



Smart Contract Audit

FOR

Pegasus

DATED : 08 Mar 23'



AUDIT SUMMARY

Project name – Pegasus

Date: 08 March, 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

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/0x328a93d57d0f2ff06f82f5738a563422cb7d50cd#code>



Token Information

Token Name : Pegasus

Token Symbol: PEG

Decimals: 18

Token Supply: 1,000,000,000

Token Address:

0x03887C177c18140209C0f93AdC230D4C5515Bf4a

Checksum:

3b33389672bbbb11d901f0852efe7b9895c9a131

Owner:

0xf153B0a6FbB4a091320b3d8a6A7F14a5e4Ef3eB3
(at time of writing the audit)



TOKEN OVERVIEW

Fees:

Buy Fees: 6% max

Sell Fees: 6% max

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 from fees -
changing swap threshold - changing marketing wallet



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

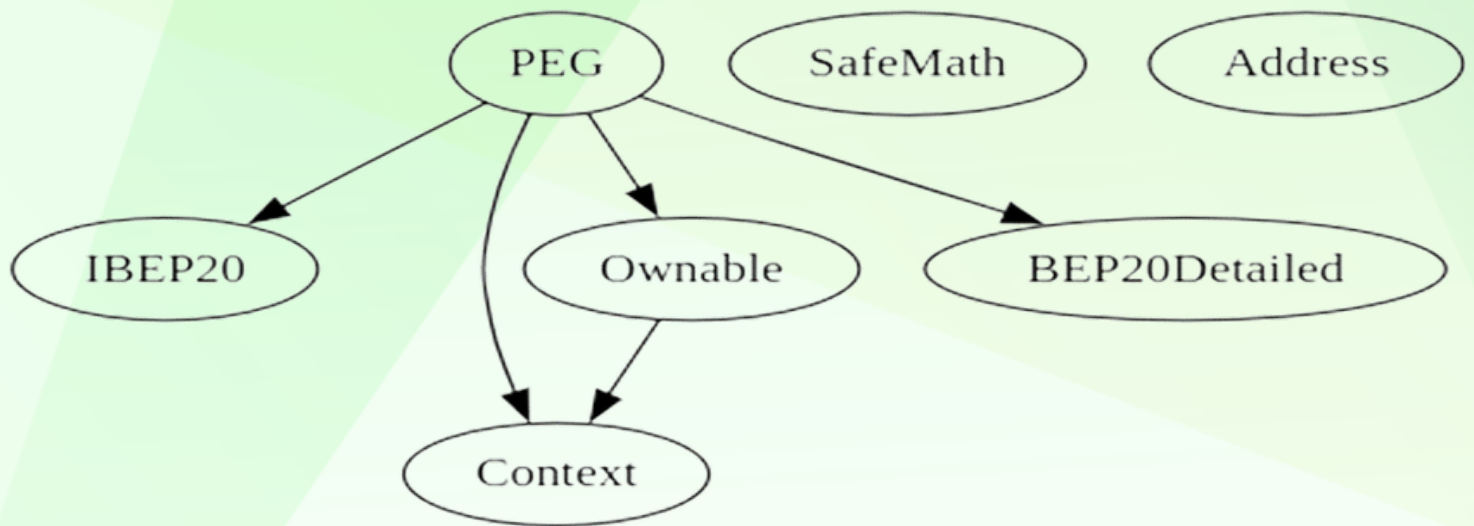
◆ Low-Risk

0

◆ Gas Optimization / Suggestions

0

INHERITANCE TREE



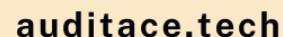
POINTS TO NOTE

This particular token has the ability to apply a maximum fee of 6% on both buying and selling transactions. These fees are accumulated within the contract until they reach a predetermined threshold, at which point they are converted into BNB and transferred to the marketing wallet.

Additionally, there are no restrictions on the maximum amount an investor can trade, nor are there any limits on buy/sell/transfer amounts.

Furthermore, the token has obtained a Pinksale Safu badge from Intefi, indicating that its structure meets the necessary criteria for security and safety.

- **Owner is not able to set buy tax higher than 6%**
 - **Owner is not able to set sell tax higher than 6%**
 - **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**
-



| Contract | Type | Bases | | | |
|----------|--------------------------|----------------|----------------|---------------|-------|
| ----- | ----- | ----- | ----- | ----- | ----- |
| L | **Function Name** | **Visibility** | **Mutability** | **Modifiers** | |
| | | | | | |
| | **IBEP20** | 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! | |
| | | | | | |
| | **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 | 🔒 | | |
| | | | | | |
| | **Context** | Implementation | | | |
| L | <Constructor> | Public | ! | NO! | |
| L | _msgSender | Internal | 🔒 | | |
| | | | | | |
| | **Ownable** | Implementation | Context | | |
| L | <Constructor> | Public | ! | NO! | |
| L | owner | Public | ! | NO! | |
| L | renounceOwnership | Public | ! | onlyOwner | |
| L | transferOwnership | Public | ! | onlyOwner | |
| | | | | | |
| | **BEP20Detailed** | Implementation | | | |
| L | <Constructor> | Public | ! | NO! | |
| L | name | Public | ! | NO! | |
| L | symbol | Public | ! | NO! | |
| L | decimals | Public | ! | NO! | |

CONTRACT ASSESMENT

```
|||||
| **Address** | Library | |||
|  | isContract | Internal | |
|||||
| **SafeBEP20** | Library | |||
|  | safeTransfer | Internal | |
|  | safeTransferFrom | Internal | |
|  | safeApprove | Internal | |
|  | callOptionalReturn | Private | |
|||||
| **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|
```

CONTRACT ASSESMENT

```

|  | mint | External ! |  | NO! |
|  | burn | External ! |  | NO! |
|  | swap | External ! |  | NO! |
|  | skim | External ! |  | NO! |
|  | sync | External ! |  | NO! |
|  | initialize | External ! |  | NO! |
|  |  |  |  |  |
| **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! |
|  |  |  |  |  |
| **PEG** | Implementation | Context, Ownable, IBEP20, BEP20Detailed |  |
|  | <Constructor> | Public ! |  | BEP20Detailed |
|  | totalSupply | Public ! |  | NO! |
|  | balanceOf | Public ! |  | NO! |
|  | transfer | Public ! |  | NO! |
|  | allowance | Public ! |  | NO! |


```

CONTRACT ASSESMENT

| ^L | approve | Public ! |  | NO! |
 | ^L | transferFrom | Public ! |  | NO! |
 | ^L | increaseAllowance | Public ! |  | NO! |
 | ^L | decreaseAllowance | Public ! |  | NO! |
 | ^L | setBuyMarketingFeePercent | External ! |  | onlyOwner |
 | ^L | setSellMarketingFeePercent | External ! |  | onlyOwner |
 | ^L | setMarketingAddress | External ! |  | onlyOwner |
 | ^L | setSwapAndLiquifyEnabled | Public ! |  | onlyOwner |
 | ^L | changeNumTokensSellToFee | External ! |  | onlyOwner |
 | ^L | excludeFromFee | Public ! |  | onlyOwner |
 | ^L | includeInFee | Public ! |  | onlyOwner |
 | ^L | <Receive Ether> | External ! |  | NO! |
 | ^L | _transfer | Internal  |  | |
 | ^L | swapAndLiquify | Private  |  | lockTheSwap |
 | ^L | swapTokensForEth | Private  |  | |
 | ^L | _approve | Internal  |  | |

| Symbol | Meaning |

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

|  | Function can modify state |

|  | Function is payable |



STATIC ANALYSIS

```
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-2

Reentrancy in SHIKOKUCEO._transfer(address,address,uint256) (contracts/Token.sol#463-487):
  External calls:
    - swapAndLiquify() (contracts/Token.sol#480)
      - (success) = recipient.call{value: amount}{} (contracts/Token.sol#123)
      - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (contracts/Token.sol#535-541)
      - address(marketingWallet).sendValue(deltaBalance) (contracts/Token.sol#522)
  External calls sending eth:
    - swapAndLiquify() (contracts/Token.sol#480)
      - (success) = recipient.call{value: amount}{} (contracts/Token.sol#123)
  Event emitted after the call(s):
    - Transfer(sender,recipient,s.tTransferAmount) (contracts/Token.sol#513)
    - _tokenTransfer(from,to,amount,takeFee) (contracts/Token.sol#486)
Reentrancy in SHIKOKUCEO.transferFrom(address,address,uint256) (contracts/Token.sol#250-265):
  External calls:
    - _transfer(sender,recipient,amount) (contracts/Token.sol#255)
      - (success) = recipient.call{value: amount}{} (contracts/Token.sol#123)
      - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (contracts/Token.sol#535-541)
      - address(marketingWallet).sendValue(deltaBalance) (contracts/Token.sol#522)
  External calls sending eth:
    - _transfer(sender,recipient,amount) (contracts/Token.sol#255)
      - (success) = recipient.call{value: amount}{} (contracts/Token.sol#123)
  Event emitted after the call(s):
    - Approval(owner,spender,amount) (contracts/Token.sol#460)
    - _approve(sender,msgSender(),currentAllowance - amount) (contracts/Token.sol#262)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3

SHIKOKUCEO.includeInReward(address) (contracts/Token.sol#340-351) has costly operations inside a loop:
  - _excluded.pop() (contracts/Token.sol#347)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#costly-operations-inside-a-loop

Context._msgData() (contracts/Token.sol#45-48) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

SHIKOKUCEO._rTotal (contracts/Token.sol#151) is set pre-construction with a non-constant function or state variable:
  - (MAX - (MAX % _tTotal))
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#function-initializing-state

Pragma version^0.8.17 (contracts/Token.sol#6) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.18 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#117-128):
  - (success) = recipient.call{value: amount}{} (contracts/Token.sol#123)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls
```

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/0x35d0a21cc6af7202b48abc8e161dca2aae23d1ac70ad0d3fef549593f01da67b>

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

<https://testnet.bscscan.com/tx/0xc3504e04962f883654f63b29c155a5623e266c45dcb2bc7b2c65e0fb8d4863be>

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

<https://testnet.bscscan.com/tx/0x0c80af63c3c007ba8a2f2e4121eb1a303db0ceaefb24c3826003f75f31c2a668>

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

<https://testnet.bscscan.com/tx/0x11d240b6d0b765c34d5e177add719b20eb046ff9c8050a1a01450a61f78a47f9>



FUNCTIONAL TESTING

5- Buying when not excluded from fees (6% tax) (passed):

<https://testnet.bscscan.com/tx/0xec4723a5767806390e940ba77ecd3a5b67257a91566d3add5a5361e199072630>

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

<https://testnet.bscscan.com/tx/0x7fe22c379e4b49f3fdc0459f196e6c211c5f9519e45c806b9181a6ebf5d37446>

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

<https://testnet.bscscan.com/tx/0x20281b59cd0bf77d21ef6636ecb93447ebfbb1dea1bdd8ec68585df53c6f853c>

8-Internal swap (passed):

marketing wallet received ETH

<https://testnet.bscscan.com/address/0x7980af1494b801895c45b84533596f3f58df152f#internaltx>



MANUAL TESTING

No Issues Found



Social Media Overview

**Here are the Social Media Accounts of
Pegasus**



<https://t.me/PegasusDEX>



<https://twitter.com/PegasusDEX>



<https://pegasusdex.exchange>



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