Cyberscope

Audit Report

ReusedCoin

March 2024

SHA256 13d173de249a878f55311448a0fd6babb6311c6204380826a8ee19ced79240c7

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Analysis

Critical Medium Minor / Informative Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Unresolved
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Unresolved
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
●	ZD	Zero Division	Unresolved
●	DFV	Disable Fees Vulnerability	Unresolved
●	FRV	Fee Restoration Vulnerability	Unresolved
●	PLPI	Potential Liquidity Provision Inadequacy	Unresolved
●	PMRM	Potential Mocked Router Manipulation	Unresolved
●	PTRP	Potential Transfer Revert Propagation	Unresolved
●	PVC	Price Volatility Concern	Unresolved
●	RED	Redudant Event Declaration	Unresolved
●	RCS	Redundant Condition Statement	Unresolved
●	RRS	Redundant Require Statement	Unresolved
●	RSML	Redundant SafeMath Library	Unresolved
●	RSD	Redundant Swap Duplication	Unresolved
●	L02	State Variables could be Declared Constant	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved

●	L05	Unused State Variable	Unresolved
●	L07	Missing Events Arithmetic	Unresolved
●	L09	Dead Code Elimination	Unresolved
●	L11	Unnecessary Boolean equality	Unresolved
●	L17	Usage of Solidity Assembly	Unresolved

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Review

Contract Name	ReusedCoin
Testing Deploy	https://mumbai.polygonscan.com/address/0x9c027047e68ece3053a27e3b7f4af7086a19f554
Badge Eligibility	Must Fix Criticals

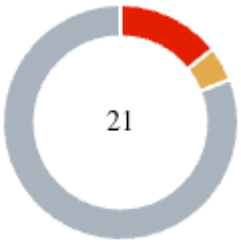
Audit Updates

Initial Audit	15 Mar 2024

Source Files

Filename	SHA256
contracts/reusedcoin.sol	13d173de249a878f55311448a0fd6babb6311c6204380826a8ee19ced79240c7

Findings Breakdown



Critical	3
Medium	1
Minor / Informative	17

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	3	0	0	0
Medium	1	0	0	0
Minor / Informative	17	0	0	0

ST - Stops Transactions

Criticality	Critical
Location	contracts/reusedcoin.sol#L1019,1160,1167
Status	Unresolved

Description

The contract owner has the authority to stop the transactions for all users excluding the owner. The owner may take advantage of it by setting the `_maxTxAmount` to zero.

```
if (from != owner() && to != owner()) {
    require(amount <= _maxTxAmount, 'Transfer amount exceeds the
maxTxAmount.');
}
```

The contract owner has the authority to stop the sales for all users excluding the authorized addresses. The owner may take advantage of it by setting the sum of `_liquidityFee` and `_marketingFee` more than 100%.

Additionally, the contract owner has the authority to stop the sales for all users excluding the owner, as described in detail in sections ZD, PLPI, PMRM, PTRP, and PVC. As a result, the contract might operate as a honeypot. As a result, the contract may operate as a honeypot.

```
_transferStandard(sender, recipient, (amount.sub(totalFees)));
```

Recommendation

The contract could embody a check for not allowing setting the `_maxTxAmount` less than a reasonable amount. A suggested implementation could check that the minimum amount should be more than a fixed percentage of the total supply. The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

Permanent Solution:

- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

ELFM - Exceeds Fees Limit

Criticality	Critical
Location	contracts/reusedcoin.sol#L1244,1253
Status	Unresolved

Description

The contract owner has the authority to increase over the allowed limit of 25%. The owner may take advantage of it by calling the `setLiquidityFeePercent` and the `setMarketingFeePercent` function with a high percentage value.

```
function setLiquidityFeePercent(uint256 liquidityBuyFee,uint256
liquiditySellFee) external onlyOwner {
    _liquidityFee = liquiditySellFee;
    _liquidityBuyFee = liquidityBuyFee;
    emit SetLiquidityFeePercentEvent(liquiditySellFee,liquidityBuyFee);
}
function setMarketingFeePercent(uint256 marketingBuyFee,uint25
marketingSellFee) external onlyOwner {
    _marketingFee = marketingSellFee;
    _marketingBuyFee = marketingBuyFee;
    emit SetMarketingFeePercentEvent(marketingSellFee,marketingBuyFee);
}
```

Recommendation

The contract could embody a check for the maximum acceptable value. The team should carefully manage the private keys of the owner’s account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

Permanent Solution:

- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

ZD - Zero Division

Criticality	Critical
Location	contracts/reusedcoin.sol#L1033,1150
Status	Unresolved

Description

The contract is using variables that may be set to zero as denominators. This can lead to unpredictable and potentially harmful results, such as a transaction revert.

```
uint256 liquidityBalance =
contractTokenBalance.mul(_liquidityFee).div(totalFee);
liquidityAmount =
amount.mul(_tempLiquidityFee).div(_liquidityDenominator);
```

Recommendation

It is important to handle division by zero appropriately in the code to avoid unintended behavior and to ensure the reliability and safety of the contract. The contract should ensure that the divisor is always non-zero before performing a division operation. It should prevent the variables to be set to zero, or should not allow the execution of the corresponding statements.

DFV - Disable Fees Vulnerability

Criticality	Medium
Location	contracts/reusedcoin.sol#L1207
Status	Unresolved

Description

The `disableAllFees` function in the contract serves to disable fees, but it also sets the `inSwapAndLiquify` variable to false. This action presents a potential issue if the contract is in the process of swapping tokens at that moment. By nullifying the mutex that protects against reentering the swap functionality, the transaction becomes vulnerable to reversion, especially considering the high gas costs associated with external contract calls.

```
function disableAllFees() external onlyOwner {
    delete _liquidityFee;
    _previousLiquidityFee = _liquidityFee;

    delete _marketingFee;
    _previousMarketingFee = _marketingFee;

    inSwapAndLiquify = false;
    emit SwapAndLiquifyEnabledUpdated(false);
}
```

Recommendation

To mitigate the risk of reverted transactions and ensure the smooth operation of the contract, it is crucial to enhance the handling within the `disableAllFees` function. Consider implementing a mechanism to prevent the function from executing while the contract is in the process of swapping tokens. This could involve adding additional checks or using a state variable to indicate the ongoing status of the swap process. By implementing these measures, the contract can maintain stability and prevent disruptions caused by reversion of transactions.

FRV - Fee Restoration Vulnerability

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L982,993
Status	Unresolved

Description

The contract demonstrates a potential vulnerability upon removing and restoring the fees. This vulnerability can occur when the fees have been set to zero. During a transaction, if the fees have been set to zero, then both remove fees and restore fees functions will be executed. The remove fees function is executed to temporarily remove the fees, ensuring the sender is not taxed during the transfer. However, the function prematurely returns without setting the variables that hold the previous fee values.

As a result, when the subsequent restore fees function is called after the transfer, it restores the fees to their previous values. However, since the previous fee values were not properly set to zero, there is a risk that the fees will retain their non-zero values from before the fees were removed. This can lead to unintended consequences, potentially causing incorrect fee calculations or unexpected behavior within the contract.

```
function removeAllFee() private {
    if (_liquidityFee == 0 && _marketingFee == 0) return;

    _previousLiquidityFee = _liquidityFee;
    _previousMarketingFee = _marketingFee;

    delete _liquidityFee;
    delete _marketingFee;
}
function restoreAllFee() private {
    _liquidityFee = _previousLiquidityFee;
    _marketingFee = _previousMarketingFee;
}
```

Recommendation

The team is advised to modify the remove fees function to ensure that the previous fee values are correctly set to zero, regardless of their initial values. A recommended approach would be to remove the early return when both fees are zero.

PLPI - Potential Liquidity Provision Inadequacy

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L1072
Status	Unresolved

Description

The contract operates under the assumption that liquidity is consistently provided to the pair between the contract's token and the native currency. However, there is a possibility that liquidity is provided to a different pair. This inadequacy in liquidity provision in the main pair could expose the contract to risks. Specifically, during eligible transactions, where the contract attempts to swap tokens with the main pair, a failure may occur if liquidity has been added to a pair other than the primary one. Consequently, transactions triggering the swap functionality will result in a revert.

```
function swapTokensForEth(uint256 tokenAmount) private {
    /* Generate the Uniswap pair path of token -> weth */
    address[] memory path = new address[](2);
    path[0] = address(this);
    path[1] = uniswapV2Router.WETH();

    _approve(address(this), address(uniswapV2Router), tokenAmount);

    /* Make the swap */
    uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(
        tokenAmount,
        0, // accept any amount of ETH
        path,
        address(this),
        block.timestamp
    );
}
```

Recommendation

The team is advised to implement a runtime mechanism to check if the pair has adequate liquidity provisions. This feature allows the contract to omit token swaps if the pair does not have adequate liquidity provisions, significantly minimizing the risk of potential failures.

Furthermore, the team could ensure the contract has the capability to switch its active pair in case liquidity is added to another pair.

Additionally, the contract could be designed to tolerate potential reverts from the swap functionality, especially when it is a part of the main transfer flow. This can be achieved by executing the contract's token swaps in a non-reversible manner, thereby ensuring a more resilient and predictable operation.

PMRM - Potential Mocked Router Manipulation

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L1293
Status	Unresolved

Description

The contract includes a method that allows the owner to modify the router address and create a new pair. While this feature provides flexibility, it introduces a security threat. The owner could set the router address to any contract that implements the router's interface, potentially containing malicious code. In the event of a transaction triggering the swap functionality with such a malicious contract as the router, the transaction may be manipulated.

```
function setRouterAddress(address newRouter) external onlyOwner {
    require(newRouter != address(0), 'Should not be address 0');
    IUniswapV2Router02 _newPancakeRouter = IUniswapV2Router02(newRouter);
    uniswapV2Pair =
IUniswapV2Factory(_newPancakeRouter.factory()).createPair(
        address(this),
        _newPancakeRouter.WETH()
    );
    uniswapV2Router = _newPancakeRouter;
    emit SetRouterAddressEvent(newRouter);
}
```

Recommendation

The team should carefully manage the private keys of the owner’s account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

Permanent Solution:

- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

PTRP - Potential Transfer Revert Propagation

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L1097,1101
Status	Unresolved

Description

The contract sends funds to a `marketingWallet` as part of the transfer flow. This address can either be a wallet address or a contract. If the address belongs to a contract then it may revert from incoming payment. As a result, the error will propagate to the token's contract and revert the transfer.

```
transferToAddressETH(marketingWallet, convertedBalance);
function transferToAddressETH(address payable recipient, uint256 amount)
private {
    recipient.transfer(amount);
}
```

Recommendation

The contract should tolerate the potential revert from the underlying contracts when the interaction is part of the main transfer flow. This could be achieved by not allowing set contract addresses or by sending the funds in a non-revertable way.

PVC - Price Volatility Concern

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L1262
Status	Unresolved

Description

The contract accumulates tokens from the taxes to swap them for ETH. The variable `swapTokensAtAmount` sets a threshold where the contract will trigger the swap functionality. If the variable is set to a big number, then the contract will swap a huge amount of tokens for ETH.

It is important to note that the price of the token representing it, can be highly volatile. This means that the value of a price volatility swap involving Ether could fluctuate significantly at the triggered point, potentially leading to significant price volatility for the parties involved.

```
function setMinSell(uint256 amount) external onlyOwner {
    require(amount < _tTotal, 'Should be less than total supply');
    numTokensSellToAddToLiquidity = amount;
    emit SetMinSellEvent(amount);
}
```

Recommendation

The contract could ensure that it will not sell more than a reasonable amount of tokens in a single transaction. A suggested implementation could check that the maximum amount should be less than a fixed percentage of the exchange reserves. Hence, the contract will guarantee that it cannot accumulate a huge amount of tokens in order to sell them.

RED - Redudant Event Declaration

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L814
Status	Unresolved

Description

The contract uses events that are not emitted within the contract's functions. As a result, these declared events are redundant and serve no purpose within the contract's current implementation.

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

Recommendation

To optimize contract performance and efficiency, it is advisable to regularly review and refactor the codebase, removing the unused event declarations. This proactive approach not only streamlines the contract, reducing deployment and execution costs but also enhances readability and maintainability.

RCS - Redundant Condition Statement

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L1126
Status	Unresolved

Description

There are code segments that could be optimized. A segment may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer operations.

The contract is checking the same condition more than once. The following condition was also checked at the beginning of the `_transfer` function.

```
require(sender != address(0), 'ERC20: transfer from the zero address');
```

Recommendation

The team is advised to take these segments into consideration and rewrite them so the runtime will be more performant. That way it will improve the efficiency and performance of the source code and reduce the cost of executing it.

RRS - Redundant Require Statement

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L29
Status	Unresolved

Description

The contract utilizes a `require` statement within the `add` function aiming to prevent overflow errors. This function is designed based on the SafeMath library's principles. In Solidity version 0.8.0 and later, arithmetic operations revert on overflow and underflow, making the overflow check within the function redundant. This redundancy could lead to extra gas costs and increased complexity without providing additional security.

```
function add(uint256 a, uint256 b) internal pure returns (uint256) {
    uint256 c = a + b;
    require(c >= a, 'SafeMath: addition overflow');

    return c;
}
```

Recommendation

It is recommended to remove the `require` statement from the add function since the contract is using a Solidity pragma version equal to or greater than 0.8.0. By doing so, the contract will leverage the built-in overflow and underflow checks provided by the Solidity language itself, simplifying the code and reducing gas consumption. This change will uphold the contract's integrity in handling arithmetic operations while optimizing for efficiency and cost-effectiveness.

RSML - Redundant SafeMath Library

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol
Status	Unresolved

Description

SafeMath is a popular Solidity library that provides a set of functions for performing common arithmetic operations in a way that is resistant to integer overflows and underflows.

Starting with Solidity versions that are greater than or equal to 0.8.0, the arithmetic operations revert to underflow and overflow. As a result, the native functionality of the Solidity operations replaces the SafeMath library. Hence, the usage of the SafeMath library adds complexity, overhead and increases gas consumption unnecessarily in cases where the explanatory error message is not used.

```
library SafeMath {...}
```

Recommendation

The team is advised to remove the SafeMath library in cases where the revert error message is not used. Since the version of the contract is greater than `0.8.0` then the pure Solidity arithmetic operations produce the same result.

If the previous functionality is required, then the contract could exploit the `unchecked { ... }` statement.

Read more about the breaking change on https://docs.soliditylang.org/en/v0.8.16/080-breaking-changes.html#solidity-v0-8-0-breaking-changes.

RSD - Redundant Swap Duplication

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L1037,1038
Status	Unresolved

Description

The contract contains multiple swap methods that individually perform token swaps and transfer promotional amounts to specific addresses and features. This redundant duplication of code introduces unnecessary complexity and increases dramatically the gas consumption. By consolidating these operations into a single swap method, the contract can achieve better code readability, reduce gas costs, and improve overall efficiency.

```
swapAndLiquify(liquidityBalance);
swapTokens(marketingBalance);
```

Recommendation

A more optimized approach could be adopted to perform the token swap operation once for the total amount of tokens and distribute the proportional amounts to the corresponding addresses, eliminating the need for separate swaps.

L02 - State Variables could be Declared Constant

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L785,787,788,789
Status	Unresolved

Description

State variables can be declared as constant using the constant keyword. This means that the value of the state variable cannot be changed after it has been set. Additionally, the constant variables decrease gas consumption of the corresponding transaction.

```
uint256 private _tTotal = 100 * 10 ** 12 * 10 ** 18
string private _name = 'ReusedCoin'
string private _symbol = 'USED'
uint8 private _decimals = 18
```

Recommendation

Constant state variables can be useful when the contract wants to ensure that the value of a state variable cannot be changed by any function in the contract. This can be useful for storing values that are important to the contract's behavior, such as the contract's address or the maximum number of times a certain function can be called. The team is advised to add the constant keyword to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L619,791,792,797,798,804,1307,1313,1320
Status	Unresolved

Description

The Solidity style guide is a set of guidelines for writing clean and consistent Solidity code. Adhering to a style guide can help improve the readability and maintainability of the Solidity code, making it easier for others to understand and work with.

The followings are a few key points from the Solidity style guide:

1. Use camelCase for function and variable names, with the first letter in lowercase (e.g., myVariable, updateCounter).
2. Use PascalCase for contract, struct, and enum names, with the first letter in uppercase (e.g., MyContract, UserStruct, ErrorEnum).
3. Use uppercase for constant variables and enums (e.g., MAX_VALUE, ERROR_CODE).
4. Use indentation to improve readability and structure.
5. Use spaces between operators and after commas.
6. Use comments to explain the purpose and behavior of the code.
7. Keep lines short (around 120 characters) to improve readability.

```
function WETH() external pure returns (address);
uint256 public _liquidityFee = 20
uint256 public _liquidityBuyFee = 20
uint256 public _marketingFee = 20
uint256 public _marketingBuyFee = 10
uint256 public _maxTxAmount = 10 * 10 ** 6 * 10 ** 18
bool _enabled
address _to
address _token
uint256 _amount
```

Recommendation

By following the Solidity naming convention guidelines, the codebase increased the readability, maintainability, and makes it easier to work with.
Find more information on the Solidity documentation
https://docs.soliditylang.org/en/v0.8.17/style-guide.html#naming-convention.

L05 - Unused State Variable

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L784
Status	Unresolved

Description

An unused state variable is a state variable that is declared in the contract, but is never used in any of the contract's functions. This can happen if the state variable was originally intended to be used, but was later removed or never used.

Unused state variables can create clutter in the contract and make it more difficult to understand and maintain. They can also increase the size of the contract and the cost of deploying and interacting with it.

```
uint256 private constant MAX = ~uint256(0)
```

Recommendation

To avoid creating unused state variables, it's important to carefully consider the state variables that are needed for the contract's functionality, and to remove any that are no longer needed. This can help improve the clarity and efficiency of the contract.

L07 - Missing Events Arithmetic

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L1280,1287
Status	Unresolved

Description

Events are a way to record and log information about changes or actions that occur within a contract. They are often used to notify external parties or clients about events that have occurred within the contract, such as the transfer of tokens or the completion of a task.

It's important to carefully design and implement the events in a contract, and to ensure that all required events are included. It's also a good idea to test the contract to ensure that all events are being properly triggered and logged.

```
_marketingDenominator = value
_liquidityDenominator = value
```

Recommendation

By including all required events in the contract and thoroughly testing the contract's functionality, the contract ensures that it performs as intended and does not have any missing events that could cause issues with its arithmetic.

L09 - Dead Code Elimination

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L194,223,249,259,278,288,298,563
Status	Unresolved

Description

In Solidity, dead code is code that is written in the contract, but is never executed or reached during normal contract execution. Dead code can occur for a variety of reasons, such as:

- Conditional statements that are always false.
- Functions that are never called.
- Unreachable code (e.g., code that follows a return statement).

Dead code can make a contract more difficult to understand and maintain, and can also increase the size of the contract and the cost of deploying and interacting with it.

```
function isContract(address account) internal view returns (bool) {
        /* According to EIP-1052, 0x0 is the value returned for not-yet
created accounts */
        /* and
0xc5d2460186f7233c927e7db2dcc703c0e500b653ca82273b7bfad8045d85a470 is returned
*/
        /* for accounts without code, i.e. `keccak256('')` */
        bytes32 codehash;
        bytes32 accountHash =
0xc5d2460186f7233c927e7db2dcc703c0e500b653ca82273b7bfad8045d85a470;
        // solhint-disable-next-line no-inline-assembly
        assembly {
            codehash := extcodehash(account)
        }
        return (codehash != accountHash && codehash != 0x0);
    }

...
```

Recommendation

To avoid creating dead code, it's important to carefully consider the logic and flow of the contract and to remove any code that is not needed or that is never executed. This can help improve the clarity and efficiency of the contract.

L11 - Unnecessary Boolean equality

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L1190,1199
Status	Unresolved

Description

Boolean equality is unnecessary when comparing two boolean values. This is because a boolean value is either true or false, and there is no need to compare two values that are already known to be either true or false.

it's important to be aware of the types of variables and expressions that are being used in the contract's code, as this can affect the contract's behavior and performance. The comparison to boolean constants is redundant. Boolean constants can be used directly and do not need to be compared to true or false.

```
require(_isExcludedFromFee[account] != true, 'Already Excluded from Fee')
require(_isExcludedFromFee[account] != false, 'Already Included in Fee')
```

Recommendation

Using the boolean value itself is clearer and more concise, and it is generally considered good practice to avoid unnecessary boolean equalities in Solidity code.

L17 - Usage of Solidity Assembly

Criticality	Minor / Informative
Location	contracts/reusedcoin.sol#L201,316
Status	Unresolved

Description

Using assembly can be useful for optimizing code, but it can also be error-prone. It's important to carefully test and debug assembly code to ensure that it is correct and does not contain any errors.

Some common types of errors that can occur when using assembly in Solidity include Syntax, Type, Out-of-bounds, Stack, and Revert.

```
assembly {
            codehash := extcodehash(account)
        }

assembly {
                    let returndata_size := mload(returndata)
                    revert(add(32, returndata), returndata_size)
                }
```

Recommendation

It is recommended to use assembly sparingly and only when necessary, as it can be difficult to read and understand compared to Solidity code.

Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
Address	Library			
	isContract	Internal		
	sendValue	Internal	✓	
	functionCall	Internal	✓	

	functionCall	Internal	✓	
	functionCallWithValue	Internal	✓	
	functionCallWithValue	Internal	✓	
	_functionCallWithValue	Private	✓	
Ownable	Implementation	Context		
		Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	geUnlockTime	Public		-
	lock	Public	✓	onlyOwner
	unlock	Public	✓	-
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
ReentrancyGuard	Implementation			

		Public	✓	-
	_nonReentrantBefore	Private	✓	
	_nonReentrantAfter	Private	✓	
	_reentrancyGuardEntered	Internal		
IUniswapV2Factory	Interface			
	createPair	External	✓	-
IUniswapV2Pair	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-

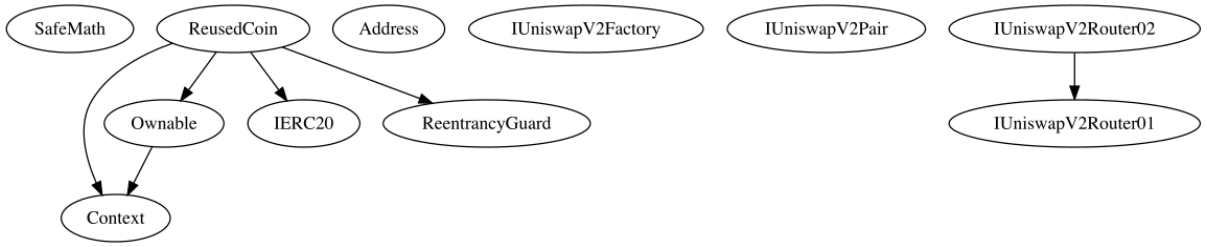
	price1CumulativeLast	External		-
	kLast	External		-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
IUniswapV2Router01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-

	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
IUniswapV2Router02	Interface	IUniswapV2 Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
ReusedCoin	Implementation	Context, IERC20, Ownable, ReentrancyGuard		
		Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	nonReentrant

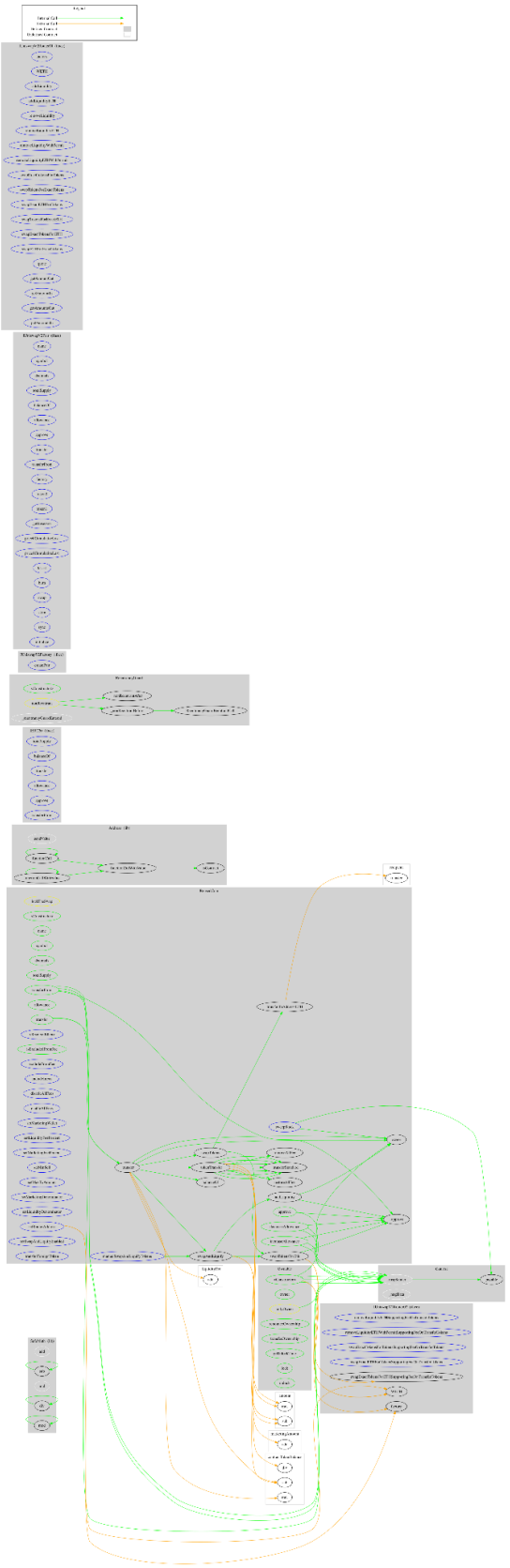
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	nonReentrant
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
		External	Payable	-
	removeAllFee	Private	✓	
	restoreAllFee	Private	✓	
	isExcludedFromFee	Public		-
	_approve	Private	✓	
	_transfer	Private	✓	
	swapAndLiquify	Private	✓	lockTheSwap
	swapTokensForEth	Private	✓	
	swapTokens	Private	✓	lockTheSwap
	transferToAddressETH	Private	✓	
	addLiquidity	Private	✓	
	_tokenTransfer	Private	✓	
	_transferStandard	Private	✓	
	excludeFromFee	External	✓	onlyOwner
	includeInFee	External	✓	onlyOwner
	disableAllFees	External	✓	onlyOwner
	enableAllFees	External	✓	onlyOwner
	setMarketingWallet	External	✓	onlyOwner

	setLiquidityFeePercent	External	✓	onlyOwner
	setMarketingFeePercent	External	✓	onlyOwner
	setMinSell	External	✓	onlyOwner
	setMaxTxAmount	External	✓	onlyOwner
	setMarketingDenominator	External	✓	onlyOwner
	setLiquidityDenominator	External	✓	onlyOwner
	setRouterAddress	External	✓	onlyOwner
	setSwapAndLiquifyEnabled	External	✓	onlyOwner
	transferForeignToken	External	✓	onlyOwner
	sweepStuck	External	✓	onlyOwner
	manualSwapAndLiquifyTokens	External	✓	onlyOwner

Inheritance Graph



Flow Graph



Summary

ReusedCoin contract implements a token mechanism. This audit investigates security issues, business logic concerns, and potential improvements. There are some functions that can be abused by the owner like stopping transactions and manipulating the fees. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.

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Cyberscope is a blockchain cybersecurity company that was founded with the vision to make web3.0 a safer place for investors and developers. Since its launch, it has worked with thousands of projects and is estimated to have secured tens of millions of investors' funds.

Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.

The Cyberscope team

https://www.cyberscope.io