



Smart Contract Security Audit

<u>TechRate</u> October, 2021

Audit Details



Audited project

Yarloo



Deployer address

0x719508587ca181e2ea738e48f6fb83995b7cd77e



Client contacts:

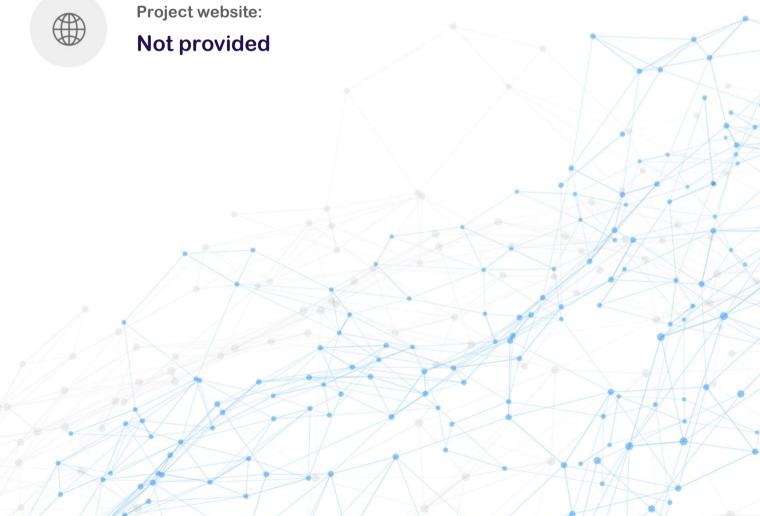
Yarloo team



Blockchain

Binance Smart Chain





Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at 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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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by Yarloo to perform an audit of smart contracts:

https://bscscan.com/address/0x843cbc1732ae7d7ba0533c6380989dacec315ffe#code

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

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0 1 1 0 1 1 1 0 1 0 1 0 1 0 1 0 0 1

100 11011

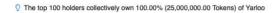
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Contracts Details

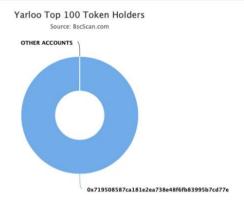
Token contract details for 27.10.2021

4722-F7D7b-052206220000DA0-245F8F
4722-57575-052206220000580-24555
1732aE7D7ba0533C6380989DACec315FfE
0
2895d13732a151a17c0f40e695c73ad797
587ca181e2ea738e48f6fb83995b7cd77e
587ca181e2ea738e48f6fb83995b7cd77e

Yarloo Token Distribution

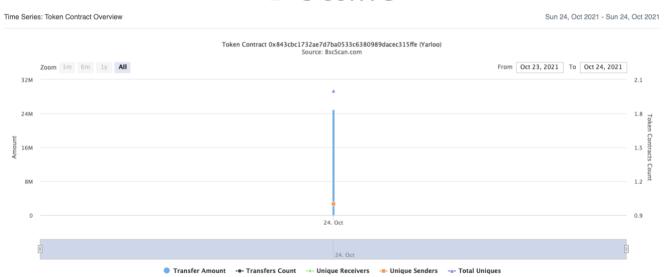


7 Token Total Supply: 25,000,000.00 Token | Total Token Holders: 1



(A total of 25,000,000.00 tokens held by the top 100 accounts from the total supply of 25,000,000.00 token)

Yarloo Contract Interaction Details



Yarloo Top 10 Token Holders

 Rank
 Address
 Quantity (Token)
 Percentage

 1
 0x719508587ca181e2ea738e48f6fb83995b7cd77e
 25,000,000
 100.0000%



Contract functions details

+ Context - [Int] _msgSender - [Int] msgData + [Int] IBEP20 - [Ext] totalSupply - [Ext] balanceOf - [Ext] transfer # - [Ext] allowance - [Ext] approve # - [Ext] transferFrom # + [Lib] SafeMath - [Int] add - [Int] sub - [Int] sub - [Int] mul - [Int] div - [Int] div - [Int] mod - [Int] mod + [Lib] Address - [Int] isContract - [Int] sendValue # - [Int] functionCall # - [Int] functionCall # - [Int] functionCallWithValue # - [Int] functionCallWithValue # - [Prv] functionCallWithValue # + Ownable (Context) - [Pub] <Constructor> # - [Pub] owner - [Pub] renounceOwnership # - modifiers: onlyOwner - [Pub] transferOwnership # - modifiers: onlyOwner - [Pub] getUnlockTime - [Pub] getTime - [Pub] lock # - modifiers: onlyOwner - [Pub] unlock # + [Int] IUniswapV2Factory - [Ext] feeTo - [Ext] feeToSetter - [Ext] getPair - [Ext] allPairs

- [Ext] allPairsLength- [Ext] createPair #

```
- [Ext] setFeeTo #
- [Ext] setFeeToSetter #
+ [Int] IUniswapV2Pair
- [Ext] name
- [Ext] symbol
- [Ext] decimals
```

- [Ext] totalSupply- [Ext] balanceOf

- [Ext] allowance

- [Ext] approve #

- [Ext] transfer #

- [Ext] transferFrom #

- [Ext] DOMAIN_SEPARATOR

- [Ext] PERMIT_TYPEHASH

- [Ext] nonces

- [Ext] permit#

- [Ext] MINIMUM_LIQUIDITY

- [Ext] factory

- [Ext] token0

- [Ext] token1

- [Ext] getReserves

- [Ext] price0CumulativeLast

- [Ext] price1CumulativeLast

- [Ext] kLast

- [Ext] burn #

- [Ext] swap #

- [Ext] skim #

- [Ext] sync #

- [Ext] initialize #

+ [Int] IUniswapV2Router01

- [Ext] factory

- [Ext] WETH

- [Ext] addLiquidity #

- [Ext] addLiquidityETH (\$)

- [Ext] removeLiquidity #

- [Ext] removeLiquidityETH #

- [Ext] removeLiquidityWithPermit#

- [Ext] removeLiquidityETHWithPermit #- [Ext] swapExactTokensForTokens #

- [Ext] swapTokensForExactTokens#

- [Ext] swapExactETHForTokens (\$)

- [Ext] swapTokensForExactETH #

- [Ext] swapExactTokensForETH #

- [Ext] swapETHForExactTokens (\$)

- [Ext] quote

- [Ext] getAmountOut

- [Ext] getAmountIn

- [Ext] getAmountsOut

- [Ext] getAmountsIn

+ [Int] IUniswapV2Router02 (IUniswapV2Router01)

- [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #

- [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #

```
- [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
 - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens ($)
 - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
+ TransactionThrottler (Ownable)
 - [Pub] <Constructor> #
 - [Ext] setTradingStart#
   - modifiers: onlyOwner
 - [Ext] setMaxTransferAmount #
   - modifiers: onlyOwner
 - [Ext] setRestrictionActive #
  - modifiers: onlyOwner
 - [Ext] unthrottleAccount #
  - modifiers: onlyOwner
 - [Ext] isUnthrottled
 - [Ext] whitelistAccount #
  - modifiers: onlyOwner
 - [Ext] isWhitelisted
+ Yarloo (Context, IBEP20, Ownable, TransactionThrottler)
 - [Pub] <Constructor> #
 - [Pub] name
 - [Pub] symbol
 - [Pub] decimals
 - [Pub] totalSupply
 - [Pub] balanceOf
 - [Pub] transfer #
 - [Pub] allowance
 - [Pub] approve #
 - [Pub] transferFrom #
 - [Pub] increaseAllowance #
 - [Pub] decreaseAllowance #
 - [Pub] isExcludedFromReward
 - [Pub] totalFees
 - [Pub] totalBurn
 - [Pub] totalDonationBNB
 - [Pub] minimumTokensBeforeSwapAmount
 - [Pub] deliver #
 - [Pub] reflectionFromToken
 - [Pub] tokenFromReflection
 - [Pub] excludeFromReward #
  - modifiers: onlvOwner
 - [Ext] includeInReward #
  - modifiers: onlyOwner
 - [Prv] _approve #
 - [Prv] transfer #
   - modifiers: transactionThrottler
 - [Prv] swapAndLiquify #
   - modifiers: lockTheSwap
 - [Prv] swapTokensForBNB #
 - [Prv] _tokenTransfer #
 - [Prv] _transferStandard #
 - [Prv] _transferToExcluded #
 - [Prv] _transferFromExcluded #
 - [Prv] _transferBothExcluded #
```

- [Prv] _reflectFee #
- [Prv] _getValues
- [Prv] _getTValues
- [Prv] _getRValues
- [Prv] getRate
- [Prv] _getCurrentSupply
- [Prv] _takeLiquidity #
- [Prv] calculateTaxFee
- [Prv] calculateBurnFee
- [Prv] calculateLiquidityFee
- [Prv] removeAllFee #
- [Prv] restoreAllFee #
- [Pub] isExcludedFromFee
- [Pub] excludeFromFee #
- modifiers: onlyOwner
- [Pub] includeInFee #
 - modifiers: onlyOwner
- [Ext] setMarketingFeePercent#
 - modifiers: onlyOwner
- [Ext] setMarketingAddFee #
 - modifiers: onlyOwner
- [Ext] setMarketingAdd #
- modifiers: onlyOwner
- [Ext] setDeployerAdd #
- modifiers: onlyOwner
- [Ext] setNumTokensSellToAddToLiquidity #
 - modifiers: onlyOwner
- [Pub] setSwapAndLiquifyEnabled #
 - modifiers: onlyOwner
- [Prv] TransferMarketingBNB #
- [Ext] <Fallback> (\$)
- (\$) = payable function # = non-constant function

Issues Checking Status

	Issue description	Checking status
1.	Compiler errors.	Passed
2.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3.	Possible delays in data delivery.	Passed
4.	Oracle calls.	Passed
5.	Front running.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow.	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Low issues
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	The impact of the exchange rate on the logic.	Passed
13.	Private user data leaks.	Passed
14.	Malicious Event log.	Passed
15.	Scoping and Declarations.	Passed
16.	Uninitialized storage pointers.	Passed
17.	Arithmetic accuracy.	Passed
18.	Design Logic.	Passed
19.	Cross-function race conditions.	Passed
20.	Safe Open Zeppelin contracts implementation and usage.	Passed
21.	Fallback function security.	Passed

Security Issues

High Severity Issues

No high severity issues found.

No medium severity issues found.

- Low Severity Issues
 - 1. Out of gas

Issue:

 The function includeInReward() uses the loop to find and remove addresses from the _excluded list. Function will be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

 The function _getCurrentSupply also uses the loop for evaluating total supply. It also could be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

Recommendation:

Check that the excluded array length is not too big.

Notes:

• addLiquidity function is not used.

Owner privileges (In the period when the owner is not renounced)

- Owner can start trading.
- Owner can change the maximum transaction amount.
- Owner can enable/disable restrictionActive.
- Owner can unthrottle and whitelist accounts.
- Owner can exclude from the fee.
- Owner can change marketing and marketingAdd fee.
- Owner can change marketing and deployer address.
- Owner can change minimum number of tokens to add to liquidity.
- Owner can lock and unlock. By the way, using these functions the owner could retake privileges even after the ownership was renounced.

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract.

Liquidity locking details NOT provided by the team.

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.

