



Smart Contract Audit

FOR

MOFLIX

DATED : 31 JAN 23'



AUDIT SUMMARY

Project name – Moflix

Date: 31 January , 2023

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

Audit Status: **Passed** (Contract is developed by Pinksale safu dev)

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

Tools:

1- Manual Review:

a line by line code review has been performed by audit ace team.

2- BSC Test Network:

all tests were done on BSC Testnet network, each test has its transaction has attached to it. . You can check this tests in “**functionality tests**” section of the report.

3- Slither : Static Analysis

Testnet Link: all tests were done using this contract, tests are done on BSC Testnet

<https://testnet.bscscan.com/token/0x71c2717dcad36b8cceeaa75a7de28ad0a1fbb14b>



Token Information

Token Name : Moflix

Token Symbol: MFX

Decimals: 18

Token Supply: 100,000,000

Token Address: Not deployed

Checksum:

F0E4C2F76C58916EC258F246851BEA091D14D4247
A2FC3E18694461B1816E13B

Deployer: not deployed

Owner: not deployed



TOKEN OVERVIEW

Fees:

Buy Fees: -

Sell Fees: -

Transfer Fees: -

Fees Privilege: Owner

Ownership : Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Privileges: None



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-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 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 |
-



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.

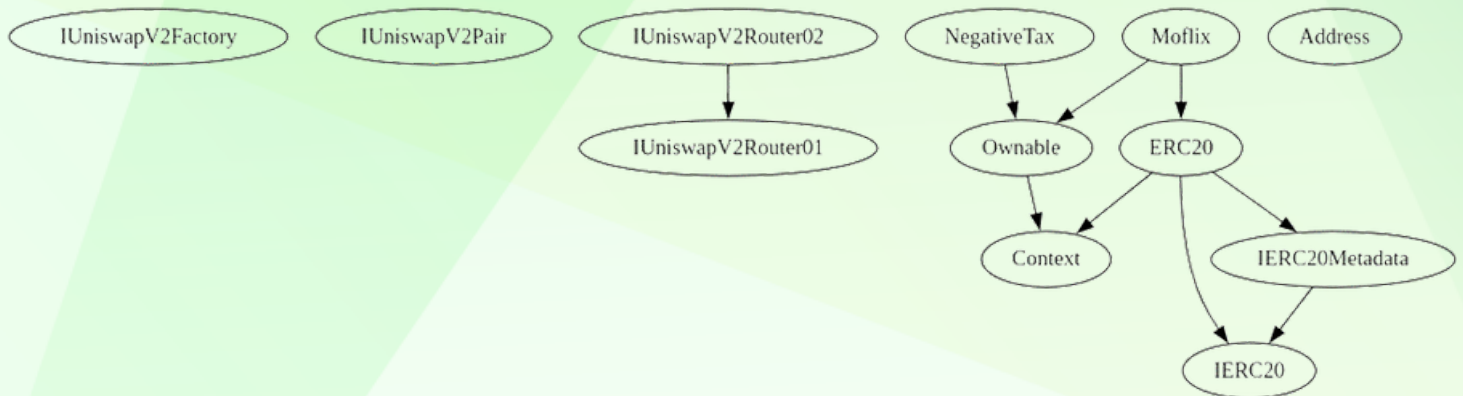
Findings

Severity

Found

◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	0
◆ Low-Risk	0
◆ Gas Optimization / Suggestions	0

INHERITANCE TREE





POINTS TO NOTE

- **There is up to 5% negative tax on buys (I.e trade receives up to 5% more tokens)**
 - **Owner is not able to set taxes over 2% (Buy + Sell = 4% maximum tax)**
 - **Owner is not able to blacklist an arbitrary wallet**
 - **Owner is not able to set max buy/sell/transfer amounts**
 - **Owner is not able to disable trades**
 - **Owner is not able to mint new tokens**
-



CONTRACT ASSESMENT

Contract	Type	Bases			
:-----: :-----: :-----: :-----: :-----:					
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**	
IUniswapV2Factory Interface					
└	feeTo	External !		NO !	
└	feeToSetter	External !		NO !	
└	getPair	External !		NO !	
└	allPairs	External !		NO !	
└	allPairsLength	External !		NO !	
└	createPair	External !		NO !	
└	setFeeTo	External !		NO !	
└	setFeeToSetter	External !		NO !	
IUniswapV2Pair Interface					
└	name	External !		NO !	
└	symbol	External !		NO !	
└	decimals	External !		NO !	
└	totalSupply	External !		NO !	
└	balanceOf	External !		NO !	
└	allowance	External !		NO !	
└	approve	External !		NO !	
└	transfer	External !		NO !	
└	transferFrom	External !		NO !	
└	DOMAIN_SEPARATOR	External !		NO !	
└	PERMIT_TYPEHASH	External !		NO !	
└	nonces	External !		NO !	
└	permit	External !		NO !	
└	MINIMUM_LIQUIDITY	External !		NO !	
└	factory	External !		NO !	
└	token0	External !		NO !	
└	token1	External !		NO !	
└	getReserves	External !		NO !	
└	price0CumulativeLast	External !		NO !	
└	price1CumulativeLast	External !		NO !	
└	kLast	External !		NO !	
└	mint	External !		NO !	
└	burn	External !		NO !	
└	swap	External !		NO !	
└	skim	External !		NO !	
└	sync	External !		NO !	
└	initialize	External !		NO !	

CONTRACT ASSESMENT

```
||||| |
| **IUniswapV2Router01** | Interface | |||
|  | factory | External ! | |NO!|
|  | WETH | External ! | |NO!|
|  | addLiquidity | External ! | |NO!|
|  | addLiquidityETH | External ! | |NO!|
|  | removeLiquidity | External ! | |NO!|
|  | removeLiquidityETH | External ! | |NO!|
|  | removeLiquidityWithPermit | External ! | |NO!|
|  | removeLiquidityETHWithPermit | External ! | |NO!|
|  | swapExactTokensForTokens | External ! | |NO!|
|  | swapTokensForExactTokens | External ! | |NO!|
|  | swapExactETHForTokens | External ! | |NO!|
|  | swapTokensForExactETH | External ! | |NO!|
|  | swapExactTokensForETH | External ! | |NO!|
|  | swapETHForExactTokens | External ! | |NO!|
|  | quote | External ! | |NO!|
|  | getAmountOut | External ! | |NO!|
|  | getAmountIn | External ! | |NO!|
|  | getAmountsOut | External ! | |NO!|
|  | getAmountsIn | External ! | |NO!|
|||||
| **IUniswapV2Router02** | Interface | IUniswapV2Router01 |||
|  | removeLiquidityETHSupportingFeeOnTransferTokens | External ! | |NO!|
|  | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External ! | |NO!|
|  | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ! | |NO!|
|  | swapExactETHForTokensSupportingFeeOnTransferTokens | External ! | |NO!|
|  | swapExactTokensForETHSupportingFeeOnTransferTokens | External ! | |NO!|
|||||
| **IERC20** | Interface | |||
|  | totalSupply | External ! | |NO!|
|  | balanceOf | External ! | |NO!|
|  | transfer | External ! | |NO!|
|  | allowance | External ! | |NO!|
|  | approve | External ! | |NO!|
|  | transferFrom | External ! | |NO!|
|||||
| **IERC20Metadata** | Interface | IERC20 |||
|  | name | External ! | |NO!|
|  | symbol | External ! | |NO!|
|  | decimals | External ! | |NO!|
|||||
```



CONTRACT ASSESMENT

```
| **Address** | Library | ||| |
|  | isContract | Internal | | |
|  | sendValue | Internal | | |
|  | functionCall | Internal | | |
|  | functionCall | Internal | | |
|  | functionCallWithValue | Internal | | |
|  | functionCallWithValue | Internal | | |
|  | functionStaticCall | Internal | | |
|  | functionStaticCall | Internal | | |
|  | functionDelegateCall | Internal | | |
|  | functionDelegateCall | Internal | | |
|  | verifyCallResultFromTarget | Internal | | |
|  | verifyCallResult | Internal | | |
|  | _revert | Private | | |
| | | |
| **Context** | Implementation | |||
|  | _msgSender | Internal | | |
|  | _msgData | Internal | | |
| | | |
| **Ownable** | Implementation | Context | |||
|  | <Constructor> | Public | | | NO |
|  | owner | Public | | | NO |
|  | renounceOwnership | Public | | | onlyOwner |
|  | transferOwnership | Public | | | onlyOwner |
| | | |
| **ERC20** | Implementation | Context, IERC20, IERC20Metadata | |||
|  | <Constructor> | Public | | | NO |
|  | name | Public | | | NO |
|  | symbol | Public | | | NO |
|  | decimals | Public | | | NO |
|  | totalSupply | Public | | | NO |
|  | balanceOf | Public | | | NO |
|  | transfer | Public | | | NO |
|  | allowance | Public | | | NO |
|  | approve | Public | | | NO |
|  | transferFrom | Public | | | NO |
|  | increaseAllowance | Public | | | NO |
|  | decreaseAllowance | Public | | | NO |
|  | _transfer | Internal | | |
|  | _mint | Internal | | |
|  | _burn | Internal | | |
```

CONTRACT ASSESMENT

```

|  | _approve | Internal | 🔒 | 🔴 | |
|  | _beforeTokenTransfer | Internal | 🔒 | 🔴 | |
|  | _afterTokenTransfer | Internal | 🔒 | 🔴 | |
|  |  |  |  |  |  |
|  | **NegativeTax** | Implementation | Ownable | |
|  | claimStuckTokens | External | ! | 🔴 | onlyOwner |
|  |  |  |  |  |  |
|  | **Moflix** | Implementation | ERC20, Ownable | |
|  | <Constructor> | Public | ! | 🔴 | ERC20 |
|  | <Receive Ether> | External | ! | 📄 | NO! |
|  | claimStuckTokens | External | ! | 🔴 | onlyOwner |
|  | excludeFromNegativeTax | External | ! | 🔴 | onlyOwner |
|  | isExcludedFromNegativeTax | Public | ! | | NO! |
|  | setNegativeTaxSettings | External | ! | 🔴 | onlyOwner |
|  | excludeFromFees | External | ! | 🔴 | onlyOwner |
|  | isExcludedFromFees | Public | ! | | NO! |
|  | updateBuyFees | External | ! | 🔴 | onlyOwner |
|  | updateSellFees | External | ! | 🔴 | onlyOwner |
|  | updateWalletToWalletTransferFee | External | ! | 🔴 | onlyOwner |
|  | changeMarketingWallet | External | ! | 🔴 | onlyOwner |
|  | enableTrading | External | ! | 🔴 | onlyOwner |
|  | _transfer | Internal | 🔒 | 🔴 | |
|  | setSwapEnabled | External | ! | 🔴 | onlyOwner |
|  | setSwapTokensAtAmount | External | ! | 🔴 | onlyOwner |
|  | swapAndLiquify | Private | 🔒 | 🔴 | |
|  | swapAndSendMarketing | Private | 🔒 | 🔴 | |

```

| Symbol | Meaning |

| :-----: | ----- |

| 🔴 | Function can modify state |

| 📄 | Function is payable |



STATIC ANALYSIS

```
Address.revert(bytes,string) (contracts/Audit_Ace_Testing.sol#351-363) is never used and should be removed
Address.functionCall(address,bytes) (contracts/Audit_Ace_Testing.sol#264-266) is never used and should be removed
Address.functionCall(address,bytes,string) (contracts/Audit_Ace_Testing.sol#268-274) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256) (contracts/Audit_Ace_Testing.sol#276-282) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256,string) (contracts/Audit_Ace_Testing.sol#284-293) is never used and should be removed
Address.functionDelegateCall(address,bytes) (contracts/Audit_Ace_Testing.sol#308-310) is never used and should be removed
Address.functionDelegateCall(address,bytes,string) (contracts/Audit_Ace_Testing.sol#312-319) is never used and should be removed
Address.functionStaticCall(address,bytes) (contracts/Audit_Ace_Testing.sol#295-297) is never used and should be removed
Address.functionStaticCall(address,bytes,string) (contracts/Audit_Ace_Testing.sol#299-306) is never used and should be removed
Address.isContract(address) (contracts/Audit_Ace_Testing.sol#253-255) is never used and should be removed
Address.verifyCallResult(bool,bytes,string) (contracts/Audit_Ace_Testing.sol#339-349) is never used and should be removed
Address.verifyCallResultFromTarget(address,bool,bytes,string) (contracts/Audit_Ace_Testing.sol#321-337) is never used and should be removed
Context._msgData() (contracts/Audit_Ace_Testing.sol#371-374) is never used and should be removed
ERC20._burn(address,uint256) (contracts/Audit_Ace_Testing.sol#525-540) is never used and should be removed
Reference: https://github.com/crytic/sliether/wiki/Detector-Documentation#dead-code

Pragma version0.8.17 (contracts/Audit_Ace_Testing.sol#29) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.17 is not recommended for deployment
Reference: https://github.com/crytic/sliether/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in Address.sendValue(address,uint256) (contracts/Audit_Ace_Testing.sol#257-262):
- (success) = recipient.call{value: amount}() (contracts/Audit_Ace_Testing.sol#260)
Low level call in Address.functionCallWithValue(address,bytes,uint256,string) (contracts/Audit_Ace_Testing.sol#284-293):
- (success,returndata) = target.call{value: value}(data) (contracts/Audit_Ace_Testing.sol#291)
Low level call in Address.functionStaticCall(address,bytes,string) (contracts/Audit_Ace_Testing.sol#299-306):
- (success,returndata) = target.staticcall(data) (contracts/Audit_Ace_Testing.sol#304)
Low level call in Address.functionDelegateCall(address,bytes,string) (contracts/Audit_Ace_Testing.sol#312-319):
- (success,returndata) = target.delegatecall(data) (contracts/Audit_Ace_Testing.sol#317)
Reference: https://github.com/crytic/sliether/wiki/Detector-Documentation#low-level-calls

Function IUniswapV2Pair.DOMAIN_SEPARATOR() (contracts/Audit_Ace_Testing.sol#59) is not in mixedCase
Function IUniswapV2Pair.PERMIT_TYPEHASH() (contracts/Audit_Ace_Testing.sol#60) is not in mixedCase
Function IUniswapV2Pair.MINIMUM_LIQUIDITY() (contracts/Audit_Ace_Testing.sol#77) is not in mixedCase
Function IUniswapV2Router01.WETH() (contracts/Audit_Ace_Testing.sol#97) is not in mixedCase
Parameter Moflix.setNegativeTaxSettings(bool,uint256).enabled (contracts/Audit_Ace_Testing.sol#703) is not in mixedCase
Parameter Moflix.setNegativeTaxSettings(bool,uint256).negativeTaxFeeOnBuy (contracts/Audit_Ace_Testing.sol#703) is not in mixedCase
Parameter Moflix.updateBuyFees(uint256,uint256).liquidityFeeOnBuy (contracts/Audit_Ace_Testing.sol#722) is not in mixedCase
Parameter Moflix.updateBuyFees(uint256,uint256).marketingFeeOnBuy (contracts/Audit_Ace_Testing.sol#722) is not in mixedCase
Parameter Moflix.updateSellFees(uint256,uint256).liquidityFeeOnSell (contracts/Audit_Ace_Testing.sol#733) is not in mixedCase
Parameter Moflix.updateSellFees(uint256,uint256).marketingFeeOnSell (contracts/Audit_Ace_Testing.sol#733) is not in mixedCase
Parameter Moflix.updateWalletToWalletTransferFee(uint256).walletToWalletTransferFee (contracts/Audit_Ace_Testing.sol#744) is not in mixedCase
Parameter Moflix.changeMarketingWallet(address).marketingWallet (contracts/Audit_Ace_Testing.sol#751) is not in mixedCase
Parameter Moflix.setSwapEnabled(bool).enabled (contracts/Audit_Ace_Testing.sol#845) is not in mixedCase
Reference: https://github.com/crytic/sliether/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Audit_Ace_Testing.sol#372)" inContext (contracts/Audit_Ace_Testing.sol#366-375)
Reference: https://github.com/crytic/sliether/wiki/Detector-Documentation#redundant-statements

Variable IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountADesired (contracts/Audit_Ace_Testing.sol#102) is too similar
to IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountBDesired (contracts/Audit_Ace_Testing.sol#103)
Reference: https://github.com/crytic/sliether/wiki/Detector-Documentation#variable-names-too-similar

Moflix.creator (contracts/Audit_Ace_Testing.sol#588) should be immutable
Moflix.negativeTax (contracts/Audit_Ace_Testing.sol#601) should be immutable
Moflix.uniswapV2Pair (contracts/Audit_Ace_Testing.sol#584) should be immutable
Moflix.uniswapV2Router (contracts/Audit_Ace_Testing.sol#583) should be immutable
Reference: https://github.com/crytic/sliether/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



FUNCTIONAL TESTING

Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

0- Deploying (Passed):

<https://testnet.bscscan.com/tx/0x03af8f7b2548398930e16baff6d5e73097bbafefaf0968ac755f3031c5f55841>

1- Adding Liquidity (Passed):

liquidity added on Pancakeswap V2:

<https://testnet.bscscan.com/tx/0x1742629e76bc3c7e5f65362645cec3f6e2430ba3695a151974cc076bf858185f>

no issue were found on adding liquidity.

2- Enabling trade for public (Passed):

<https://testnet.bscscan.com/tx/0xba2b8d0f555224ce0dbdde1599960e415cdd359a9cbe9ddddd9365cdac0acc196>

3- Setting buy and sell fees to max (2%) (Passed):

<https://testnet.bscscan.com/tx/0x8fc1e7f70d103660156730006898d0dcb52c223d775758bcd478315fb42e21f7>

<https://testnet.bscscan.com/tx/0x1a16459b30e59f1db662d80d14996d870191ccfe8fcbc5f569f967619ac56a5f>



FUNCTIONAL TESTING

4- Buying from a non-whitelisted wallet (Passed):

<https://testnet.bscscan.com/tx/0xaedb727dcee1acd54a0dff5e123323de3ce4b77e43f3437db591c9738c61527a>

negative tax tx:

<https://testnet.bscscan.com/address/0x6833b95dc7c3c09824a4ab862f8b3253665d6607#internaltxns>

5- Selling from a non-whitelisted wallet (Passed):

<https://testnet.bscscan.com/tx/0x14d9e51910530e545e3036b50e06ddaa416c7b161ffeeec02e495cc1af6c0c1f>

6- Internal Swap (Passed):

taxes were swapped to BNB and sent to staking and marketing wallets:

<https://testnet.bscscan.com/address/0x2ba274d676f6da46160a3b4f7720f27f67e6c86f#internaltx>

7 - Auto Liquidity (Passed):

LP tokens generated and sent to dead wallet which can be seen here:

<https://testnet.bscscan.com/address/0x2ba274d676f6da46160a3b4f7720f27f67e6c86f#internaltx>



FUNCTIONAL TESTING

8- Enabling negative tax (Passed):

<https://testnet.bscscan.com/tx/0x2a4c50737bc1941c1a27b90f7ac1e9dfa8cec66eef616ae7ce0b1648dc39134d>



MANUAL TESTING

NO ISSUES WERE FOUND





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