



Smart Contract Audit

FOR
Quiz AI

DATED : 16 FEB 23'



AUDIT SUMMARY

Project name – Quiz Ai

Date: 16 February, 2023

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

Audit Status: **Passed**(Contract 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 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/address/0x2f8add358c7fb162669Fc385071b3e65aFDfE671#code>



Token Information

Token Name : Quiz Box

Token Symbol: Quiz AI

Decimals: 9

Token Supply: 1,000,000

Token Address: Not deployed on chain

Checksum:

a2ea4c87e83eab70edc4f39c2e7077389c3dd010c20
cadfb9c58d7278cc3deec

Owner: Not deployed

Deployer:

Not deployed



TOKEN OVERVIEW

Fees:

Buy Fees: 5%

Sell Fees: 5%

Transfer Fees: 0%

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

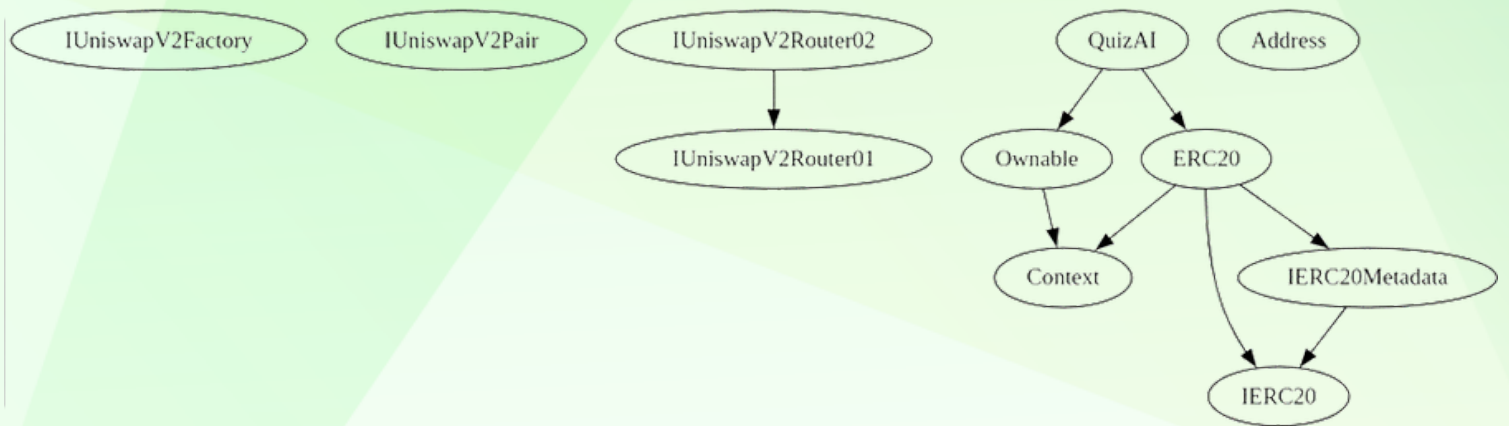
Severity

Found

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



INHERITANCE TREE





POINTS TO NOTE

- **Owner is not able to set buy/sell taxes over 5%**
 - **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			
:-----: :-----: :-----: :-----: :-----:					
L	**Function Name**	**Visibility**	**Mutability**	**Modifiers**	
IUniswapV2Factory Interface					
L	feeTo	External !		NO !	
L	feeToSetter	External !		NO !	
L	getPair	External !		NO !	
L	allPairs	External !		NO !	
L	allPairsLength	External !		NO !	
L	createPair	External !		NO !	
L	setFeeTo	External !		NO !	
L	setFeeToSetter	External !		NO !	
IUniswapV2Pair Interface					
L	name	External !		NO !	
L	symbol	External !		NO !	
L	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 !		NO !	
L	price1CumulativeLast	External !		NO !	
L	kLast	External !		NO !	
L	mint	External !		NO !	
L	burn	External !		NO !	
L	swap	External !		NO !	
L	skim	External !		NO !	
L	sync	External !		NO !	
L	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 |  |  | |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | **QuizAI** | Implementation | ERC20, Ownable | | |
|  | <Constructor> | Public |  |  | ERC20 |
|  | <Receive Ether> | External |  |  | NO |  |
|  | claimStuckTokens | External |  |  | onlyOwner |
|  | excludeFromFees | External |  |  | onlyOwner |
|  | isExcludedFromFees | Public |  | | NO |  |
|  | changeMarketingWallet | External |  |  | onlyOwner |
|  | changeCharityWallet | External |  |  | onlyOwner |
|  | updateBuyFees | External |  |  | onlyOwner |
|  | updateSellFees | External |  |  | onlyOwner |
|  | enableTrading | External |  |  | onlyOwner |
|  | _transfer | Internal |  |  | |
|  | setSwapEnabled | External |  |  | onlyOwner |
|  | setSwapTokensAtAmount | External |  |  | onlyOwner |
|  | swapAndLiquify | Private |  |  | |
|  | swapAndSendTokens | Private |  |  | |

```

| Symbol | Meaning |

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

|  | Function can modify state |

|  | Function is payable |



STATIC ANALYSIS

```
Address.functionDelegateCall(address,bytes) (contracts/Token.sol#593-603) is never used and should be removed
Address.functionDelegateCall(address,bytes,string) (contracts/Token.sol#611-624) is never used and should be removed
Address.functionStaticCall(address,bytes) (contracts/Token.sol#554-564) is never used and should be removed
Address.functionStaticCall(address,bytes,string) (contracts/Token.sol#572-585) is never used and should be removed
Address.isContract(address) (contracts/Token.sol#413-419) is never used and should be removed
Address.verifyCallResult(bool,bytes,string) (contracts/Token.sol#656-666) is never used and should be removed
Address.verifyCallResultFromTarget(address,bool,bytes,string) (contracts/Token.sol#632-648) is never used and should be removed
Context._msgData() (contracts/Token.sol#691-694) is never used and should be removed
ERC20._burn(address,uint256) (contracts/Token.sol#881-896) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version0.8.17 (contracts/Token.sol#19) 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/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in Address.sendValue(address,uint256) (contracts/Token.sol#437-448):
- (success) = recipient.call{value: amount}() (contracts/Token.sol#443)
Low level call in Address.functionCallWithValue(address,bytes,uint256,string) (contracts/Token.sol#526-546):
- (success,returndata) = target.call{value: value}(data) (contracts/Token.sol#536-538)
Low level call in Address.functionStaticCall(address,bytes,string) (contracts/Token.sol#572-585):
- (success,returndata) = target.staticcall(data) (contracts/Token.sol#577)
Low level call in Address.functionDelegateCall(address,bytes,string) (contracts/Token.sol#611-624):
- (success,returndata) = target.delegatecall(data) (contracts/Token.sol#616)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function IUniswapV2Pair.DOMAIN_SEPARATOR() (contracts/Token.sol#81) is not in mixedCase
Function IUniswapV2Pair.PERMIT_TYPEHASH() (contracts/Token.sol#83) is not in mixedCase
Function IUniswapV2Pair.MINIMUM_LIQUIDITY() (contracts/Token.sol#114) is not in mixedCase
Function IUniswapV2Router01.WETH() (contracts/Token.sol#154) is not in mixedCase
Parameter QuizAI.changeMarketingWallet(address)._marketingWallet (contracts/Token.sol#1050) is not in mixedCase
Parameter QuizAI.changeCharityWallet(address)._charityWallet (contracts/Token.sol#1065) is not in mixedCase
Parameter QuizAI.updateBuyFees(uint256,uint256,uint256)._liquidityFeeOnBuy (contracts/Token.sol#1078) is not in mixedCase
Parameter QuizAI.updateBuyFees(uint256,uint256,uint256)._marketingFeeOnBuy (contracts/Token.sol#1079) is not in mixedCase
Parameter QuizAI.updateBuyFees(uint256,uint256,uint256)._charityFeeOnBuy (contracts/Token.sol#1080) is not in mixedCase
Parameter QuizAI.updateSellFees(uint256,uint256,uint256)._liquidityFeeOnSell (contracts/Token.sol#1095) is not in mixedCase
Parameter QuizAI.updateSellFees(uint256,uint256,uint256)._marketingFeeOnSell (contracts/Token.sol#1096) is not in mixedCase
Parameter QuizAI.updateSellFees(uint256,uint256,uint256)._charityFeeOnSell (contracts/Token.sol#1097) is not in mixedCase
Parameter QuizAI.setSwapEnabled(bool)._enabled (contracts/Token.sol#1204) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Token.sol#692)" inContext (contracts/Token.sol#686-695)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

Variable IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountADesired (contracts/Token.sol#159) is too similar to IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountBDesired (contracts/Token.sol#160)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar

QuizAI.uniswapV2Pair (contracts/Token.sol#927) should be immutable
QuizAI.uniswapV2Router (contracts/Token.sol#926) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
(contracts/Token.sol analyzed (11 contracts with 84 detectors) - 46 results(s) found)
```

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 (Passed):

liquidity added on Pancakeswap V2:

<https://testnet.bscscan.com/tx/0xa066d82903a3a6905c15ab79fb34ff4507e2a3596d6feb7421e04a0ef8ba369b>

2- Buying (liquidity, marketing, charity = 5% max) (Passed):
couldn't buy for 10 blocks after launch (anti-bot)

<https://testnet.bscscan.com/tx/0x26953c3566bbb072cc9b89a5ae20f19449654b6bb64e64aba3422f7a963042bb>

3- Selling (liquidity, marketing, charity = 5% max) (Passed):

<https://testnet.bscscan.com/tx/0x6fe2586e5635641561b129dca9533174657ba4c3c3c2ccbf01f0b937072aa8d4>

4-Transferring (0% Tax) (Passed):

<https://testnet.bscscan.com/tx/0x63f445b7fee5bd8b74ec91bba7b3017d2f9027b1329451c583741ea192dd52b9>



FUNCTIONAL TESTING

5-Auto Liquidity(**Passed**):

[https://testnet.bscscan.com/token/0x7ef6b5bef23258db405daa4f23985541c17958bf?
a=0x00dead](https://testnet.bscscan.com/token/0x7ef6b5bef23258db405daa4f23985541c17958bf?a=0x00dead)

6-Internal Swap(**Passed**):

charity wallet:

<https://testnet.bscscan.com/address/0x0f4a437cd77f8bd9f251bee1a31c7cca84382c51#internaltx>

marketing wallet:

<https://testnet.bscscan.com/address/0x029a03829f9c43a1052147ec91aee6a03e7a9dd7#internaltx>



MANUAL TESTING

NO ISSUES FOUND

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