AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

PEPEVERSE

DATED : 25 May 23'

AUDIT SUMMARY

Project name – PEPEVERSE

Date: 25 May, 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	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/0x3618b53e363f2c4C36548A17654498C8709cf0CD

Token Information

Token Name : PEPEVERSE

Token Symbol: PEPEVERSE

Decimals: 9

Token Supply:420,690,000,000,000

Token Address:
0x87d829ADC494475EF96C9FcA988B9593CdB40349

Checksum:
47a9778763e5c78d31bd96bb6fdf9e175245d2ae

Owner:
0x60a0a1F9C1B3A8F6BF4883eA9263555EFd972908

TOKEN OVERVIEW

Fees:

Buy Fees: 0/8%

Sell Fees: 0/8 %

Transfer Fees: 0/8%

Fees Privilige: owner

Ownership : 0x60a0a1F9C1B3A8F6BF4883eA9263555EFd972908

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: none

Blacklist: No

Other Priviliges: - initial distribution of the tokens

- Enabling trades (disabled by default)

- Excluding wallets from fees

- Including wallets in fees

- Modifying fees

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 isexercised 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**	0

INHERITANCE TREE
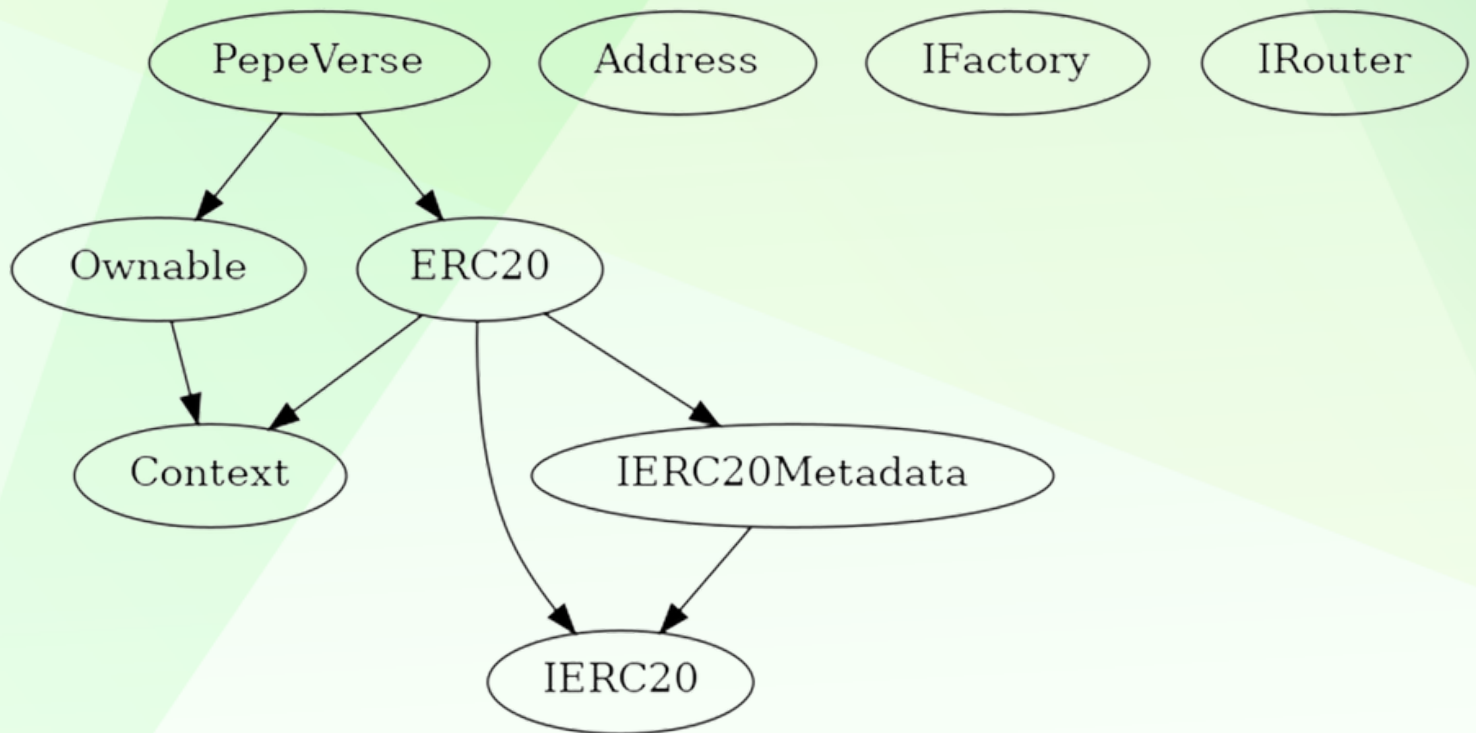
POINTS TO NOTE

- Owner is not able to set sell/buy/transfer more than 8%
- 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 able to limit buys/transfers/sells by a max amount as limit
- Owner is not able to mint new tokens
- Owner must enable trades manually for holders

CONTRACT ASSESMENT

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
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❗
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 🔒	🛑	
└	_tokengeneration	Internal 🔒	🛑	
└	_approve	Internal 🔒	🛑	
Address	Library			
└	sendValue	Internal 🔒	🛑	
Ownable	Implementation	Context		

CONTRACT ASSESMENT

└	<Constructor>	Public ❗	🛑	NO❗
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
└	_setOwner	Private 🔐	🛑	
IFactory	Interface			
└	createPair	External ❗	🛑	NO❗
IRouter	Interface			
└	factory	External ❗		NO❗
└	WETH	External ❗		NO❗
└	addLiquidityETH	External ❗	💵	NO❗
└	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
PepeVerse	Implementation	ERC20, Ownable		
└	<Constructor>	Public ❗	🛑	ERC20
└	approve	Public ❗	🛑	NO❗
└	transferFrom	Public ❗	🛑	NO❗
└	increaseAllowance	Public ❗	🛑	NO❗
└	decreaseAllowance	Public ❗	🛑	NO❗
└	transfer	Public ❗	🛑	NO❗
└	_transfer	Internal 🔐	🛑	
└	Liquify	Private 🔐	🛑	lockTheSwap
└	swapTokensForETH	Private 🔐	🛑	
└	addLiquidity	Private 🔐	🛑	
└	updateLiquidityProvide	External ❗	🛑	onlyOwner
└	updateLiquidityTreshhold	External ❗	🛑	onlyOwner
└	EnableTrading	External ❗	🛑	onlyOwner
└	UpdateZeroBuyTax	External ❗	🛑	onlyOwner
└	UpdateZeroSellTax	External ❗	🛑	onlyOwner
└	SetBuyTax	External ❗	🛑	onlyOwner
└	SetSellTax	External ❗	🛑	onlyOwner
└	UpdateTxTax	External ❗	🛑	onlyOwner
└	updatedeadline	External ❗	🛑	onlyOwner
└	updateMarketingWallet	External ❗	🛑	onlyOwner
└	updateDevWallet	External ❗	🛑	onlyOwner
└	addExemptFee	External ❗	🛑	onlyOwner
└	RemoveExemptFee	External ❗	🛑	onlyOwner
└	AddbulkExemptFee	External ❗	🛑	onlyOwner
└	RemovebulkExemptFee	External ❗	🛑	onlyOwner

CONTRACT ASSESMENT

└	rescueBNB	External ❗	🛑	onlyOwner
└	rescueBEP20	External ❗	🛑	onlyOwner
└	<Receive Ether>	External ❗	💵	NO❗

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

STATIC ANALYSIS

```
Reentrancy in PEPEDRIP.transferFrom(address,address,uint256) (contracts/Token.sol#266-281):
        External calls:
        - _transfer(sender,recipient,amount) (contracts/Token.sol#271)
                - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (contracts/Token.sol#572-582)
                - (success,None) = marketingWallet.call{gas: 35000,value: address(this).balance}() (contracts/Token.sol#556-559)
        External calls sending eth:
        - _transfer(sender,recipient,amount) (contracts/Token.sol#271)
                - (success,None) = marketingWallet.call{gas: 35000,value: address(this).balance}() (contracts/Token.sol#556-559)
        Event emitted after the call(s):
        - Approval(owner,spender,amount) (contracts/Token.sol#471)
                - _approve(sender,_msgSender(),currentAllowance - amount) (contracts/Token.sol#278)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3

Context._msgData() (contracts/Token.sol#17-20) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version^0.8.17 (contracts/Token.sol#7) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.19 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in PEPEDRIP.swapAndLiquify() (contracts/Token.sol#547-561):
        - (success,None) = marketingWallet.call{gas: 35000,value: address(this).balance}() (contracts/Token.sol#556-559)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function IRouter.WETH() (contracts/Token.sol#74) is not in mixedCase
Struct PEPEDRIP.valuesFromGetValues (contracts/Token.sol#191-199) is not in CapWords
Event PEPEDRIP_tradingEnabled() (contracts/Token.sol#165) is not in CapWords
Event PEPEDRIPexcludeFromRewardAccount(address) (contracts/Token.sol#347) is not in CapWords
Event PEPEDRIPexcludeFromFeeWallet(address,bool) (contracts/Token.sol#360) is not in CapWords
Event PEPEDRIP_updateSwapTokensAtAmount(uint256) (contracts/Token.sol#585) is not in CapWords
Constant PEPEDRIP._decimals (contracts/Token.sol#150) is not in UPPER_CASE_WITH_UNDERSCORES
Constant PEPEDRIP._tTotal (contracts/Token.sol#153) is not in UPPER_CASE_WITH_UNDERSCORES
Constant PEPEDRIP._name (contracts/Token.sol#162) is not in UPPER_CASE_WITH_UNDERSCORES
Constant PEPEDRIP._symbol (contracts/Token.sol#163) is not in UPPER_CASE_WITH_UNDERSCORES
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Token.sol#18)" inContext (contracts/Token.sol#10-21)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

PEPEDRIP.marketingWallet (contracts/Token.sol#159-160) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

PEPEDRIP.pair (contracts/Token.sol#148) should be immutable
PEPEDRIP.router (contracts/Token.sol#147) 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/0xd08e79bb8e34f0d4fd5457ba6e8d75b573290c6f2034b5847a684a6abdb774dc

2- Buying when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0xe5cc485bf23818b459df73f57fbc75b3ec295e0650901074a0485e9238cfb82c

3- Selling when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0xe5cc485bf23818b459df73f57fbc75b3ec295e0650901074a0485e9238cfb82c

4- Transferring when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x1f55d9afcfcc0fc4c28bb46aa97f7bda920115e315e9ae48023bb3fe2acc6658

5- Buying from a regular wallet (8% tax) (passed):
https://testnet.bscscan.com/tx/0x37741dad4ae956700ce778a6d59a281d569f2bed10edbd290a14ea2ce6777419

6- Selling from a regular wallet (8% tax) (passed):
https://testnet.bscscan.com/tx/0xe3c549a439c4fef1aabeece8c9f819d1d2a2eee50181b7bd3179d483c4cd3b03

FUNCTIONAL TESTING

7- Transferring from a regular wallet (8% tax) (passed):
https://testnet.bscscan.com/tx/0xafb5e319cda5b3752436e01f6f3
d9c8faf0685bf2f5b8c4e59f63a6e4b09efd5

8-Internal swap((passed):
Marketing wallet and development received BNB

https://testnet.bscscan.com/address/0x8fe035d7a19d6c4d6f1df5
c276bbec3876a71bd4#internaltx
https://testnet.bscscan.com/address/0x8fe035d7a19d6c4d6f1df5
c276bbec3876a71bd4#internaltx

ISSUES FOUND

Centralization – Owner must enable trades

Severity: **High**

function: EnableTrading

Status: **Resolved (contract is owned by safu dev)**

Overview:

Owner must enable trades for investors manually. If trades remain disabled, no one would be able to buy/sell/transfer tokens (except owner)

```
function EnableTrading() external onlyOwner {
    require(!tradingEnabled, "Cannot re-enable trading");
    tradingEnabled = true;
    providingLiquidity = true;
    genesis_block = block.number;
}
```

Suggestion

To mitigate this issue, there are several options:

- Enable trades before starting the presale

- Transfer ownership of the contract to a trust 3rd party like pinksale (safu dev) in order to guarantee that trades will be enabled

- create a mechanism which will enable trades automatically after a preiod of time

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