



# Smart Contract Audit

FOR  
**FROGINU2.0**

DATED : 19 July 23'



# AUDIT SUMMARY

**Project name - Frog Inu 2.0**

**Date:** 19 July, 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	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0



# USED TOOLS

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## 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/0x2Ed1e853b0Eb369590b15eFEb854fFf3cd4BC2ED>

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# Token Information

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**Token Name :** Frog Inu 2.0

**Token Symbol:** FROGINU2.0

**Decimals:** 9

**Token Supply:** 1,000,000,000

**Token Address:**

0xa946FC889b0368E45Abd72836018f130baE8bfa4

**Checksum:**

8ed21e3591419ab13a570f0ca08ebbc0696ffc15

**Owner:**

0xe970045CF57c76f4389570Cb911aE33D06A636f9

**(at time of writing the audit)**

**Deployer:**

0xe970045CF57c76f4389570Cb911aE33D06A636f9

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# TOKEN OVERVIEW

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**Fees:**

Buy Fees: 0-3%

Sell Fees: 0-3%

Transfer Fees: 0%

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**Fees Privilege:** owner

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**Ownership:** owned

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**Minting:** No mint function

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**Max Tx Amount/ Max Wallet Amount:** no

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**Blacklist:** No

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**Other Privileges:** Initial distribution of the tokens  
modifying fees

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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.

# VULNERABILITY CHECKLIST



Return values of low-level calls



**Gasless Send**



Private modifier



Using block.timestamp



Multiple Sends



Re-entrancy



Using Suicide



Tautology or contradiction



Gas Limit and 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



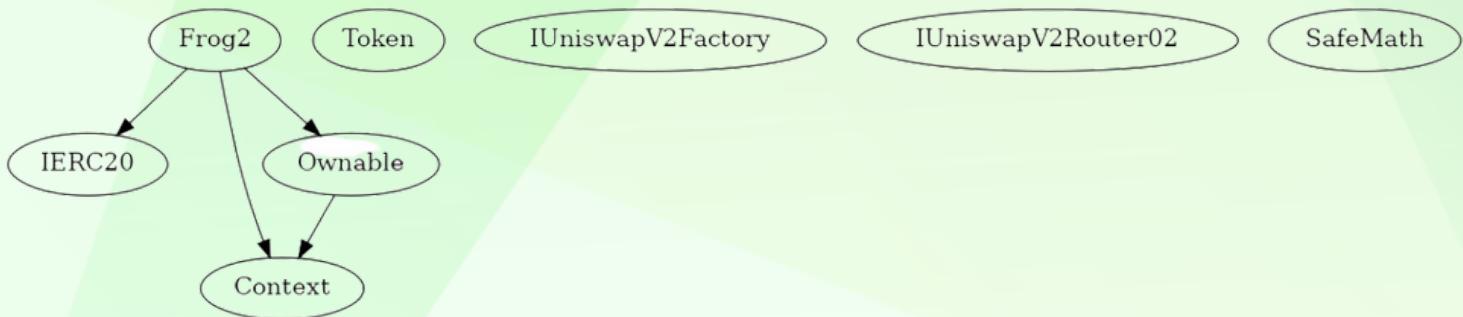
# CLASSIFICATION OF RISK

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	0

# INHERITANCE TREE





## POINTS TO NOTE

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- Owner is able to change fees in range 3% for buy and sells (0% transfer tax)
- Owner is not able to blacklist an arbitrary address.
- Owner is not able to disable trades
- Owner is not able to limit buy/sell/transfer/wallet amounts
- Owner is not able to mint new tokens

# CONTRACT ASSESSMENT

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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 !					
**Token**   Interface					
L   transferFrom   External !     NO !					
L   transfer   External !     NO !					
**IUniswapV2Factory**   Interface					
L   createPair   External !     NO !					
**IUniswapV2Router02**   Interface					
L   swapExactTokensForETHSupportingFeeOnTransferTokens   External !     NO !					
L   factory   External !    NO !					
L   WETH   External !    NO !					
L   addLiquidityETH   External !     NO !					
**Context**   Implementation					
L   _msgSender   Internal 					
**SafeMath**   Library					
L   add   Internal 					

# CONTRACT ASSESSMENT

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```

| L | sub | Internal 🔒 | ||
| L | sub | Internal 🔒 | ||
| L | mul | Internal 🔒 | ||
| L | div | Internal 🔒 | ||
| L | div | Internal 🔒 | ||
|||||
| **Ownable** | Implementation | Context ||
| L | <Constructor> | Public ! | 🔞 | NO !
| L | owner | Public ! | | NO ! |
| L | renounceOwnership | Public ! | 🔞 | onlyOwner |
| L | transferOwnership | Public ! | 🔞 | onlyOwner |
|||||
| **Frog2** | Implementation | Context, IERC20, Ownable ||
| L | <Constructor> | Public ! | 🔞 | NO !
| L | name | Public ! | | NO ! | |
| L | symbol | Public ! | | NO ! |
| L | decimals | Public ! | | NO ! |
| L | totalSupply | Public ! | | NO ! |
| L | balanceOf | Public ! | | NO ! |
| L | transfer | Public ! | 🔞 | NO ! |
| L | allowance | Public ! | | NO ! |
| L | approve | Public ! | 🔞 | NO ! |
| L | transferFrom | Public ! | 🔞 | NO ! |
| L | tokenFromReflection | Private 🔒 | ||
| L | _approve | Private 🔒 | 🔞 | ||
| L | _transfer | Private 🔒 | 🔞 | ||
| L | swapTokensForEth | Private 🔒 | 🔞 | lockTheSwap |
| L | sendETHToFee | Private 🔒 | 🔞 | ||
| L | _tokenTransfer | Private 🔒 | 🔞 | ||
| L | rescueForeignTokens | Public ! | 🔞 | onlyDev |
| L | setNewDevAddress | Public ! | 🔞 | onlyDev |
| L | setNewMarketingAddress | Public ! | 🔞 | onlyDev |
| L | _transferStandard | Private 🔒 | 🔞 | ||
| L | _takeTeam | Private 🔒 | 🔞 | ||
| L | _reflectFee | Private 🔒 | 🔞 | ||
| L | <Receive Ether> | External ! | 💰 | NO ! |

```

# CONTRACT ASSESSMENT

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```

| L | _getValues | Private 🔒 | ||
| L | _getTValues | Private 🔒 | ||
| L | _getRValues | Private 🔒 | ||
| L | _getRate | Private 🔒 | ||
| L | _getCurrentSupply | Private 🔒 | ||
| L | manualswap | External ! | ⚡ | NO ! |
| L | manualsend | External ! | ⚡ | NO ! |
| L | setFee | Public ! | ⚡ | onlyDev |
| L | toggleSwap | Public ! | ⚡ | onlyDev |
| L | excludeMultipleAccountsFromFees | Public ! | ⚡ | onlyOwner |

```

#### ### Legend

Symbol	Meaning
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⚡	Function can modify state
💰	Function is payable



# STATIC ANALYSIS

```
Reentrancy in Frog2.transferFrom(address,address,uint256) (contracts/Token.sol#220-228):
  External Calls:
    - _transfer(sender,recipient,amount) (contracts/Token.sol#221)
      - _developmentAddress.transfer(amount.div(2)) (contracts/Token.sol#292)
      - _marketingAddress.transfer(amount.div(2)) (contracts/Token.sol#293)
  State variables written after the call(s):
    - _approve(sender,_msgSender(),allowances[sender][_msgSender()]).sub(amount,ERC20: transfer amount exceeds allowance) (contracts/Token.sol#222-226)
      - allowances[owner][spender] = amount (contracts/Token.sol#239)
  Event emitted after the call(s):
    - Approval(owner,spender,amount) (contracts/Token.sol#240)
      - _approve(sender,_msgSender(),allowances[sender][_msgSender()]).sub(amount,ERC20: transfer amount exceeds allowance) (contracts/Token.sol#222-226)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-4

Variable Frog2._getRValues(uint256,uint256,uint256,uint256).rTransferAmount (contracts/Token.sol#372) is too similar to Frog2._getTValues(uint256,uint256,uint256).tTransferAmount (contracts/Token.sol#360)
Variable Frog2._getRValues(uint256,uint256,uint256,uint256).rTransferAmount (contracts/Token.sol#372) is too similar to Frog2._getValues(uint256).tTransferAmount (contracts/Token.sol#347)
Variable Frog2._getValues(uint256).rTransferAmount (contracts/Token.sol#349) is too similar to Frog2._transferStandard(address,address,uint256).tTransferAmount (contracts/Token.sol#324)
Variable Frog2._getRValues(uint256,uint256,uint256,uint256).rTransferAmount (contracts/Token.sol#372) is too similar to Frog2._transferStandard(address,address,uint256).tTransferAmount (contracts/Token.sol#347)
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Variable Frog2._transferStandard(address,address,uint256).rTransferAmount (contracts/Token.sol#324) is too similar to Frog2._getTValues(uint256,uint256,uint256).tTransferAmount (contracts/Token.sol#360)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar

Frog2._tOwned (contracts/Token.sol#129) is never used in Frog2 (contracts/Token.sol#125-423)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

Frog2.uniswapV2Pair (contracts/Token.sol#155) should be immutable
Frog2.uniswapV2Router (contracts/Token.sol#154) 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 major issues were found in the output**



# FUNCTIONAL TESTING

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## 1- Adding liquidity (**passed**):

<https://testnet.bscscan.com/tx/0x868d534c14a6d4aa01200926d8ef9a86f78f60c90f84f3505e86339889758ac7>

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

<https://testnet.bscscan.com/tx/0x442791e3079489740d18ce43232e102d4fb97f1b5e930af96ee3c8d2ee11a4ec>

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

<https://testnet.bscscan.com/tx/0x2f59f96503d5dba8348803095bb100efa99bc7eda469f681b0152efb22e80ee7>

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

<https://testnet.bscscan.com/tx/0xbde42c2d1dd532b3b9f16113fe295adb664e1fb70aa992441769264822b8803>

## 5- Buying when not excluded from fees (0-3% tax) (**passed**):

<https://testnet.bscscan.com/tx/0xf3744d75fdd0307edf14bd3b5c1ad26f87938784f1059c169176d061df64ec62>

## 6- Selling when not excluded from fees (0-3% tax) (**passed**):

<https://testnet.bscscan.com/tx/0x6cf21363d13624a79194fee6cd4e4ce411a2b1ee721bd324555d0e49d6db73e7>



# FUNCTIONAL TESTING

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## 7- Transferring from a regular wallet (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0xe04bac3ed884dc15b2c2c03a534d793fbe86a62a67ed25d51f97e305179127d2>

## 8- Internal swap (marketing and development wallets received BNB) (**passed**):

<https://testnet.bscscan.com/address/0xe970045CF57c76f4389570Cb911aE33D06A636f9#internaltx>



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