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AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

Roxenda

DATED : 16 Jan, 2024

AUDIT SUMMARY

Project name – Roxenda

Date: 16 Jan, 2024

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	3	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 conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

3- Slither :
The code has undergone static analysis using Slither.

Testnet version:
The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:
https://testnet.bscscan.com/address/0x81d893a39b649c4a3162c44fcdd80f669e47855c#code

Token Information

Token Name : Roxenda

Token Symbol: RXND

Decimals: 9

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

Network: BscScan

Token Type: BEP-20

Token Address:
0x2588679f7F3b8a3Bb826B3e14f575F3e8A0E1324

Checksum:
f2032c616934aeb47e6039f76b20d225

Owner:
0x982d569443f5d03ab66e955fe57d57de4d8f92b0
(at time of writing the audit)

Deployer:
0x982d569443f5d03ab66e955fe57d57de4d8f92b0

TOKEN OVERVIEW

Fees:

Buy Fee: 0-0%

Sell Fee: 0-0%

Transfer Fee: 0-0%

Charity Fee : 4.8%

Liquidity Fee : 0.1%

Tax fee : 0.1%

Fees Privilege: Owner

Ownership: Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

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

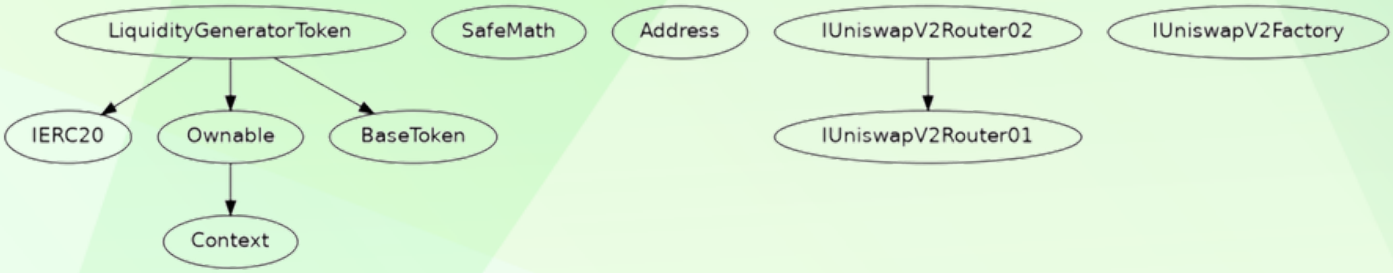
CLASSIFICATION OF RISK

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	3
Gas Optimization / Suggestions	1

INHERITANCE TREE



POINTS TO NOTE

- The owner can transfer ownership.
- The owner can renounce ownership.
- The owner can set the buy and sell fees not more than 25%.
- The owner can exclude addresses from rewards.
- The owner can include addresses in the rewards.
- The owner can set a swapback amount of not less than 0.05% of the total supply.

STATIC ANALYSIS

A static analysis of the code was performed using Slither.

No issues were found.

```
INFO:Detectors:
LiquidityGeneratorToken.addLiquidity(uint256,uint256) (LiquidityGeneratorToken.sol#1541-1554) ignores return value by uniswapV2Router.addLiquidityETH{value:
 ethAmount}(address(this),tokenAmount,0,0,address(0xdead),block.timestamp) (LiquidityGeneratorToken.sol#1546-1553)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-return
INFO:Detectors:
LiquidityGeneratorToken.allowance(address,address).owner (LiquidityGeneratorToken.sol#1078) shadows:
        - Ownable.owner() (LiquidityGeneratorToken.sol#150-152) (function)
LiquidityGeneratorToken._approve(address,address,uint256).owner (LiquidityGeneratorToken.sol#1449) shadows:
        - Ownable.owner() (LiquidityGeneratorToken.sol#150-152) (function)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#local-variable-shadowing
INFO:Detectors:
LiquidityGeneratorToken.setTaxFeePercent(uint256) (LiquidityGeneratorToken.sol#1241-1247) should emit an event for:
        - _taxFee = taxFeeBps (LiquidityGeneratorToken.sol#1242)
LiquidityGeneratorToken.setLiquidityFeePercent(uint256) (LiquidityGeneratorToken.sol#1249-1258) should emit an event for:
        - _liquidityFee = liquidityFeeBps (LiquidityGeneratorToken.sol#1253)
LiquidityGeneratorToken.setCharityFeePercent(uint256) (LiquidityGeneratorToken.sol#1260-1266) should emit an event for:
        - _charityFee = charityFeeBps (LiquidityGeneratorToken.sol#1261)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-arithmetic
INFO:Detectors:
LiquidityGeneratorToken.constructor(string,string,uint256,address,address,uint16,uint16,uint16,address,uint256).serviceFeeReceiver_ (LiquidityGeneratorToken
.sol#987) lacks a zero-check on :
                - address(serviceFeeReceiver_).transfer(serviceFee_) (LiquidityGeneratorToken.sol#1045)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-zero-address-validation
```

```
INFO:Detectors:
Address.isContract(address) (LiquidityGeneratorToken.sol#445-455) uses assembly
        - INLINE ASM (LiquidityGeneratorToken.sol#451-453)
Address.verifyCallResult(bool,bytes,string) (LiquidityGeneratorToken.sol#614-634) uses assembly
        - INLINE ASM (LiquidityGeneratorToken.sol#626-629)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#assembly-usage
INFO:Detectors:
LiquidityGeneratorToken.includeInReward(address) (LiquidityGeneratorToken.sol#1200-1211) has costly operations inside a loop:
        - _excluded.pop() (LiquidityGeneratorToken.sol#1207)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#costly-operations-inside-a-loop
INFO:Detectors:
Address.functionCall(address,bytes) (LiquidityGeneratorToken.sol#498-500) is never used and should be removed
Address.functionCall(address,bytes,string) (LiquidityGeneratorToken.sol#508-514) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256) (LiquidityGeneratorToken.sol#527-533) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256,string) (LiquidityGeneratorToken.sol#541-552) is never used and should be removed
Address.functionDelegateCall(address,bytes) (LiquidityGeneratorToken.sol#587-589) is never used and should be removed
Address.functionDelegateCall(address,bytes,string) (LiquidityGeneratorToken.sol#597-606) is never used and should be removed
Address.functionStaticCall(address,bytes) (LiquidityGeneratorToken.sol#560-562) is never used and should be removed
Address.functionStaticCall(address,bytes,string) (LiquidityGeneratorToken.sol#570-579) is never used and should be removed
Address.isContract(address) (LiquidityGeneratorToken.sol#445-455) is never used and should be removed
Address.sendValue(address,uint256) (LiquidityGeneratorToken.sol#473-478) is never used and should be removed
Address.verifyCallResult(bool,bytes,string) (LiquidityGeneratorToken.sol#614-634) is never used and should be removed
Context._msgData() (LiquidityGeneratorToken.sol#110-112) is never used and should be removed
SafeMath.div(uint256,uint256,string) (LiquidityGeneratorToken.sol#380-389) is never used and should be removed
SafeMath.mod(uint256,uint256) (LiquidityGeneratorToken.sol#340-342) is never used and should be removed
SafeMath.mod(uint256,uint256,string) (LiquidityGeneratorToken.sol#406-415) is never used and should be removed
SafeMath.tryAdd(uint256,uint256) (LiquidityGeneratorToken.sol#211-217) is never used and should be removed
SafeMath.tryDiv(uint256,uint256) (LiquidityGeneratorToken.sol#253-258) is never used and should be removed
SafeMath.tryMod(uint256,uint256) (LiquidityGeneratorToken.sol#265-270) is never used and should be removed
SafeMath.tryMul(uint256,uint256) (LiquidityGeneratorToken.sol#236-246) is never used and should be removed
SafeMath.trySub(uint256,uint256) (LiquidityGeneratorToken.sol#224-229) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code
INFO:Detectors:
Pragma version=0.8.17 (LiquidityGeneratorToken.sol#911) allows old versions
solc-0.8.17 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
```

```
INFO:Detectors:
Pragma version>=0.6.0<0.9.0 (Token.sol#6) is too complex
solc-0.8.22 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
INFO:Detectors:
Low level call in Bonki.contractSwap(uint256) (Token.sol#511-567):
        - (success,None) = _taxWallets.marketing.call{gas: 55000,value: marketingBalance}() (Token.sol#562)
        - (success,None) = _taxWallets.buyback.call{gas: 55000,value: buybackBalance}() (Token.sol#565)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls
INFO:Detectors:
Function IRouter01.WETH() (Token.sol#37) is not in mixedCase
Parameter Bonki.setProtectionSettings(bool,bool)._antiSnipe (Token.sol#376) is not in mixedCase
Parameter Bonki.setProtectionSettings(bool,bool)._antiBlock (Token.sol#376) is not in mixedCase
Constant Bonki.startingSupply (Token.sol#116) is not in UPPER_CASE_WITH_UNDERSCORES
Constant Bonki._name (Token.sol#117) is not in UPPER_CASE_WITH_UNDERSCORES
Constant Bonki._symbol (Token.sol#118) is not in UPPER_CASE_WITH_UNDERSCORES
Constant Bonki._decimals (Token.sol#119) is not in UPPER_CASE_WITH_UNDERSCORES
Constant Bonki._tTotal (Token.sol#120) is not in UPPER_CASE_WITH_UNDERSCORES
Variable Bonki._taxRates (Token.sol#135-139) is not in mixedCase
Variable Bonki._ratios (Token.sol#141-146) is not in mixedCase
Constant Bonki.masterTaxDivisor (Token.sol#151) is not in UPPER_CASE_WITH_UNDERSCORES
Variable Bonki._taxWallets (Token.sol#163-166) is not in mixedCase
Variable Bonki._hasLiqBeenAdded (Token.sol#175) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
INFO:Detectors:
Variable IRouter01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountADesired (Token.sol#49) is too similar to IRouter01.addLiquidity(address,address,uint256,uint256,uint256,u
int256,address,uint256).amountBDesired (Token.sol#50)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar
INFO:Slither:Token.sol analyzed (7 contracts with 93 detectors), 47 result(s) found
```

FUNCTIONAL TESTING

1- Approve (passed):
https://testnet.bscscan.com/tx/0x615dd3958f222dd014c9d082f91d153c6fb1e94c78e390f199d665b414b257ca

2- Increase Allowance (passed):
https://testnet.bscscan.com/tx/0x1aabef702f48e265de09b672391e58d364adff0b95af3cf57ba82e8dbaadbb7a

3- Decrease Allowance (passed):
https://testnet.bscscan.com/tx/0x576a82f15e0ba8e2f69bbc3eb38aa5e44c2a4f9c312bdf8fc7b53cf39903386f

4- Set Tax Fee Percent (passed):
https://testnet.bscscan.com/tx/0xa5120edd7f3c7ce3c593e08eeacf5be32495774e6d8d4c02ece40d08ca6d30e6

5- Set Liquidity Fee Percent (passed):
https://testnet.bscscan.com/tx/0xdd758656d5df9ede8ade1add91b36d4c410c6b4ec0028982f898c223cbb0c7cc

MANUAL TESTING

Centralization – Missing Events

Severity: Low

Function: Missing Events

Status: Open

Overview:
They serve as a mechanism for emitting and recording data onto the blockchain, making it transparent and easily accessible.

```
function setTaxFeePercent(uint256 taxFeeBps) external onlyOwner {
   _taxFee = taxFeeBps;
require(
    _taxFee + _liquidityFee + _charityFee <= MAX_FEE,
"Total fee is over 25%"
   );
 }
function setLiquidityFeePercent(uint256 liquidityFeeBps)
external
   onlyOwner
 {
   _liquidityFee = liquidityFeeBps;
require(
    _taxFee + _liquidityFee + _charityFee <= MAX_FEE,
"Total fee is over 25%"
   );
 }
 function setCharityFeePercent(uint256 charityFeeBps) external onlyOwner
{
   _charityFee = charityFeeBps;
require(
    _taxFee + _liquidityFee + _charityFee <= MAX_FEE,
"Total fee is over 25%"
   );
 }
```

MANUAL TESTING

Centralization – Missing Visibility

Severity: Low

Function: Visibility

Status: Open

Overview:

It's simply saying that no visibility was specified, so it's going with the default. This has been related to security issues in contracts.

bool inSwapAndLiquify;

Suggestion:

You can easily silence the warning by adding the public/private.

MANUAL TESTING

Centralization – Local variable Shadowing

Severity: Low

Function: variable Shadowing

Status: Open

Overview:

```
function allowance(address owner, address spender)
public
view
   override
returns (uint256)
 {
return _allowances[owner][spender];
 }
function _approve(
address owner,
address spender,
uint256 amount
 ) private {
require(owner != address(0), "ERC20: approve from the zero
address");
require(spender != address(0), "ERC20: approve to the zero
address");

   _allowances[owner][spender] = amount;
emit Approval(owner, spender, amount);
 }
```

Suggestion:

Rename the local variables that shadow another component.

MANUAL TESTING

Optimization

Severity: Optimization

Subject: Remove unused code

Status: Open

Overview:

Unused variables are allowed in Solidity, and they do. not pose a direct security issue. It is the best practice though to avoid them.

```
event MinTokensBeforeSwapUpdated(uint256
minTokensBeforeSwap);
```

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