutable` is a special declaration for this kind of state variables that saves gas when it is defined.

```
creator
```

### Recommendation

By declaring a variable as immutable, the Solidity compiler is able to make certain optimizations. This can reduce the amount of storage and computation required by the contract, and make it more gas-efficient.



## L09 - Dead Code Elimination

Criticality	Minor / Informative
Location	contracts/GODFATHER.sol#L196
Status	Unresolved

### Description

In Solidity, dead code is code that is written in the contract, but is never executed or reached during normal contract execution. Dead code can occur for a variety of reasons, such as:

- Conditional statements that are always false.
- Functions that are never called.
- Unreachable code (e.g., code that follows a return statement).

Dead code can make a contract more difficult to understand and maintain, and can also increase the size of the contract and the cost of deploying and interacting with it.

```
function _burn(address account, uint256 amount) internal
virtual {
    require(account != address(0), "ERC20: burn from the
zero address");

    _beforeTokenTransfer(account, address(0), amount);

    uint256 accountBalance = _balances[account];
    ...
}
_totalSupply -= amount;

emit Transfer(account, address(0), amount);

_afterTokenTransfer(account, address(0), amount);
}
```

## Recommendation

To avoid creating dead code, it's important to carefully consider the logic and flow of the contract and to remove any code that is not needed or that is never executed. This can help improve the clarity and efficiency of the contract.

## L20 - Succeeded Transfer Check

<b>Criticality</b>	Minor / Informative
<b>Location</b>	contracts/GODFATHER.sol#L265
<b>Status</b>	Unresolved

### Description

According to the ERC20 specification, the transfer methods should be checked if the result is successful. Otherwise, the contract may wrongly assume that the transfer has been established.

```
ERC20token.transfer(msg.sender, balance)
```

### Recommendation

The contract should check if the result of the transfer methods is successful. The team is advised to check the SafeERC20 library from the [Openzeppelin library](#).

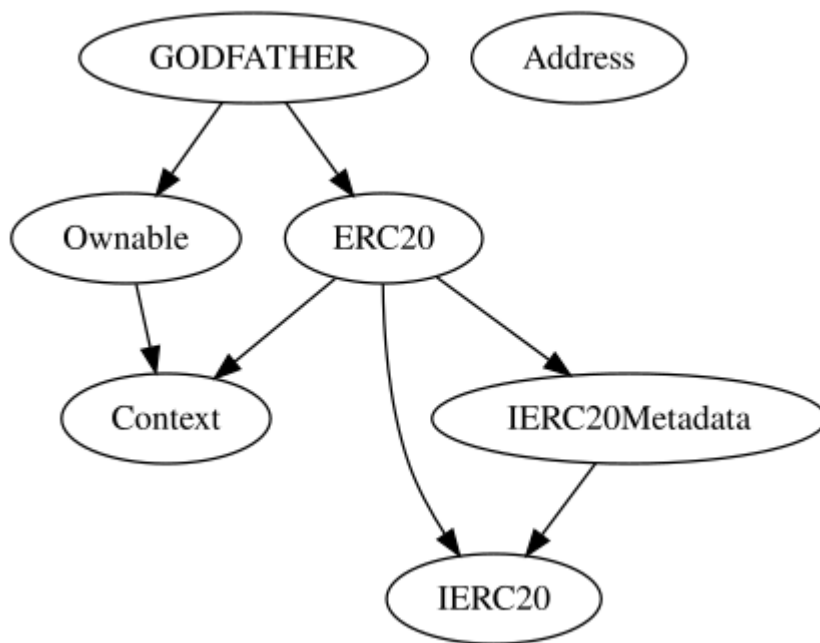
# Functions Analysis

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>IERC20</b>	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>IERC20Metadata</b>	Interface	IERC20		
	name	External		-
	symbol	External		-
	decimals	External		-
<b>Address</b>	Library			
	sendValue	Internal	✓	
<b>Context</b>	Implementation			
	_msgSender	Internal		

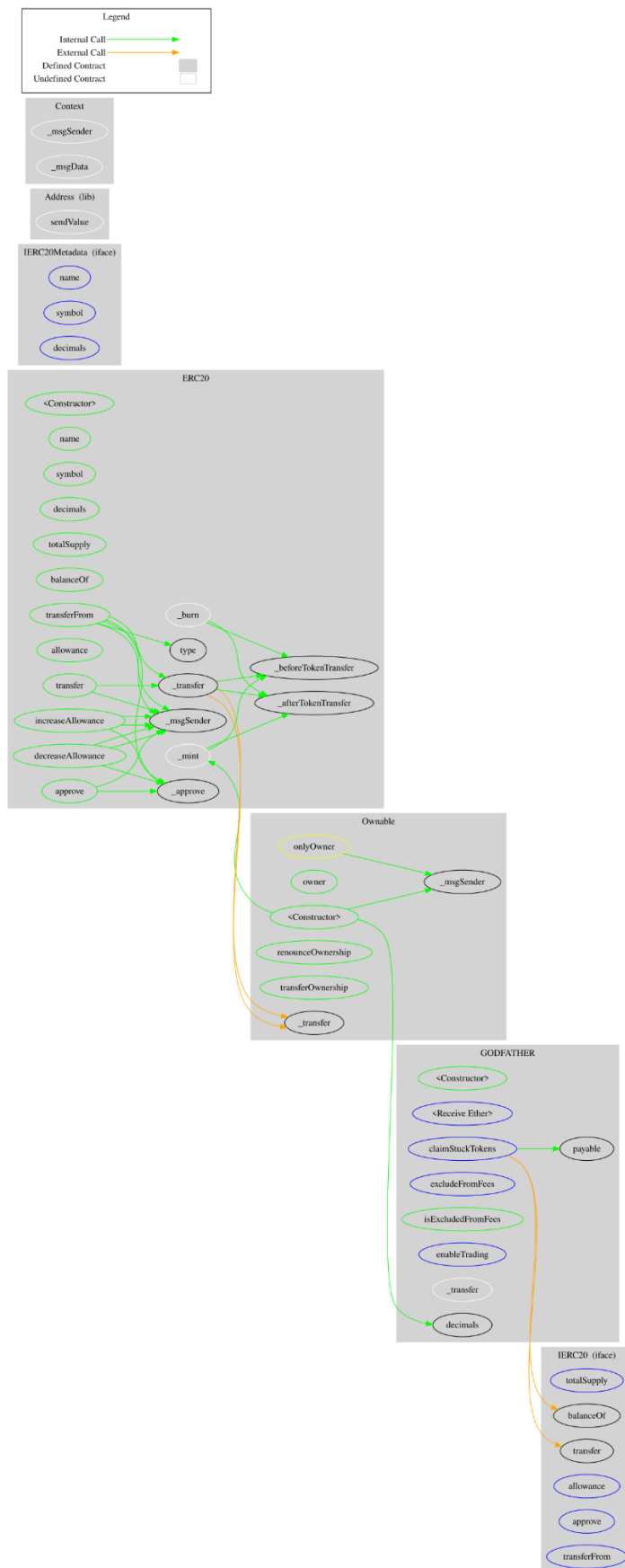
	_msgData	Internal		
<b>Ownable</b>	Implementation	Context		
		Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
<b>ERC20</b>	Implementation	Context, IERC20, IERC20Meta data		
		Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	

	_mint	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
	_afterTokenTransfer	Internal	✓	
<b>GODFATHER</b>	Implementation	ERC20, Ownable		
		Public	✓	ERC20
		External	Payable	-
	claimStuckTokens	External	✓	onlyOwner
	excludeFromFees	External	✓	onlyOwner
	isExcludedFromFees	Public		-
	enableTrading	External	✓	onlyOwner
	_transfer	Internal	✓	

## Inheritance Graph



# Flow Graph





## Summary

Godfather contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. There are some functions that can be abused by the owner like stop transactions. A multi-wallet signing pattern will provide security against potential hacks.

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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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