AuditAce

FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

GCCOIN

DATED : 17 Jan 2023

MANUAL TESTING

Centralization – Enabling Trades.

Severity: High

Function: EnableTrading

Status: Open

Overview:

The EnableTrading function permits only the contract owner to activate trading capabilities. Until this function is executed, no investors can buy, sell, or transfer their tokens. This places a high degree of control and centralization in the hands of the contract owner.

```
function enabledTrading() external onlyOwner() {
require(!tradeEnable,"trading is already open");
    _SwapBackEnable = true;
     tradeEnable = true;
    emit TradingOpenUpdated();
  }
```

Suggestion:

To reduce centralization and potential manipulation, consider one of the following approaches:

1.Automatically enable trading after a specified condition, such as the completion of a presale, is met.

2.If manual activation is still desired, consider transferring the ownership of the contract to a trustworthy, third-party entity like a certified "PinkSale Safu" developer. This can give investors more confidence in the eventual activation of trading capabilities, mitigating concerns of potential bad-faith actions by the original owner.

AUDIT SUMMARY

Project name – GCCOIN

Date: 17 Jan 2023

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

Audit Status: **Passed with High Risk**

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	1	0	2	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/0xf60d9CE4d71aA03bDc219D06c1a98f024e4ED897#code

Token Information

Token Address:
0x2D8269Dae518e78D95110dbFADf1fb479b8152e7

Name: GCCOIN

Symbol: GCC

Decimals: 9

Network: BscScan

Token Type: BEP-20

Owner: 0x59b1E916ff33241b88De2907cBf3Df166A58c19e

Deployer:
0x59b1E916ff33241b88De2907cBf3Df166A58c19e

Token Supply: 1000000000

Checksum: A67acbefe2a12642d388659dffd20722

Testnet:
https://testnet.bscscan.com/address/0xf60d9CE4d71aA03bDc219D06c1a98f024e4ED897#code

TOKEN OVERVIEW

Fees:

Buy Fee: 5-5%

Sell Fee: 5-5%

Transfer Fee: 0-0%

Fees Privilege: Owner

Ownership: Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Privileges:

- Whitelist to transfer without enabling trades
- Enabling trades

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.

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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

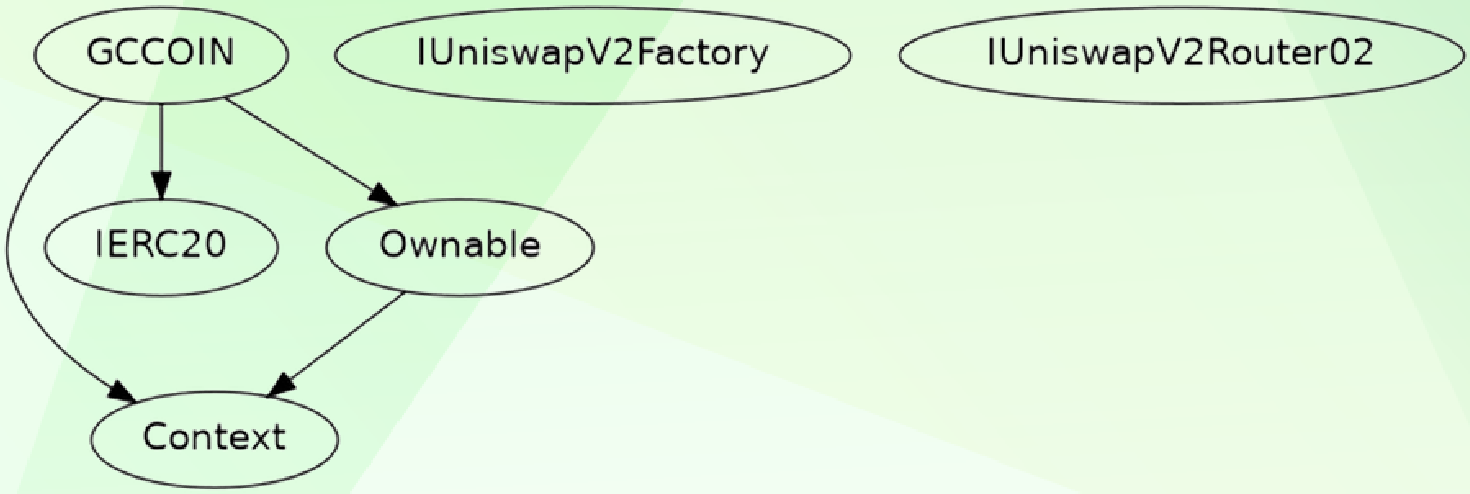
CLASSIFICATION OF RISK

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	1
◆ Medium-Risk	0
◆ Low-Risk	2
◆ Gas Optimization / Suggestions	1

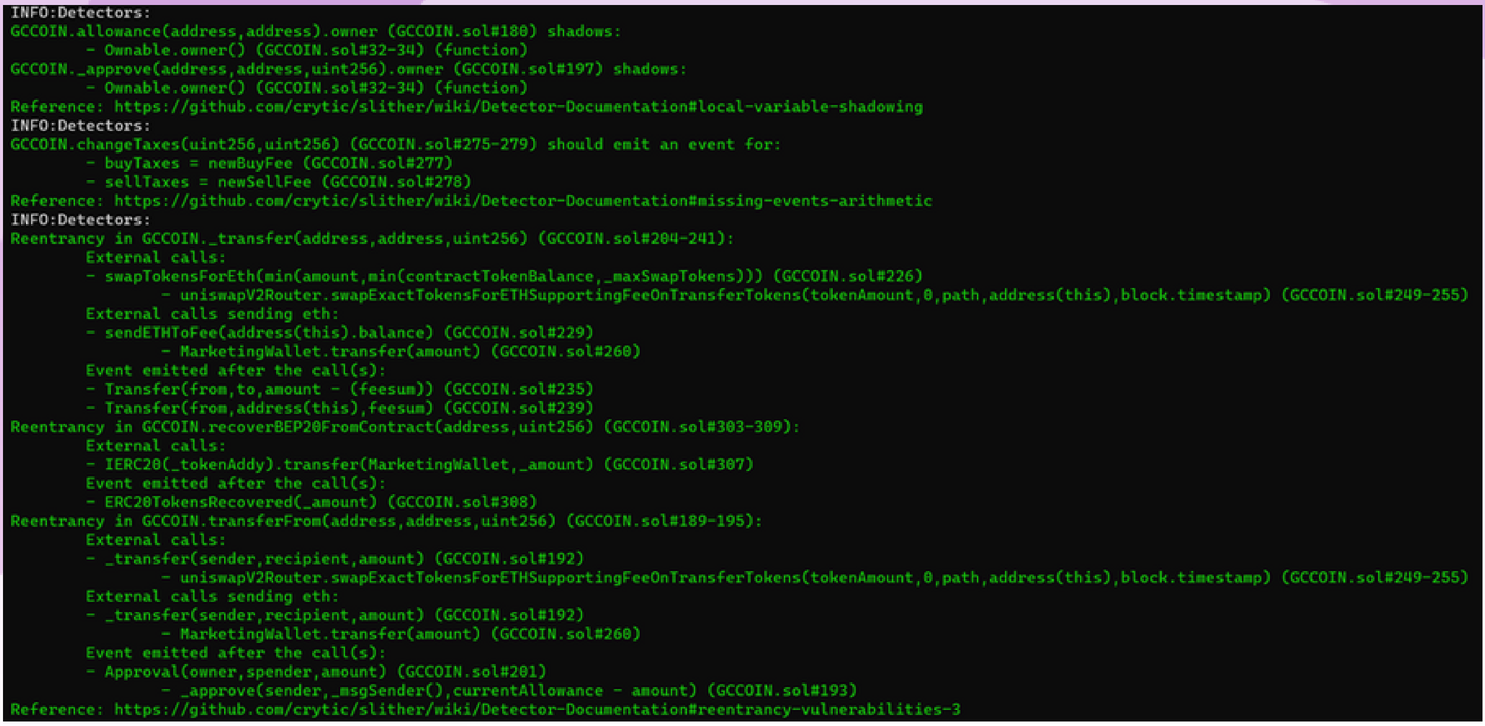
INHERITANCE TREE



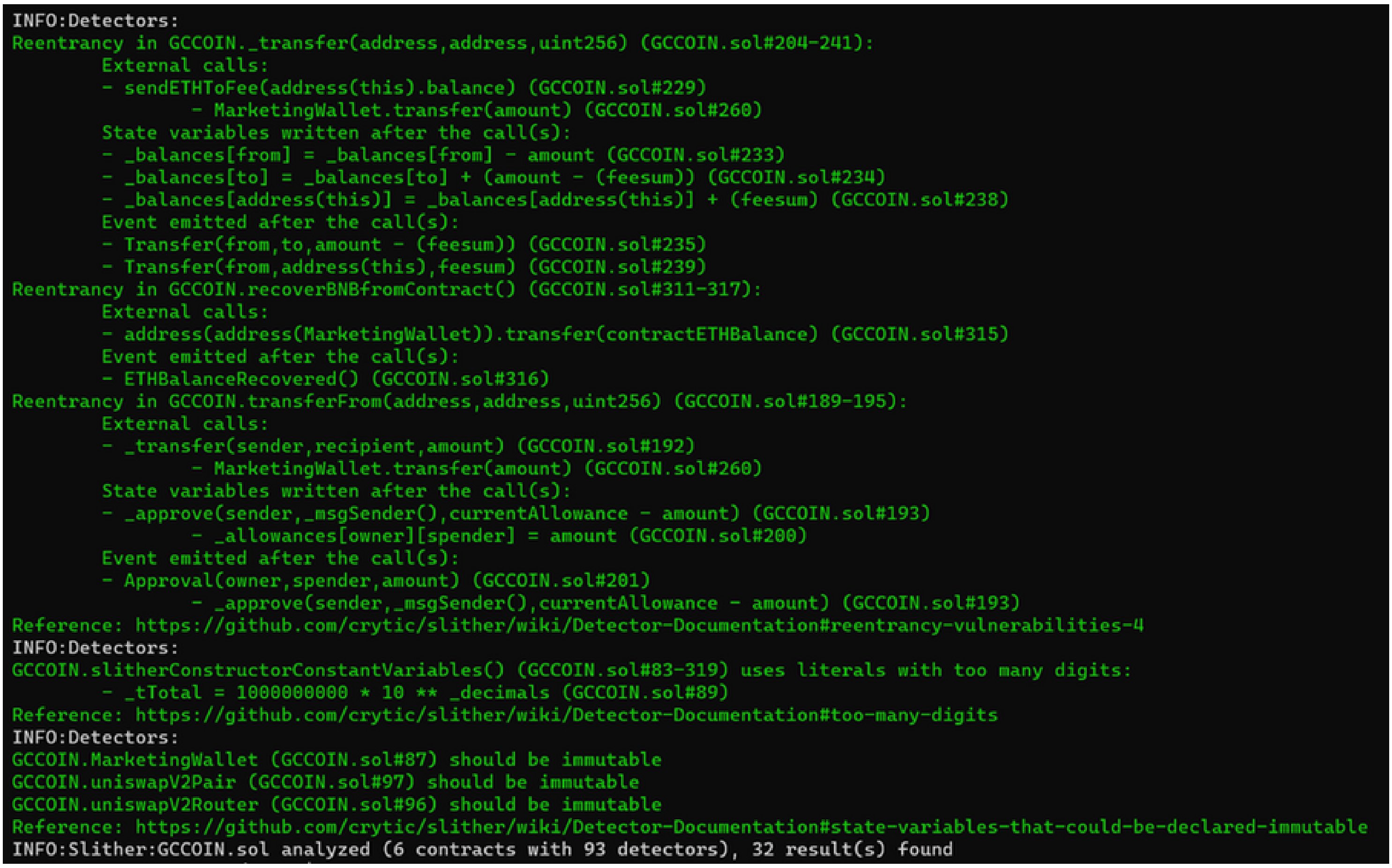
POINTS TO NOTE

- The owner can transfer ownership.
- The owner can renounce ownership.
- The owner can Enable trading.
- The owner can set a whitelisted address.
- The owner can change buy/sell taxes not more than 5%.
- The owner can recover BEP20.

STATIC ANALYSIS



```
INFO:Detectors:
GCCOIN.allowance(address,address).owner (GCCOIN.sol#180) shadows:
        - Ownable.owner() (GCCOIN.sol#32-34) (function)
GCCOIN._approve(address,address,uint256).owner (GCCOIN.sol#197) shadows:
        - Ownable.owner() (GCCOIN.sol#32-34) (function)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#local-variable-shadowing
INFO:Detectors:
GCCOIN.changeTaxes(uint256,uint256) (GCCOIN.sol#275-279) should emit an event for:
        - buyTaxes = newBuyFee (GCCOIN.sol#277)
        - sellTaxes = newSellFee (GCCOIN.sol#278)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-arithmetic
INFO:Detectors:
Reentrancy in GCCOIN._transfer(address,address,uint256) (GCCOIN.sol#204-241):
        External calls:
        - swapTokensForEth(min(amount,min(contractTokenBalance,_maxSwapTokens))) (GCCOIN.sol#226)
                - unismapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (GCCOIN.sol#249-255)
        External calls sending eth:
        - sendETHToFee(address(this).balance) (GCCOIN.sol#229)
                - MarketingWallet.transfer(amount) (GCCOIN.sol#260)
        Event emitted after the call(s):
        - Transfer(from,to,amount - (feesum)) (GCCOIN.sol#235)
        - Transfer(from,address(this),feesum) (GCCOIN.sol#239)
Reentrancy in GCCOIN.recoverBEP20FromContract(address,uint256) (GCCOIN.sol#303-309):
        External calls:
        - IERC20(_tokenAddy).transfer(MarketingWallet,_amount) (GCCOIN.sol#307)
        Event emitted after the call(s):
        - ERC20TokensRecovered(_amount) (GCCOIN.sol#308)
Reentrancy in GCCOIN.transferFrom(address,address,uint256) (GCCOIN.sol#189-195):
        External calls:
        - _transfer(sender,recipient,amount) (GCCOIN.sol#192)
                - unismapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (GCCOIN.sol#249-255)
        External calls sending eth:
        - _transfer(sender,recipient,amount) (GCCOIN.sol#192)
                - MarketingWallet.transfer(amount) (GCCOIN.sol#260)
        Event emitted after the call(s):
        - Approval(owner,spender,amount) (GCCOIN.sol#201)
                - _approve(sender,_msgSender(),currentAllowance - amount) (GCCOIN.sol#193)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3
```



```
INFO:Detectors:
Reentrancy in GCCOIN._transfer(address,address,uint256) (GCCOIN.sol#204-241):
        External calls:
        - sendETHToFee(address(this).balance) (GCCOIN.sol#229)
                - MarketingWallet.transfer(amount) (GCCOIN.sol#260)
        State variables written after the call(s):
        - _balances[from] = _balances[from] - amount (GCCOIN.sol#233)
        - _balances[to] = _balances[to] + (amount - (feesum)) (GCCOIN.sol#234)
        - _balances[address(this)] = _balances[address(this)] + (feesum) (GCCOIN.sol#238)
        Event emitted after the call(s):
        - Transfer(from,to,amount - (feesum)) (GCCOIN.sol#235)
        - Transfer(from,address(this),feesum) (GCCOIN.sol#239)
Reentrancy in GCCOIN.recoverBNBfromContract() (GCCOIN.sol#311-317):
        External calls:
        - address(address(MarketingWallet)).transfer(contractETHBalance) (GCCOIN.sol#315)
        Event emitted after the call(s):
        - ETHBalanceRecovered() (GCCOIN.sol#316)
Reentrancy in GCCOIN.transferFrom(address,address,uint256) (GCCOIN.sol#189-195):
        External calls:
        - _transfer(sender,recipient,amount) (GCCOIN.sol#192)
                - MarketingWallet.transfer(amount) (GCCOIN.sol#260)
        State variables written after the call(s):
        - _approve(sender,_msgSender(),currentAllowance - amount) (GCCOIN.sol#193)
                - _allowances[owner][spender] = amount (GCCOIN.sol#200)
        Event emitted after the call(s):
        - Approval(owner,spender,amount) (GCCOIN.sol#201)
                - _approve(sender,_msgSender(),currentAllowance - amount) (GCCOIN.sol#193)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-4
INFO:Detectors:
GCCOIN.slitherConstructorConstantVariables() (GCCOIN.sol#83-319) uses literals with too many digits:
        - _tTotal = 1000000000 * 10 ** _decimals (GCCOIN.sol#89)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits
INFO:Detectors:
GCCOIN.MarketingWallet (GCCOIN.sol#87) should be immutable
GCCOIN.uniswapV2Pair (GCCOIN.sol#97) should be immutable
GCCOIN.uniswapV2Router (GCCOIN.sol#96) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
INFO:Slither:GCCOIN.sol analyzed (6 contracts with 93 detectors), 32 result(s) found
```

FUNCTIONAL TESTING

1- **Approve** (passed):
https://testnet.bscscan.com/tx/0x9b5e8283f388f2100a0c6b801a59dfc7509a5d0f7d378c1ceb3fc495aaef6841

2- **Change Taxes** (passed):
https://testnet.bscscan.com/tx/0x3a84ba6c770b0652e20c5fa59e1374e9c29bf6d49cabde2b1cc0d6a0c9a8de04

3- **set Swap Back Settings** (passed):
https://testnet.bscscan.com/tx/0xea143b57d50aa04c4e68fa969e78c9d393decb5bc73974951e876fb8655970b6

4- **Enable Trading** (passed):
https://testnet.bscscan.com/tx/0xc8f7954a83259d5e20454619de4aab395ebdacc96738d347381912537e730ed1

5- **Set Swap Token** (passed):
https://testnet.bscscan.com/tx/0x9e1de7bbbb8a16d73376d5fbe1ba4c5080f472e5af98162658202a0a4e06ae6c

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```
function enabledTrading() external onlyOwner() {
require(!tradeEnable,"trading is already open");
    _SwapBackEnable = true;
     tradeEnable = true;
    emit TradingOpenUpdated();
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```

Suggestion:

To reduce centralization and potential manipulation, consider one of the following approaches:

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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 changeTaxes(uint256 newBuyFee, uint256 newSellFee)
external onlyOwner {
require(newBuyFee <= 5 && newSellFee <= 5, "ERC20: wrong tax
value!");
    buyTaxes = newBuyFee;
    sellTaxes = newSellFee;
  }
```

MANUAL TESTING

Centralization – Local Variable Shadowing

Severity: Low

Status: Open

Function: _approve and allowance

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 variable that shadows 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 FeesUpdated(uint256 indexed
_feeAmount);
```

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