

# Smart Contract Audit

**FOR** 

# ElonFloki

**DATED: 30 May 23'** 



## **CRITICAL RISKS FOUND**

## Logical – Invalid decimal

Severity: Critical

Status: Not Resolved

Overview:

ERC20 contract which is inherited by ElonFoki token and dividend tracker, is returning "18" as decimal number. While other contracts are using "9".

#### Suggestion

```
ERC20 must return "9" as decimal number:
```

```
function decimals() public view virtual override returns (uint8) {
  return 9;
}
```



## **HIGH RISKS FOUND**

## Centralization - Trades must be enabled

Severity: High

function: enableTrading Status: Not Resolved

Overview:

The smart contract owner must enable trades for holders. If trading remain disabled, no one would be able to buy/sell/transfer tokens.

```
function enableTrading() external onlyOwner {
  require(!tradingEnabled, "Trading already enabled.");
  tradingEnabled = true;
  swapEnabled = true;
}
```

#### Suggestion

To mitigate this centralization issue, we propose the following options:

- Renounce Ownership: Consider relinquishing control of the smart contract by renouncing ownership. This would remove the ability for a single entity to manipulate the router, reducing centralization risks.
- Multi-signature Wallet: Transfer ownership to a multi-signature wallet. This would require
  multiple approvals for any changes to the mainRouter, adding an additional layer of security
  and reducing the centralization risk.
- Transfer ownership to a trusted and valid 3<sup>rd</sup> party in order to guarantee enabling of the trades



# **AUDIT SUMMARY**

Project name - ElonFloki

**Date: 30** May, 2023

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

**Audit Status: Passed with Critical Risk** 

## **Issues Found**

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



# **USED TOOLS**

## Tools:

#### 1- Manual Review:

A line by line code review has been performed by audit 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.

#### **Testnet version:**

The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:

https://testnet.bscscan.com/token/0x5474D6D553D71 9298CE05972249bB5C528e665cA



# **Token Information**

Token Name: Elon Floki CEO

Token Symbol: ElonFloki

Decimals: 9

Token Supply: 1,000,000,000

#### **Token Address:**

0x79f15BCfB0539faF42A064B841dBf9c59995350

#### Checksum:

ff70bb721c780c74a688fdbdfce51395e29c8d9d

#### Owner:

0x655776fC999B3Ece67d6124952FEdB598481A35d (at time of writing the audit)

## Deployer:

0xB2C0e01CF72D93695D60eb7DacCE85d2d40f35BF



# **TOKEN OVERVIEW**

Fees:

Buy Fees: 0-10%

Sell Fees: 0-10%

Transfer Fees: 0-10%

Fees Privilege: Owner

Ownership: 0x655776fC999B3Ece67d6124952FEdB598481A35d

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Privileges: including in fees

- excluding from fees
- initial distribution of the tokens
- modifying fees
- enabling trades



# **AUDIT METHODOLOGY**

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-byline 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 isexercised 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.



# **VULNERABILITY CHECKLIST**





# **CLASSIFICATION OF RISK**

## Severity

- Critical
- High-Risk
- Medium-Risk
- Low-Risk
- Gas Optimization
  /Suggestion

## **Description**

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

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

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

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

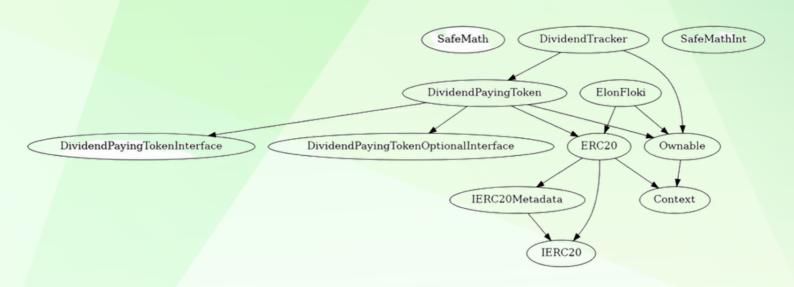
A vulnerability that has an informational character but is not affecting any of the code.

# **Findings**

Severity	Found
<b>♦</b> Critical	1
♦ High-Risk	1
♦ Medium-Risk	0
♦ Low-Risk	0
<ul><li>Gas Optimization /</li><li>Suggestions</li></ul>	0



# **INHERITANCE TREE**





## **POINTS TO NOTE**

- Owner is not able to change buy/sell/transfer fees over 10% each
- Owner is not able to blacklist an arbitrary address.
- Owner is not able to disable trades
- Owner is not able to set max buy/sell/transfer/hold amount to 0
- Owner is not able to mint new tokens
- Owner must enable trades manually



```
Contract |
              Type
       **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
| **SafeMath** | Library | |||
 L | tryAdd | Internal 🔒 | | |
 L | trySub | Internal 🔒 | | |
 L | tryMul | Internal | | | |
 └ | tryDiv | Internal 🔒 | ||
 L | tryMod | Internal 🔒 | | |
 L | add | Internal 🔒 | | |
 L | sub | Internal 🔒 | | |
 L | mul | Internal 🔒 | ||
 └ | div | Internal 🔒 | | |
 └ | mod | Internal 🔒 | ||
 L | sub | Internal 🔒 | | |
 | **Context** | Implementation | |||
L | msgSender | Internal 🔒 | | |
L | msgData | Internal 🔒 | | |
| **Ownable** | Implementation | Context |||
 L | owner | Public | | NO | |
 L | checkOwner | Internal | | | |
L | renounceOwnership | Public | | • | onlyOwner |
 L | transferOwnership | Internal 🔒 | 🛑 | |
| **IERC20** | Interface | |||
L | totalSupply | External | | NO | |
 L | balanceOf | External | | NO | |
 L | transfer | External | | | NO | |
L | allowance | External | | NO | |
 └ | approve | External ! | ● |NO! |
L | transferFrom | External | | | NO | |
| **IERC20Metadata** | Interface | IERC20 |||
L | name | External | | NO | |
 L | symbol | External | | NO | |
 L | decimals | External | | NO | |
```



```
**ERC20** | Implementation | Context, IERC20, IERC20Metadata ||
 L | name | Public ! | NO! |
 | decimals | Public | | NO | |
 L | totalSupply | Public | | NO |
 | balanceOf | Public | | NO | |
 L | transfer | Public | | | NO | |
 L | allowance | Public | | NO | |
 | approve | Public | | | | | | | | | | | |
 transferFrom | Public | | | NO |
 L | decreaseAllowance | Public | | | NO | |
 L | transfer | Internal 🔒 | 🛑 | |
 L | mint | Internal ₁ | ● | |
 L | burn | Internal 🔒 | ● ||
 L | approve | Internal | | | | |
 L | spendAllowance | Internal | | | |
 └ | beforeTokenTransfer | Internal 🔒 | ● | |
 □ afterTokenTransfer | Internal 🔒 | ● | |
| **SafeMathInt** | Library | |||
 L | mul | Internal 🔒 | | |
 L | div | Internal 🔒 | | |
 L | sub | Internal | | | |
 L | add | Internal 🔒 | | |
| L | abs | Internal 🔒 | | |
L | toUint256Safe | Internal 🔒 | | |
| **SafeMathUint** | Library | |||
L | toInt256Safe | Internal 🔒 | | |
| **IterableMapping** | Library | |||
 L | get | Internal 🔒 | | |
L | getIndexOfKey | Internal | | | |
 L | getKeyAtIndex | Internal 🔒 | | |
| L | size | Internal 🔒 | | |
 └ | remove | Internal 🔒 | 🛑 | |
| **IUniswapV2Factory** | Interface | |||
| L | feeTo | External | | NO | |
```



```
L | feeToSetter | External | NO | |
 | getPair | External | NO | | |
 | allPairs | External | NO | |
 | allPairsLength | External | | NO | |
 createPair | External | | | NO | |
 | setFeeToSetter | External | | | NO | |
**IUniswapV2Pair** | Interface | |||
 | | symbol | External | | NO | |
 decimals | External | | NO |
 L | totalSupply | External | | NO | |
 L | balanceOf | External | | NO | |
 L | allowance | External | | NO |
 L | approve | External | | NO | |
 L | transfer | External | | | NO | |
 L | transferFrom | External | | | NO | |
 L | DOMAIN SEPARATOR | External | | | NO | |
 L | PERMIT_TYPEHASH | External | | | NO | |
 L | nonces | External | | NO | |
 L | permit | External | | NO | |
 L | MINIMUM_LIQUIDITY | External | | | NO | |
 L | factory | External | | NO | |
 L | token0 | External | | NO | |
 L | token1 | External | | NO |
 L | getReserves | External | | NO | |
L | price0CumulativeLast | External
 L | price1CumulativeLast | External | | NO | |
 L | kLast | External | | NO | |
 L | burn | External | | | NO | |
L | swap | External | | | NO | |
 L | sync | External | | NO | |
L | initialize | External | | | NO | |
**IUniswapV2Router01** | Interface | |||
| L | factory | External | | NO | |
 L | WETH | External | | NO | |
L | addLiquidity | External | | | NO | |
| L | addLiquidityETH | External | | 1 NO | |
```



```
| removeLiquidity | External | | | | | | | | | | | | | | |
 | removeLiquidityETH | External | | | NO | |
 | swapExactTokensForTokens | External | | | | | | | | | | | |
 | swapETHForExactTokens | External | | | | | | | | | | | |
 L | quote | External | | | NO | |
 | getAmountOut | External | | NO | |
L | getAmountIn | External | NO | |
 L | getAmountsOut | External | | NO | |
 L | getAmountsIn | External | | NO | |
**IUniswapV2Router02** | Interface | IUniswapV2Router01 |||
 □ | swapExactTokensForTokensSupportingFeeOnTransferTokens | External | | ● | NO | |
 L | swapExactETHForTokensSupportingFeeOnTransferTokens | External | | ■ NO | |
 | **DividendPayingTokenInterface** | Interface | |||
L | dividendOf | External | | NO | |
 | withdrawDividend | External | | | NO | |
| **DividendPayingTokenOptionalInterface** | Interface | |||
| withdrawableDividendOf | External | | NO | |
| withdrawnDividendOf | External | NO | |
L | accumulativeDividendOf | External | | | NO | |
**DividendPayingToken** | Implementation | ERC20, Ownable, DividendPayingTokenInterface,
DividendPayingTokenOptionalInterface |||
L | <Constructor> | Public | | | ERC20 |
| L | distributeDividends | Public | | OnlyOwner |
L | withdrawDividend | Public | | | NO | |
 □ withdrawDividendOfUser | Internal □ □ □ □
 L | dividendOf | Public | | NO | |
 L | withdrawableDividendOf | Public | | NO | |
L | withdrawnDividendOf | Public | | NO |
 L | accumulativeDividendOf | Public | | NO | |
L | transfer | Internal 🔒 | 🛑 | |
```



```
L | mint | Internal | | | |
L | burn | Internal 🔒 | 🛑 | |
 └ | setBalance | Internal 🔒 | ● | |
**DividendTracker** | Implementation | Ownable, DividendPayingToken |||
 L | transfer | Internal | | | |
| withdrawDividend | Public | NO | | | |
| updateMinimumTokenBalanceForDividends | External | | | | onlyOwner |
| excludeFromDividends | External | | | onlyOwner |
updateClaimWait | External | onlyOwner |
| setLastProcessedIndex | External | | | onlyOwner |
 L | getLastProcessedIndex | External | | NO | |
| getNumberOfTokenHolders | External | | NO | |
L | getAccount | Public | | NO | |
L | getAccountAtIndex | Public | | NO | |
L | canAutoClaim | Private 🔐 | | |
L | setBalance | External | | onlyOwner |
L | process | Public | | NO | |
L | processAccount | Public ! | • | onlyOwner |
**ElonFloki** | Implementation | ERC20, Ownable |||
L | < Receive Ether > | External | | SI | NO | |
L | claimStuckTokens | External | | | onlyOwner |
 L | isContract | Internal | | | |
L | sendBNB | Internal 🔒 | ● ||
L | excludeFromFees | External | | | onlyOwner |
L | isExcludedFromFees | Public | | NO | |
L | enableTrading | External | | | onlyOwner |
L | swapAndLiquify | Private 🔐 | 🛑 | |
L | swapAndSendDividends | Private 🔐 | 🛑 | |
L | setSwapTokensAtAmount | External | | | onlyOwner |
| setSwapEnabled | External | onlyOwner |
L | updateMinimumBalanceForDividends | External | | | onlyOwner |
L | updateClaimWait | External | | | onlyOwner |
```



```
| getClaimWait | External | NO | |
 | getTotalDividendsDistributed | External | NO | |
 | withdrawableDividendOf | Public | NO | |
 | dividendTokenBalanceOf | Public | NO | |
 L | totalRewardsEarned | Public | | NO | |
 L | excludeFromDividends | External | | | onlyOwner |
 | getAccountDividendsInfo | External | | NO | |
| | getAccountDividendsInfoAtIndex | External | | NO | |
 processDividendTracker | External | | NO | |
 | getLastProcessedIndex | External | | NO | |
| L | getNumberOfDividendTokenHolders | External | | NO | |
### Legend
| Symbol | Meaning |
|:-----|
      | Function can modify state |
  Function is payable |
```



## STATIC ANALYSIS

```
Sefents in right (initizes), contracts (contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and should be removed sefents in right (initizes), contracts roles and several sed and should be removed sefents in right (initizes), contracts roles and several sed and should be removed sefents in right (initizes), contracts roles and several sed and should be removed sefents in right (initizes), contracts roles and several sed and should be removed sefents in right (initizes), contracts roles and several sed and should be removed sefents in right (initizes), contracts roles and several sed and should be removed sed and should s
```

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

No major issues were found in the output



# **FUNCTIONAL TESTING**

## Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

1- Adding liquidity by owner (trades disabled) (passed):

https://testnet.bscscan.com/tx/0xe034393382e7b67d571b54e212456f 7649551535da64f9f8cce52d6b6cb1ea16

2- Buying when excluded from fees before enabling trades (0% tax)

(passed):

https://testnet.bscscan.com/tx/0xc93bb46d1e5eff24e35319a24f97af9bfe470dac9c774e25fb07f2ac87874e45

3- Selling when excluded from fees before enabling trades (0% tax) (passed):

https://testnet.bscscan.com/tx/0xe3ea1008e3480be7ce008e648b62dd 3c1d6c961a5597668897a5205500edd75d

4- Transferring when excluded from fees before enabling trades (0% tax) (passed):

https://testnet.bscscan.com/tx/0x60e07173e9d793fa9ceda326d760e0 2fa88d37d1282b20e480cb97ad29ce083c

5- Buying when not excluded from fees (0-10% tax) (passed):

https://testnet.bscscan.com/tx/0xfc30a4a5318d2b8bc425d22a7c7b06d1b9340bef81dfbb80089cbaf98bd9d6ae



# **FUNCTIONAL TESTING**

#### 6- Selling when not excluded from fees (0-10% tax) (passed):

https://testnet.bscscan.com/tx/0xc92f551a22aa9387aabe5d65f1c04f2 9d76f3d13ddb661fa7d7c05bcc6957d44

#### 7- Transferring when not excluded from fees (0-10% tax) (passed):

https://testnet.bscscan.com/tx/0x9b5f0f3778e9c4e4518ce099cdcbbbfa0da23915a20394128f037b316087cec1

#### 8- Internal swap & rewards distribution (passed):

- BNB sent to marketing wallet
- A portion of tokens burnt
- A portion of tokens were added to liquidity
- A portion of tokens swapped to BUSD and sent to dividend tracker
- Dividend tracker distributed reward tokens (BUSD)

https://testnet.bscscan.com/tx/0xc92f551a22aa9387aabe5d65f1c04f2 9d76f3d13ddb661fa7d7c05bcc6957d44



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function: enableTrading Status: Not Resolved

Overview:

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- Transfer ownership to a trusted and valid 3<sup>rd</sup> party in order to guarantee enabling of the trades



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