



Techrate1



Techrate



TechRate

AUDIT COMPANY

Smart Contract Security Audit

TechRate

November, 2021

Audit Details



Audited project

Sparrow Token



Deployer address

0x6976267455e2998C8e13b8846646BbBB66C6f96B



Client contacts:

Sparrow Token team



Blockchain

Binance Smart Chain



Project website:

Not provided

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.

DISCLAIMER: By reading this report or any part of it, you agree to the terms of this disclaimer. If you do not agree to the terms, then please immediately cease reading this report, and delete and destroy any and all copies of this report downloaded and/or printed by you. This report is provided for information purposes only and on a non-reliance basis, and does not constitute investment advice. No one shall have any right to rely on the report or its contents, and TechRate and its affiliates (including holding companies, shareholders, subsidiaries, employees, directors, officers and other representatives) (TechRate) owe no duty of care towards you or any other person, nor does TechRate make any warranty or representation to any person on the accuracy or completeness of the report. The report is provided "as is", without any conditions, warranties or other terms of any kind except as set out in this disclaimer, and TechRate hereby excludes all representations, warranties, conditions and other terms (including, without limitation, the warranties implied by law of satisfactory quality, fitness for purpose and the use of reasonable care and skill) which, but for this clause, might have effect in relation to the report. Except and only to the extent that it is prohibited by law, TechRate hereby excludes all liability and responsibility, and neither you nor any other person shall have any claim against TechRate, for any amount or kind of loss or damage that may result to you or any other person (including without limitation, any direct, indirect, special, punitive, consequential or pure economic loss or damages, or any loss of income, profits, goodwill, data, contracts, use of money, or business interruption, and whether in delict, tort (including without limitation negligence), contract, breach of statutory duty, misrepresentation (whether innocent or negligent) or otherwise under any claim of any nature whatsoever in any jurisdiction) in any way arising from or connected with this report and the use, inability to use or the results of use of this report, and any reliance on this report.

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 Sparrow Token to perform an audit of smart contracts:

<https://bscscan.com/address/0x6742bffdca5d8ccd75851ddab129b5cb67fe6035#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 09.11.2021

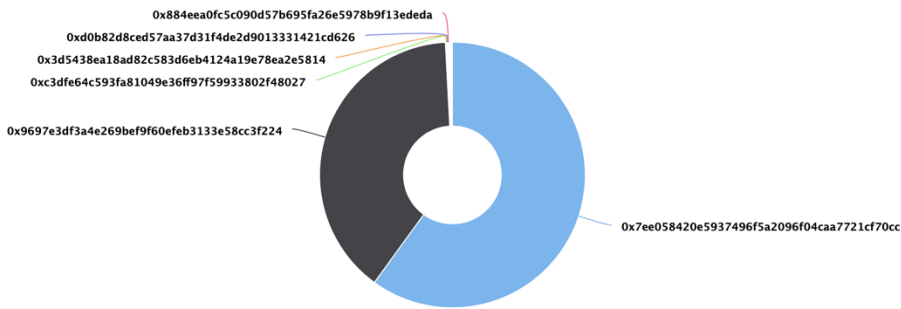
Contract name	Sparrow Token
Contract address	0x6742bfFDca5d8CcD75851ddaB129b5CB67fe6035
Total supply	100,000,000
Token ticker	SPW
Decimals	8
Token holders	105
Transactions count	204
Top 100 holders dominance	100.00%
Contract deployer address	0x6976267455e2998C8e13b8846646BbBB66C6f96B
Contract's current owner address	0x9697E3df3A4E269Bef9F60eFEb3133e58cc3F224

Sparrow Token Token Distribution

The top 100 holders collectively own 100.00% (99,999,980.80 Tokens) of Sparrow Token

Token Total Supply: 100,000,000.00 Token | Total Token Holders: 105

Sparrow Token Top 100 Token Holders
Source: BscScan.com



(A total of 99,999,980.80 tokens held by the top 100 accounts from the total supply of 100,000,000.00 token)

Sparrow Token Contract Interaction Details

Time Series: Token Contract Overview

Mon 8, Nov 2021 - Mon 8, Nov 2021

Token Contract 0x6742bffdca5d8ccd75851ddab129b5cb67fe6035 (Sparrow Token)
Source: BscScan.com



Sparrow Token Top 10 Token Holders

Rank	Address	Quantity	Percentage
1	0x7ee058420e5937496f5a2096f04caa7721cf70cc	60,000,000	60.0000%
2	0x9697e3df3a4e269bef9f60efeb3133e58cc3f224	39,173,988.09898646	39.1740%
3	0xc3dfe64c593fa81049e36ff97f59933802f48027	128,600	0.1286%
4	0x3d5438ea18ad82c583d6eb4124a19e78ea2e5814	96,454.39978766	0.0965%
5	0xd0b82d8ced57aa37d31f4de2d9013331421cd626	74,456.34575	0.0745%
6	0x884eea0fc5c090d57b695fa26e5978b9f13ededa	64,300	0.0643%
7	0x28c578787f0077cda16fe6325f692a6f2bef9398	38,580	0.0386%
8	0x81a30f7309e5bbc52b4456d46a2000c7d39a32c7	35,365	0.0354%
9	0x65e8359e462b23de0f0efdae3639315f650b4b9e	32,150	0.0322%
10	0x4c58bee82bc58a11ba2dcd06e80ee3433318fff3	32,150	0.0322%



Contract functions details

+ [Int] IERC20Upgradeable

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

+ [Lib] AddressUpgradeable

- [Int] isContract
- [Int] sendValue #
- [Int] functionCall #
- [Int] functionCall #
- [Int] functionCallWithValue #
- [Int] functionCallWithValue #
- [Int] functionStaticCall
- [Int] functionStaticCall
- [Prv] _verifyCallResult

+ Initializable

- [Prv] _isConstructor

+ ContextUpgradeable (Initializable)

- [Int] __Context_init #
 - modifiers: initializer
- [Int] __Context_init_unchained #
 - modifiers: initializer
- [Int] _msgSender
- [Int] _msgData

+ OwnableUpgradeable (Initializable, ContextUpgradeable)

- [Int] __Ownable_init #
 - modifiers: initializer
- [Int] __Ownable_init_unchained #
 - modifiers: initializer
- [Pub] owner
- [Pub] renounceOwnership #
 - modifiers: onlyOwner
- [Pub] transferOwnership #
 - modifiers: onlyOwner

+ [Lib] SafeMath

- [Int] tryAdd
- [Int] trySub
- [Int] tryMul
- [Int] tryDiv
- [Int] tryMod
- [Int] add
- [Int] sub
- [Int] mul
- [Int] div

- [Int] mod
- [Int] sub
- [Int] div
- [Int] mod

- + [Int] IStandardERC20
 - [Ext] initialize #

- + StandardERC20 (IERC20Upgradeable, OwnableUpgradeable, IStandardERC20)
 - [Ext] initialize #
 - modifiers: initializer
 - [Pub] name
 - [Pub] symbol
 - [Pub] decimals
 - [Pub] totalSupply
 - [Pub] balanceOf
 - [Pub] transfer #
 - [Pub] allowance
 - [Pub] approve #
 - [Pub] transferFrom #
 - [Pub] increaseAllowance #
 - [Pub] decreaseAllowance #
 - [Int] _transfer #
 - [Int] _mint #
 - [Int] _burn #
 - [Int] _approve #
 - [Int] _setupDecimals #
 - [Int] _beforeTokenTransfer #

(\$) = 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.	Passed
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.

✓ Medium Severity Issues

No medium severity issues found.

✓ Low Severity Issues

No low severity issues found.

Conclusion

Smart contracts do not contain high severity issues! The further transfers and operations with the funds raise are not related to this particular contract.

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.