



Smart Contract Audit

FOR

Browser Inu

DATED : 15 Apr 23'



AUDIT SUMMARY

Project name – Browser Inu

Date: 15 April, 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	1	0	0	1
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 Test network, each test has its transaction has attached to it.

3- Slither : Static Analysis

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

<https://testnet.bscscan.com/token/0xfce0D84501d952B0A905b9c3e684764A00Ab10eC>



Token Information

Token Name : Browser Inu

Token Symbol: Browser

Decimals: 18

Token Supply: 100,000,000,000,000

Token Address:

0x6fcA6fE5af1cCc277f8c4ee07B3Eb92c59d686d1

Checksum:

2e11115598ed9120a0119940ad98a1b45f5d6a9c

Owner:

0x0EE13b44c1995B1f3f369baaD33464128765FE0A

Deployer:

0x0EE13b44c1995B1f3f369baaD33464128765FE0A



TOKEN OVERVIEW

Fees:

Buy Fees: up to 15%

Sell Fees: up to 15%

Transfer Fees: 0%

Fees Privilege: Owner

Ownership : Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Privileges: including and excluding form fee -
changing swap threshold - enabling trades - modifying
fees - changing max wallet/buy/sell/transrers



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.

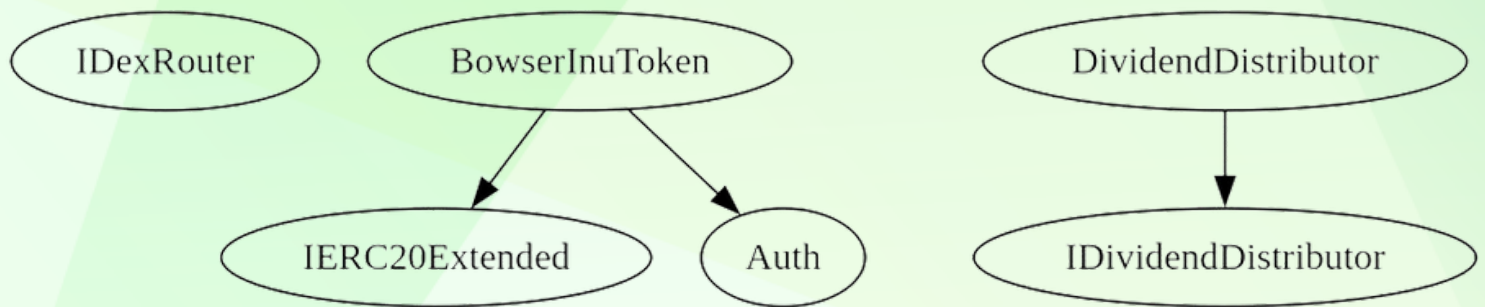
Findings

Severity

Found

◆ Critical	0
◆ High-Risk	1
◆ Medium-Risk	0
◆ Low-Risk	0
◆ Gas Optimization / Suggestions	1

INHERITANCE TREE



POINTS TO NOTE

- Owner is not able to set buy/sell fees over 15%
 - 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**
-

CONTRACT ASSESMENT

Contract	Type	Bases			
:-----: :-----: :-----: :-----: :-----:					
L	**Function Name**	**Visibility**	**Mutability**	**Modifiers**	
	SafeMath	Library			
L	tryAdd	Internal	🔒		
L	trySub	Internal	🔒		
L	tryMul	Internal	🔒		
L	tryDiv	Internal	🔒		
L	tryMod	Internal	🔒		
L	add	Internal	🔒		
L	sub	Internal	🔒		
L	mul	Internal	🔒		
L	div	Internal	🔒		
L	mod	Internal	🔒		
L	sub	Internal	🔒		
L	div	Internal	🔒		
L	mod	Internal	🔒		
	IDexFactory	Interface			
L	createPair	External	⚠️	🛑	NO!
	IDexRouter	Interface			
L	factory	External	⚠️		NO!
L	WETH	External	⚠️		NO!
L	addLiquidityETH	External	⚠️	👁️	NO!
L	swapExactETHForTokensSupportingFeeOnTransferTokens	External	⚠️	👁️	NO!
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External	⚠️	🛑	NO!
	IERC20Extended	Interface			
L	totalSupply	External	⚠️		NO!
L	decimals	External	⚠️		NO!
L	symbol	External	⚠️		NO!
L	name	External	⚠️		NO!
L	balanceOf	External	⚠️		NO!
L	transfer	External	⚠️	🛑	NO!
L	allowance	External	⚠️		NO!
L	approve	External	⚠️	🛑	NO!
L	transferFrom	External	⚠️	🛑	NO!
	Auth	Implementation			
L	<Constructor>	Public	⚠️	🛑	NO!

CONTRACT ASSESMENT

```



|  | authorize | Public ! |  | onlyOwner | |
|  | unauthorize | Public ! |  | onlyOwner |
|  | isOwner | Public ! | | NO! |
|  | isAuthorized | Public ! | | NO! |
|  | transferOwnership | Public ! |  | onlyOwner |
|||||
| **IDividendDistributor** | Interface | |||
|  | setDistributionCriteria | External ! |  | NO! |
|  | setShare | External ! |  | NO! |
|  | deposit | External ! |  | NO! |
|  | process | External ! |  | NO! |
|  | claimDividend | External ! |  | NO! |
|  | getPaidEarnings | External ! | | NO! |
|  | getUnpaidEarnings | External ! | | NO! |
|  | totalDistributed | External ! | | NO! |
|||||
| **DividendDistributor** | Implementation | IDividendDistributor | |||
|  | <Constructor> | Public ! |  | NO! |
|  | setDistributionCriteria | External ! |  | onlyToken |
|  | setShare | External ! |  | onlyToken |
|  | deposit | External ! |  | onlyToken |
|  | process | External ! |  | onlyToken |
|  | shouldDistribute | Internal  | | |
|  | distributeDividend | Internal   | | |
|  | claimDividend | External ! |  | NO! |
|  | getPaidEarnings | Public ! | | NO! |
|  | getUnpaidEarnings | Public ! | | NO! |
|  | getCumulativeDividends | Internal  | | |
|  | addShareholder | Internal   | | |
|  | removeShareholder | Internal   | | |
|||||
| **BowserInuToken** | Implementation | IERC20Extended, Auth | |||
|  | <Constructor> | Public ! |  | Auth |
|  | <Receive Ether> | External ! |  | NO! |
|  | totalSupply | External ! | | NO! |
|  | decimals | External ! | | NO! |
|  | symbol | External ! | | NO! |
|  | name | External ! | | NO! |
|  | balanceOf | Public ! | | NO! |
|  | allowance | External ! | | NO! |
|  | approve | Public ! |  | NO! |

```

CONTRACT ASSESMENT

^L	approveMax	External !		NO!
^L	transfer	External !		NO!
^L	transferFrom	External !		NO!
^L	_transferFrom	Internal 		
^L	_basicTransfer	Internal 		
^L	takeFee	Internal 		
^L	setBuyAccFee	Internal 		
^L	setSellAccFee	Internal 		
^L	shouldSwapBack	Internal 		
^L	swapBack	Internal 		swapping
^L	enableTrading	External !		authorized
^L	claimDividend	External !		NO!
^L	getPaidDividend	Public !		NO!
^L	getUnpaidDividend	External !		NO!
^L	getTotalDistributedDividend	External !		NO!
^L	removeStuckBnb	External !		authorized
^L	setIsDividendExempt	External !		authorized
^L	setIsFeeExempt	External !		authorized
^L	setIsLimitExempt	External !		authorized
^L	removeBots	External !		onlyOwner
^L	setIsWalletExempt	External !		authorized
^L	setBuyFees	Public !		authorized
^L	setSellFees	Public !		authorized
^L	setFeeReceivers	External !		authorized
^L	setMaxWalletlimit	External !		authorized
^L	setMaxTxnLimit	External !		authorized
^L	setSwapBackSettings	External !		authorized
^L	setDistributionCriteria	External !		authorized
^L	setDistributorSettings	External !		authorized

Legend

Symbol	Meaning
	Function can modify state
	Function is payable



STATIC ANALYSIS

```
Reentrancy in BrowserInuToken.swapBack() (contracts/Token.sol#783-836):
  External calls:
    - address(marketingFeeReceiver).transfer(amountBNBMarketing) (contracts/Token.sol#826)
    - address(devFeeReceiver).transfer(amountBNBDev) (contracts/Token.sol#829)
  External calls sending eth:
    - distributor.deposit{value: amountBNBReflection}() (contracts/Token.sol#823)
    - address(marketingFeeReceiver).transfer(amountBNBMarketing) (contracts/Token.sol#826)
    - address(devFeeReceiver).transfer(amountBNBDev) (contracts/Token.sol#829)
  State variables written after the call(s):
    - _burnFeeCount = 0 (contracts/Token.sol#834)
    - _devFeeCount = 0 (contracts/Token.sol#835)
    - _marketingFeeCount = 0 (contracts/Token.sol#833)
    - _reflectionFeeCount = 0 (contracts/Token.sol#832)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-4

BrowserInuToken.slitherConstructorVariables() (contracts/Token.sol#481-983) uses literals with too many digits:
  - distributorGas = 500000 (contracts/Token.sol#519)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits

BrowserInuToken.ZERO (contracts/Token.sol#492) is never used in BrowserInuToken (contracts/Token.sol#481-983)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

BrowserInuToken.USDC (contracts/Token.sol#490) should be constant
BrowserInuToken.snipingTime (contracts/Token.sol#522) should be constant
DividendDistributor.USDC (contracts/Token.sol#287-288) should be constant
DividendDistributor.dividendsPerShareAccuracyFactor (contracts/Token.sol#301) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

BrowserInuToken.distributor (contracts/Token.sol#518) should be immutable
BrowserInuToken.pair (contracts/Token.sol#494) should be immutable
BrowserInuToken.router (contracts/Token.sol#493) should be immutable
DividendDistributor.router (contracts/Token.sol#289) should be immutable
DividendDistributor.token (contracts/Token.sol#279) 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

Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

All the functionalities have been tested, no issues were found

1- Adding liquidity (passed):

<https://testnet.bscscan.com/tx/0x8fb90e8a5e02c134423eced5b19efd63bc7bb7255e68ab32234ff8fd9b679e5c>

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

<https://testnet.bscscan.com/tx/0x883b0a2927d5adeb5144145d1bb6b02e05faf3b59ac50dc492327520acbfefb3e>

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

<https://testnet.bscscan.com/tx/0x4f04d6441cea4d69908aff0a374832acf3860dc0b07b95ad557774e332a028ee>

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

<https://testnet.bscscan.com/tx/0xa0038c66f910ccaedd08cf370473972be27b73907a2c131fabd8444b4672dc70>

5- Buying when not excluded (upto 15% tax) (passed):

<https://testnet.bscscan.com/tx/0x64855af4f7b663c3937b0d5e0c0b2ec58a786ccc590d54b1befc34064ebd7ee3>

6- Selling when not excluded (upto 15% tax) (passed):

<https://testnet.bscscan.com/tx/0xe9648f56b9b4e26e3741b124f20f65e4e2af8f4928bd78f6753561b306e254ed>



FUNCTIONAL TESTING

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

<https://testnet.bscscan.com/tx/0x2a337442d4cf404fa34b445012a9e05c81a1090fe2341a0d8a96ee69796b217e>

8- Internal swap (passed):

fees wallet received BNB

<https://testnet.bscscan.com/address/0xD7973B7baf14699646Aebf631875c65DAcc493F#internaltx>

9- Distribution of rewards (passed):

reward tokens are distributed between holders, this can be seen in this transaction

<https://testnet.bscscan.com/tx/0xe9648f56b9b4e26e3741b124f20f65e4e2af8f4928bd78f6753561b306e254ed>

MANUAL TESTING

Centralization - Owner must enable trading

Severity: High

Function: enableTrading

Lines: 813

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() external authorized {
    require(!trading, "LYKOICare: already enabled");
    trading = true;
    swapEnabled = true;
    launchedAt = block.timestamp;
}
```

Recommendation:

to address this issue there are multiple options

- transfer ownership of contract to a trusted 3rd wallet (pinksale safu developer) to guarantee enabling of trades
- Incorporate a safety mechanism that allows investors to activate trading if a specified duration has elapsed since the conclusion of the presale or consider alternative ways such as allowing trades after investors claimed their presale tokens.

MANUAL TESTING

Informational – No way to withdraw stuck tokens

Severity: Informational

Function: ---

Lines: ---

Status: Not Resolved

Overview:

Currently there are no functions to withdraw ERC20 tokens from the contract. If tokens are sent to the contract by mistake there will not be anyway to withdraw them.

Recommendation:

to address this issue implement a function to be able to withdraw ERC20 tokens from the contract



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