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AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

Peach Inu

DATED : 05 Apr 23'

AUDIT SUMMARY

Project name – Peach Inu

Date: 05 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	2	1	0	2
Acknowledged	0	0	0	0	0
Resolved	0	2	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/0xB611b404F6aCaB924fB81637FDb0213b2bd0054A#code

Token Information

Token Name : Peach Inu

Token Symbol: PEACH

Decimals: 9

Token Supply: 5,000,000,000,000,000

Token Address:
0xc856A1c8510D04D43968b182435ad6D85Ca5789E

Checksum:
16ec8c8660aa2c448af670d11e2e722f60ac87b0

Owner:
0x27b2693847b4531900c747e963f62aC937e4155D

TOKEN OVERVIEW

Fees:

Buy Fees: 10%

Sell Fees: 10%

Transfer Fees: 10%

Fees Privilige: None

Ownership : Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Priviliges: including in fees, exluding from fees, including in reflections, excluding from reflections

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

- [x] Return values of low-level calls
- [x] Private modifier
- [x] Multiple Sends
- [x] Using Suicide
- [x] Gas Limitand Loops
- [x] Address hardcoded
- [x] Exception Disorder
- [x] Using inline assembly
- [x] Divide before multiply
- [x] Missing Zero Address Validation
- [x] Compiler version not fixed
- [x] **Gasless Send**
- [x] Using block.timestamp
- [x] Re-entrancy
- [x] Tautology or contradiction
- [x] Timestamp Dependence
- [x] Revert/require functions
- [x] Use of tx.origin
- [x] Integer overflow/underflow
- [x] Dangerous strict equalities
- [x] Using SHA3
- [x] Using throw

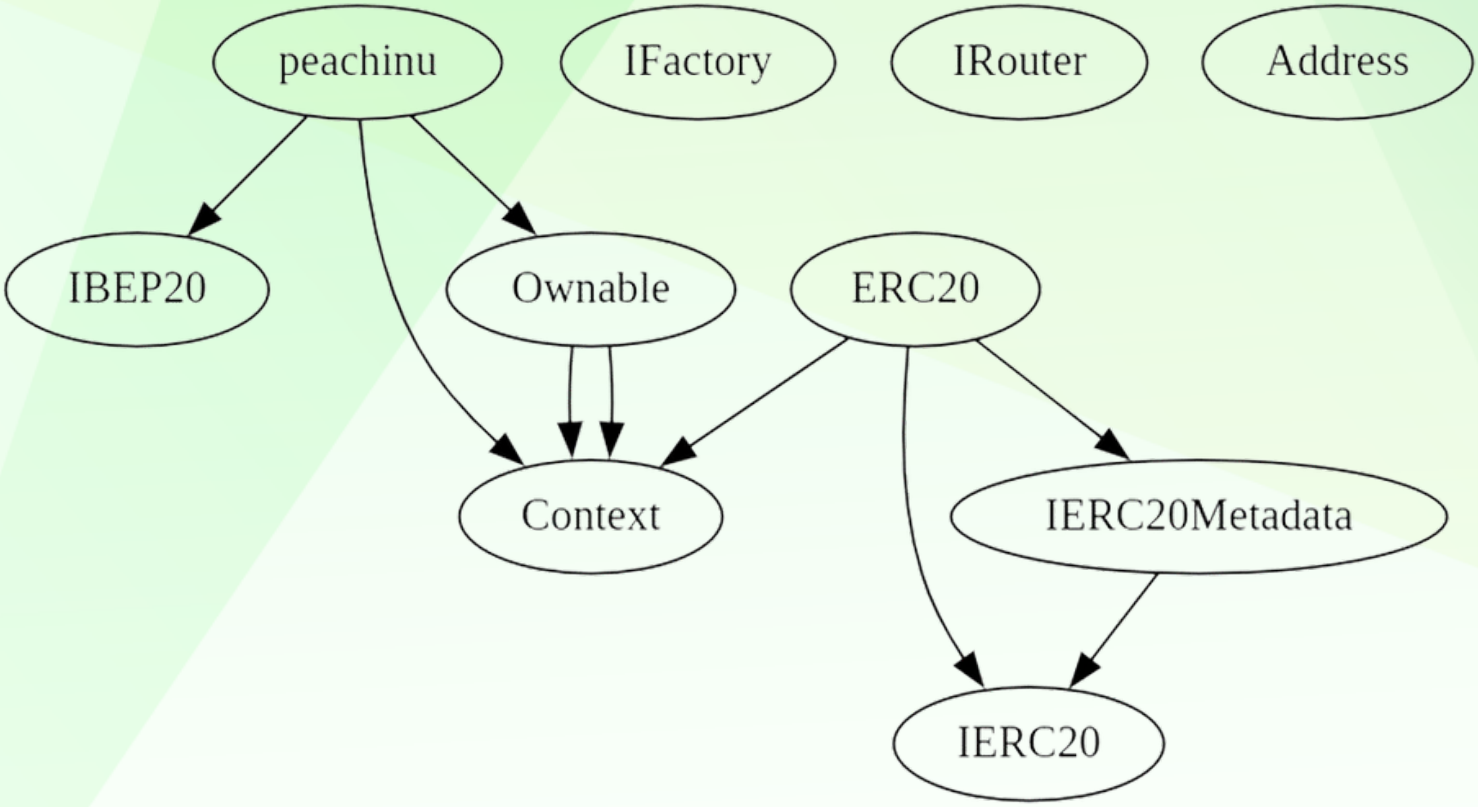
CLASSIFICATION OF RISK

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	2 (Resolved)
Medium-Risk	1
Low-Risk	0
Gas Optimization / Suggestions	2

INHERITANCE TREE



POINTS TO NOTE

- Owner is not able to modify fees (10% buy/sell/transfers)
- Owner must enable trading for investors to be able to trade
- 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

Token Distribution

it should be noted that the owner currently holds 100% of the total supply. However, information about the distribution of these tokens is not available, and it is recommended that investors exercise caution when considering this aspect.

CONTRACT ASSESMENT

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
IBEP20	Interface			
└	totalSupply	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	transfer	External ❗	🛑	NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
Ownable	Implementation	Context		
└	<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❗
Address	Library			
└	sendValue	Internal 🔒	🛑	
peachinu	Implementation	Context, IBEP20, Ownable		
└	<Constructor>	Public ❗	🛑	NO❗
└	name	Public ❗		NO❗
└	symbol	Public ❗		NO❗
└	decimals	Public ❗		NO❗
└	totalSupply	Public ❗		NO❗
└	balanceOf	Public ❗		NO❗

CONTRACT ASSESMENT

└	allowance	Public ❗		|NO❗
└	approve	Public ❗	🛑	|NO❗
└	transferFrom	Public ❗	🛑	|NO❗
└	increaseAllowance	Public ❗	🛑	|NO❗
└	decreaseAllowance	Public ❗	🛑	|NO❗
└	transfer	Public ❗	🛑	|NO❗
└	isExcludedFromReward	Public ❗		|NO❗
└	reflectionFromToken	Public ❗		|NO❗
└	EnableTrading	External ❗	🛑		onlyOwner
└	updatedeadline	External ❗	🛑		onlyOwner
└	tokenFromReflection	Public ❗		|NO❗
└	excludeFromReward	Public ❗	🛑		onlyOwner
└	includeInReward	External ❗	🛑		onlyOwner
└	excludeFromFee	Public ❗	🛑		onlyOwner
└	includeInFee	Public ❗	🛑		onlyOwner
└	isExcludedFromFee	Public ❗		|NO❗
└	_reflectRfi	Private 🔐	🛑		
└	_takeLiquidity	Private 🔐	🛑		
└	_takeMarketing	Private 🔐	🛑		
└	_takeOps	Private 🔐	🛑		
└	_takeDev	Private 🔐	🛑		
└	_getValues	Private 🔐			
└	_getTValues	Private 🔐			
└	_getRValues1	Private 🔐			
└	_getRValues2	Private 🔐			
└	_getRate	Private 🔐			
└	_getCurrentSupply	Private 🔐			
└	_approve	Private 🔐	🛑		
└	_transfer	Private 🔐	🛑		
└	_tokenTransfer	Private 🔐	🛑		
└	swapAndLiquify	Private 🔐	🛑		lockTheSwap
└	addLiquidity	Private 🔐	🛑		
└	swapTokensForBNB	Private 🔐	🛑		
└	bulkExcludeFee	External ❗	🛑		onlyOwner
└	updateMarketingWallet	External ❗	🛑		onlyOwner
└	updateDevWallet	External ❗	🛑		onlyOwner
└	updateOpsWallet	External ❗	🛑		onlyOwner
└	updateSwapTokensAtAmount	External ❗	🛑		onlyOwner
└	updateSwapEnabled	External ❗	🛑		onlyOwner
└	rescueBNB	External ❗	🛑		onlyOwner
└	rescueAnyBEP20Tokens	Public ❗	🛑		onlyOwner

CONTRACT ASSESMENT

└	<Receive Ether>	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 🔒	🛑	
└	_mint	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_approve	Internal 🔒	🛑	
└	_spendAllowance	Internal 🔒	🛑	
└	_beforeTokenTransfer	Internal 🔒	🛑	
└	_afterTokenTransfer	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❗
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
Ownable	Implementation	Context		
└	<Constructor>	Public ❗	🛑	NO❗

CONTRACT ASSESMENT

└	owner	Public ❗			NO❗
└	_checkOwner	Internal 🔒			
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
└	_transferOwnership	Internal 🔒	🛑		

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

STATIC ANALYSIS

```
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3

peachinu.includeInReward(address) (contracts/Token.sol#419-430) has costly operations inside a loop:
        - _excluded.pop() (contracts/Token.sol#426)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#costly-operations-inside-a-loop

Context._msgData() (contracts/Token.sol#61-64) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

peachinu._rTotal (contracts/Token.sol#180) 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#22) 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 Address.sendValue(address,uint256) (contracts/Token.sol#141-152):
        - (success) = recipient.call{value: amount}() (contracts/Token.sol#147)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function IRouter.WETH() (contracts/Token.sol#117) is not in mixedCase
Contract peachinu (contracts/Token.sol#155-832) is not in CapWords
Struct peachinu.valuesFromGetValues (contracts/Token.sol#217-231) is not in CapWords
Function peachinu.EnableTrading() (contracts/Token.sol#385-390) is not in mixedCase
Parameter peachinu.updatedeadline(uint256)._deadline (contracts/Token.sol#392) is not in mixedCase
Parameter peachinu.updateSwapEnabled(bool)._enabled (contracts/Token.sol#808) is not in mixedCase
Parameter peachinu.rescueAnyBEP20Tokens(address,address,uint256)._tokenAddr (contracts/Token.sol#820) is not in mixedCase
Parameter peachinu.rescueAnyBEP20Tokens(address,address,uint256)._to (contracts/Token.sol#821) is not in mixedCase
Parameter peachinu.rescueAnyBEP20Tokens(address,address,uint256)._amount (contracts/Token.sol#822) is not in mixedCase
Constant peachinu._decimals (contracts/Token.sol#176) is not in UPPER_CASE_WITH_UNDERSCORES
Variable peachinu.genesis_block (contracts/Token.sol#184) is not in mixedCase
Constant peachinu._name (contracts/Token.sol#192) is not in UPPER_CASE_WITH_UNDERSCORES
Constant peachinu._symbol (contracts/Token.sol#193) 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#62)" inContext (contracts/Token.sol#56-65)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

peachinu._lastSell (contracts/Token.sol#171) is never used in peachinu (contracts/Token.sol#155-832)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

peachinu._tTotal (contracts/Token.sol#179) should be constant
peachinu.deadWallet (contracts/Token.sol#187) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

peachinu.pair (contracts/Token.sol#174) should be immutable
peachinu.router (contracts/Token.sol#173) 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/0x9cc38caf34187aae7ba1070b1bf82a8392862b5f0ab4bc3f8740eef63f04fd48

2- Buying when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x2bea897d2bd57a93351d65356d0c79427d597703130c37d3416fcd5066289566

3- Selling when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0xb023be5929aed4441c3e84b8678cb33eb90b57fc6be2ce095e49931a7e7424d8

4- Transferring when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x30be657eba7d1aa8487bbd2fc7870c8be65dfd0a8fed050fca3f324f3e7622ed

5- Buying when not excluded (10% tax) (passed):
https://testnet.bscscan.com/tx/0xdf9516517d385f650a6df3714b891768c53ba41c36dc1761644ed6cd545c9cea

6- Selling when not excluded (10% tax) (passed):
https://testnet.bscscan.com/tx/0x8e529aaac4acb3cb737cbf8239bf1015da115ef26a09c5ce0e7d1f008772689e

FUNCTIONAL TESTING

7- Transferring when not excluded (10% tax) (passed):
https://testnet.bscscan.com/tx/0x1b3eea9b41b94c70dfbac28ae543d34f92c2f004bac2aa54cc9c88f4b2b71df8

8- Internal swap (passed):
Marketing wallet received BNB
https://testnet.bscscan.com/address/0x5fe1415a0edd72f295731b4a33501b5ed3594c47#internaltx

MANUAL TESTING

Centralization - Owner must enable trading

Severity: High
Function: EnableTrading
Lines: 330
Status: 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 onlyOwner {
    require(!tradingEnabled, "Cannot re-enable trading");
    tradingEnabled = true;
    swapEnabled = true;
    genesis_block = block.number;
}
```

Recommendation:
Incorporate a safety mechanism that allows investors to activate trading if a specified duration has elapsed since the conclusion of the presale.
Since contract is owned by safu dev, enabling trades is guaranteed.

MANUAL TESTING

Logical – Setting swap threshold to 0

Severity: High
Function: updateSwapTokensAtAmount
Lines: 738
Status: not resolved
Overview:
setting swap threshold to 0 can disable sells if contract balance is more than threshold.

```
function updateSwapTokensAtAmount(uint256 amount) external onlyOwner {
    require(
        amount <= 1e7,
        "Cannot set swap threshold amount higher than 1% of tokens"
    );
    swapTokensAtAmount = amount * 10 ** _decimals;
}
```

Recommendation:
ensure that swap threshold can not be zero.
Since contract is owned by safu dev, swap threshold will not be set to 0

MANUAL TESTING

Logical – incorrect condition

Severity: Medium
Function: updateSwapTokensAtAmount
Lines: 738
Status: not resolved
Overview:
Error message indicates that swap threshold must be lower than 1% of tokens. However owner is still able to set swap threshold to amounts larger than supply. (5e13 > 5e12)

```
function updateSwapTokensAtAmount(uint256 amount) external onlyOwner {
    require(
        amount <= 5e13,
        "Cannot set swap threshold amount higher than 1% of tokens"
    );
    swapTokensAtAmount = amount * 10 ** _decimals;
}
```

Recommendation:
change 5e13 to 5e11

MANUAL TESTING

Informational – Immutable tax

Severity: Informational
Function: ---
Lines: ---
Status: not resolved
Overview:
Contract has 10% tax for buy/sell/transfer actions. However this tax percentage is immutable, meaning it can not be changed later. A dynamic tax in a reasoable range is suggested as the market status is not predictable.

Informational – Redundant code

Severity: Informational
Function: ---
Lines: ---
Status: not resolved
Overview:
Since contract has 10% static tax, some functions like addLiquidity are unstable. hence, its suggested to identify such redundant functions and delete them

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