

Smart Contract
Audit Report





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AUDITED DETAILS

| Audited Project

Project name	Token ticker	Blockchain	
RYOSHI TOKEN	RYOSHI	Binance Smart Chain	

Addresses

Contract address	0x0e5f989ce525acc4ee45506af91964f7f4c9f2e9
Contract deployer address	0xa03EE3EcF4Ee6B2fc757FEC41110900d9650aCef

Project Website

https://ryoshitoken.com/

Codebase

https://bscscan.com/address/0x0e5f989ce525acc4ee45506af91964f7f4c9f2e9#code



SUMMARY

Decentralized Currency from People to People If 2021 taught the crypto world anything, it's that community-driven meme tokens are in high demand. The people want control of their token, and strong communities of HODLers can be built that have each other's back Ryoshi Success Goals That's why Ryoshi has stepped out of the shadows. See, Ryoshi is Shiba's older, wiser father. He's proud of everything his son has accomplished, but is pretty bummed about the fact that so many people missed their chance to get on the moon rocket. Ryoshi has created a decentralized, deflationary, community token that is by the people, for the people. Ryoshi solves the significant issues of Doge and Shiba — while maintaining the same meme community energy that allowed both assets to rise dramatically. Low Fees One of the major drawbacks of Shiba, and likely the reason the token has stalled out since its initial rise, is the high transaction fees associated with the Ethereum Blockchain upon which it is built. Being a BEP20 token built on the Binance Smart Chain allows Ryoshi to have tiny transaction fees. Transparency An engaged, voracious community deserves full transparency from the asset they love. That's why Ryoshi is now, and will continue to be the most transparent meme token on the market.

Contract Summary

Documentation Quality

RYOSHI TOKEN provides a very good documentation with standard of solidity base code.

• The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

 Standard solidity basecode and rules are already followed by RYOSHI TOKEN with the discovery of several low issues.

Test Coverage

Test coverage of the project is 100% (Through Codebase)

Audit Findings Summary

- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 120, 152, 175, 176, 211, 247, 485, 486, 487, 488, 489, 490, 606, 608, 624, 625, 626, 789 and 608.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 7.

• SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 607, 608, 608, 790, 790, 791 and 792.







CONCLUSION

We have audited the RYOSHI TOKEN project released on July 2021 to discover issues and identify potential security vulnerabilities in RYOSHI TOKEN Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides satisfactory results with low-risk issues.

The issues found in the RYOSHI TOKEN smart contract code do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are some arithmetic operation issues, a floating pragma is set, and out-of-bounds array access which the index access expression can cause an exception in case an invalid array index value is used. The current pragma Solidity directive is ""^0.8.2"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.



AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	PASS
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows. FOU	
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE FOUND
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	
Reentrancy	SWC-107	7 Check effect interaction pattern should be followed if the code performs recursive call.	
Uninitialized Storage Pointer	SWC-109	9 Uninitialized local storage variables can point to unexpected storage locations in the contract.	
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a failing assert statement.	
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used. PA	
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	



DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	
Shadowing State Variable	SWC-119	State variables should not be shadowed.	
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	
Incorrect Inheritance Order When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.		PASS	
Insufficient Gas Griefing	SWC-126	Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS



Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	
Hash Collisions Variable	SWC-133	Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.	
Hardcoded gas amount	SWC-134	The transfer() and send() functions forward a fixed amount of 2300 gas.	
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	



SMART CONTRACT ANALYSIS

Started	Thursday Jul 08 2021 03:51:41 GMT+0000 (Coordinated Universal Time)		
Finished	Friday Jul 09 2021 01:21:55 GMT+0000 (Coordinated Universal Time)		
Mode	Standard		
Main Source File	CoinToken.sol		

Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged



SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	COMPILER-REWRITABLE " <uint> - 1" DISCOVERED</uint>	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
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SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged



LINE 120

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

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



LINE 152

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
151 require(b <= a, errorMessage);
152  uint256 c = a - b;
153
154 return c;
155 }
156</pre>
```



LINE 175

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
174
175    uint256    c = a * b;
176    require(c / a == b, "SafeMath: multiplication overflow");
177
178    return c;
179
```



LINE 176

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
175    uint256    c = a * b;
176    require(c / a == b, "SafeMath: multiplication overflow");
177
178    return c;
179    }
180
```



LINE 211

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
210    require(b > 0, errorMessage);
211    uint256 c = a / b;
212    // assert(a == b * c + a % b); // There is no case in which this doesn't hold
213
214    return c;
215
```



LINE 247

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
246 require(b != 0, errorMessage);
247 return a % b;
248 }
249 }
250
251
```



LINE 485

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
484 _DECIMALS = _decimals;

485 _DECIMALFACTOR = 10 ** _DECIMALS;

486 _tTotal =_supply * _DECIMALFACTOR;

487 _rTotal = (_MAX - (_MAX % _tTotal));

488 _TAX_FEE = _txFee* 100;

489
```



LINE 486

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
485   _DECIMALFACTOR = 10 ** _DECIMALS;
486   _tTotal =_supply * _DECIMALFACTOR;
487   _rTotal = (_MAX - (_MAX % _tTotal));
488   _TAX_FEE = _txFee* 100;
489   _BURN_FEE = _burnFee * 100;
490
```



LINE 487

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
486 _tTotal =_supply * _DECIMALFACTOR;

487 _rTotal = (_MAX - (_MAX % _tTotal));

488 _TAX_FEE = _txFee* 100;

489 _BURN_FEE = _burnFee * 100;

490 _CHARITY_FEE = _charityFee* 100;

491
```



LINE 487

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
486 _tTotal =_supply * _DECIMALFACTOR;

487 _rTotal = (_MAX - (_MAX % _tTotal));

488 _TAX_FEE = _txFee* 100;

489 _BURN_FEE = _burnFee * 100;

490 _CHARITY_FEE = _charityFee* 100;

491
```



LINE 488

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
487    _rTotal = (_MAX - (_MAX % _tTotal));

488    _TAX_FEE = _txFee* 100;

489    _BURN_FEE = _burnFee * 100;

490    _CHARITY_FEE = _charityFee* 100;

491    ORIG_TAX_FEE = _TAX_FEE;

492
```



LINE 489

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
488 _TAX_FEE = _txFee* 100;

489 _BURN_FEE = _burnFee * 100;

490 _CHARITY_FEE = _charityFee* 100;

491 ORIG_TAX_FEE = _TAX_FEE;

492 ORIG_BURN_FEE = _BURN_FEE;

493
```



LINE 490

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
489 _BURN_FEE = _burnFee * 100;

490 _CHARITY_FEE = _charityFee* 100;

491 ORIG_TAX_FEE = _TAX_FEE;

492 ORIG_BURN_FEE = _BURN_FEE;

493 ORIG_CHARITY_FEE = _CHARITY_FEE;

494
```



LINE 606

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
require(_isExcluded[account], "Account is already included");
for (uint256 i = 0; i < _excluded.length; i++) {
  if (_excluded[i] == account) {
    _excluded[i] = _excluded.length - 1];
    _tOwned[account] = 0;
}</pre>
```



LINE 608

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
607  if (_excluded[i] == account) {
608    _excluded[i] = _excluded[_excluded.length - 1];
609    _tOwned[account] = 0;
610    _isExcluded[account] = false;
611    _excluded.pop();
612
```



LINE 624

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
623 require(_txFee < 100 && _burnFee < 100 && _charityFee < 100);
624 _TAX_FEE = _txFee* 100;
625 _BURN_FEE = _burnFee * 100;
626 _CHARITY_FEE = _charityFee* 100;
627 ORIG_TAX_FEE = _TAX_FEE;
628
```



LINE 625

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
624 _TAX_FEE = _txFee* 100;

625 _BURN_FEE = _burnFee * 100;

626 _CHARITY_FEE = _charityFee* 100;

627 ORIG_TAX_FEE = _TAX_FEE;

628 ORIG_BURN_FEE = _BURN_FEE;

629
```



LINE 626

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
625 _BURN_FEE = _burnFee * 100;

626 _CHARITY_FEE = _charityFee* 100;

627 ORIG_TAX_FEE = _TAX_FEE;

628 ORIG_BURN_FEE = _BURN_FEE;

629 ORIG_CHARITY_FEE = _CHARITY_FEE;

630
```



LINE 789

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
788  uint256 tSupply = _tTotal;
789  for (uint256 i = 0; i < _excluded.length; i++) {
790   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
791   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
792   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
793
```



SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 608

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

```
if (_excluded[i] == account) {
    construction of the constr
```



SWC-103 | A FLOATING PRAGMA IS SET.

LINE 7

low SEVERITY

The current pragma Solidity directive is ""^0.8.2"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CoinToken.sol

```
6
7 pragma solidity ^0.8.2;
8
9
10 abstract contract Context {
11
```



LINE 607

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

```
606 for (uint256 i = 0; i < _excluded.length; i++) {
607   if (_excluded[i] == account) {
608    _excluded[i] = _excluded[_excluded.length - 1];
609    _tOwned[account] = 0;
610    _isExcluded[account] = false;
611</pre>
```



LINE 608

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

```
if (_excluded[i] == account) {
    construction = account | {
        construction = account | = account | = account | = 0;
        construction = account | = false;
        construction = false;
        construction = account | = acco
```



LINE 608

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

```
if (_excluded[i] == account) {
    construction = account | {
        construction = account | = account | = account | = 0;
        construction = account | = false;
        construction = false;
        construction = account | = acco
```



LINE 790

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

```
for (uint256 i = 0; i < _excluded.length; i++) {
    790    if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
    (_rTotal, _tTotal);
    791    rSupply = rSupply.sub(_rOwned[_excluded[i]]);
    792    tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    793    }
    794
```



LINE 790

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

```
for (uint256 i = 0; i < _excluded.length; i++) {
    790    if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
    (_rTotal, _tTotal);
    791    rSupply = rSupply.sub(_rOwned[_excluded[i]]);
    792    tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    793    }
    794
```



LINE 791

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

```
790 if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
791    rSupply = rSupply.sub(_rOwned[_excluded[i]]);
792    tSupply = tSupply.sub(_tOwned[_excluded[i]]);
793    }
794    if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
795</pre>
```



LINE 792

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

```
rSupply = rSupply.sub(_rOwned[_excluded[i]]);
r92   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
r93  }
r94   if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
return (rSupply, tSupply);
r96</pre>
```



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This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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