TechRate
March, 2022

SMART CONTRACTS SECURITY AUDIT REPORT

Audit Details

Audited project

Shibao

Deployer address

0x6231faa4edbb67971c3c3eb5e49bfe9106d72a30

Client contacts:

Shibao team

Blockchain

Binance Smart Chain

Project website:

Shibao.io

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 Shibao to perform an audit of smart contracts:
https://bscscan.com/address/0xBe1515C9A5D7C358E87d932973648a1F402B7A04#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.

Contracts Details

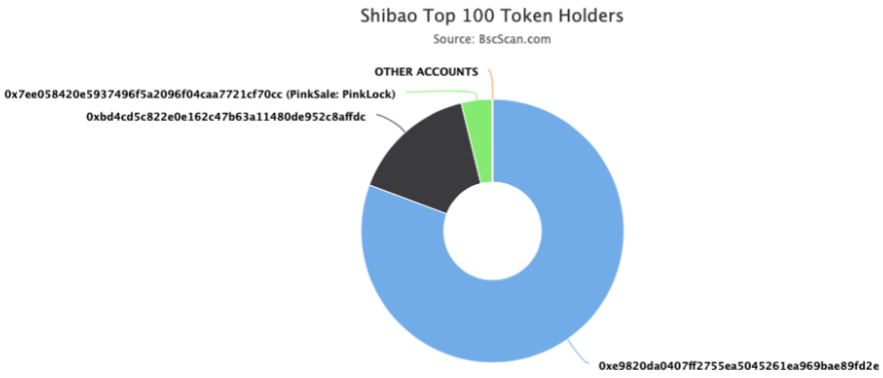
Token contract details for 30.03.2022

Contract name	Shibao
Contract address	0xBe1515C9A5D7C358E87d932973648a1F402B7A04
Total supply	325,000
Token ticker	$Shibao
Decimals	5
Token holders	3
Transactions count	4
Top 100 holders dominance	100.00%
Autoliquidity receiver	0xac4164268bfd8b386d9796aa12a73dc21321a0e7
Liquidity fee	40
Total fee	140
pair	0x141d34a8dd1cc1a356945de6d6f5fc989df7fd70
Contract deployer address	0x6231faa4edbb67971c3c3eb5e49bfe9106d72a30
Owner address	0xbd4cd5c822e0e162c47b63a11480de952c8affdc

Shibao Token Distribution

The top 100 holders collectively own 100.00% (325,000.00 Tokens) of Shibao

Token Total Supply: 325,000.00 Token | Total Token Holders: 3



(A total of 325,000.00 tokens held by the top 100 accounts from the total supply of 325,000.00 token)

Shibao Contract Interaction Details

Time Series: Token Contract Overview

Fri 25, Mar 2022 - Fri 25, Mar 2022

Shibao Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0xe9820da0407ff2755ea5045261ea969bae89fd2e	262,181	80.6711%
2	0xbd4cd5c822e0e162c47b63a11480de952c8affdc	50,400	15.5077%
3	PinkSale: PinkLock	12,419	3.8212%

Contract functions details

+ [Lib] SafeMathInt
  - [Int] mul
  - [Int] div
  - [Int] sub
  - [Int] add
  - [Int] abs

+ [Lib] SafeMath
  - [Int] add
  - [Int] sub
  - [Int] sub
  - [Int] mul
  - [Int] div
  - [Int] div
  - [Int] mod

+ [Int] IERC20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] allowance
  - [Ext] transfer #
  - [Ext] approve #
  - [Ext] transferFrom #

+ [Int] IPancakeSwapPair
  - [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] mint #
- [Ext] burn #
- [Ext] swap #
- [Ext] skim #
- [Ext] sync #
- [Ext] initialize #

+ [Int] IPancakeSwapRouter
- [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 ($)
- [Ext] quote
- [Ext] getAmountOut
- [Ext] getAmountIn
- [Ext] getAmountsOut
- [Ext] getAmountsIn
- [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
- [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
- [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
- [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens ($)
- [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

+ [Int] IPancakeSwapFactory
- [Ext] feeTo
- [Ext] feeToSetter
- [Ext] getPair
- [Ext] allPairs
- [Ext] allPairsLength
- [Ext] createPair #

  - [Ext] setFeeTo #
  - [Ext] setFeeToSetter #

+ Ownable
  - [Pub] <Constructor> #
  - [Pub] owner
  - [Pub] isOwner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
  - [Int] _transferOwnership #

+ ERC20Detailed (IERC20)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals

+ Shibao (ERC20Detailed, Ownable)
  - [Pub] <Constructor> #
    - modifiers: ERC20Detailed,Ownable
  - [Int] rebase #
  - [Ext] transfer #
    - modifiers: validRecipient
  - [Ext] transferFrom #
    - modifiers: validRecipient
  - [Int] _basicTransfer #
  - [Int] _transferFrom #
  - [Int] takeFee #
  - [Int] addLiquidity #
    - modifiers: swapping
  - [Int] swapBack #
    - modifiers: swapping
  - [Ext] withdrawAllToTreasury #
    - modifiers: swapping,onlyOwner
  - [Int] shouldTakeFee
  - [Int] shouldRebase
  - [Int] shouldAddLiquidity
  - [Int] shouldSwapBack
  - [Ext] setAutoRebase #
    - modifiers: onlyOwner
  - [Ext] setAutoAddLiquidity #
    - modifiers: onlyOwner
  - [Ext] allowance

- [Ext] decreaseAllowance #
- [Ext] increaseAllowance #
- [Ext] approve #
- [Ext] checkFeeExempt
- [Pub] getCirculatingSupply
- [Ext] isNotInSwap
- [Ext] manualSync #
- [Ext] setFeeReceivers #
  - modifiers: onlyOwner
- [Pub] getLiquidityBacking
- [Ext] setWhitelist #
  - modifiers: onlyOwner
- [Ext] setBotBlacklist #
  - modifiers: onlyOwner
- [Pub] setPairAddress #
  - modifiers: onlyOwner
- [Ext] setLP #
  - modifiers: onlyOwner
- [Ext] totalSupply
- [Ext] balanceOf
- [Int] isContract
- [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.**	Low issues
15.	**Scoping and Declarations.**	Passed
16.	**Uninitialized storage pointers.**	Passed
17.	**Arithmetic accuracy.**	Low issues
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.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

1. Out of gas

Issue:

- The function rebase() uses the loop to rebase the contract by the time. Function will be aborted with OUT_OF_GAS exception if there will be a long time without rebase.

Recommendation:
Check that the rebase is not turned off for too long.

2. Rounding errors

Issue:

- At some calculation with division, it goes first. In Solidity we don't have floating points, but instead we get rounding errors.

Recommendation:
Do division after multiplication.

3. No event on basic transfer

Issue:

- The function _basicTransfer() do not emit transferring event.

Recommendation:
Add event emitting.

Notes:

- MAX_SUPPLY could be exceeded, because there is no checking of future _totalSupply to be less than MAX_SUPPLY.

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

- Owner can swap all contract balance to treasury address.
- Owner can change autorebase settings.
- Owner can change autoliquidity settings.
- Owner can change fee receivers addresses.
- Owner can exclude addresses from fees.
- Owner can blacklist addresses.
- Owner can change pair address and pair contract.

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 are 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.