HackSafe

Smart Contract Security Audit Report

HonToken

September 2022

Security Status

★★★★☆

www.hacksafe.io

Audit Details

Audited project
HonToken

Deployer address
0x4464bbe40CC1F1184Bda0d43c010298fda3D8d7E

Client contacts
HonToken team

Blockchain
Avalanche

Website
https://heroesofnft.com/

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.

Procedure

Step 1 - In-Depth Manual Review

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

Step 2 - Automated Testing

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

Step 3 – Leadership Review

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

Step 4 - Resolution of Issues

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

Step 5 - Published Audit Report

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

Background

HackSafe was commissioned by HonToken to perform an audit of smart contract:

- https://snowtrace.io/address/0xed2b42d3c9c6e97e11755bb37df29b6375ede3eb#code

The purpose of the audit was to achieve the

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

The information in this report should be 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.

Contract Details

Token contract details for 12.09.2022

Token Type	: ERC20
Contract name	: HonToken
Contract address	: 0xEd2b42D3C9c6E97e11755BB37df29B6375ede3EB
Compiler version	: v0.8.3+commit.8d00100c
Total upply	: 200,000,000
Token ticker	: HON
Decimals	: 18
Token holders	: 21,204
Top 100 token	: 97.53%
Transactions count	: 289,255
Contract deployer address	: 0x4464bbe40CC1F1184Bda0d43c010298fda3D8d7E
Owner address	: 0x4464bbe40CC1F1184Bda0d43c010298fda3D8d7E
Stuck Accounnt	: 0x4464bbe40CC1F1184Bda0d43c010298fda3D8d7E

Social profiles

Coinmarketcap profile	: https://coinmarketcap.com/currencies/heroes-of-nft/
Twitter profile:	: https://twitter.com/heroesofnft
Telegram profile	: https://t.me/heroesofNFTofficial
Coingecko profile	: https://www.coingecko.com/en/coins/heroes-of-nft/

Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are “Secure”. This token contract does contain owner control, which do not make it fully decentralized as owner does have control over smart contract.

Insecure	Poor	Secure	Well-secured

You are here 

We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 1 medium and 0 low and some very low-level issues. These issues are not critical ones.

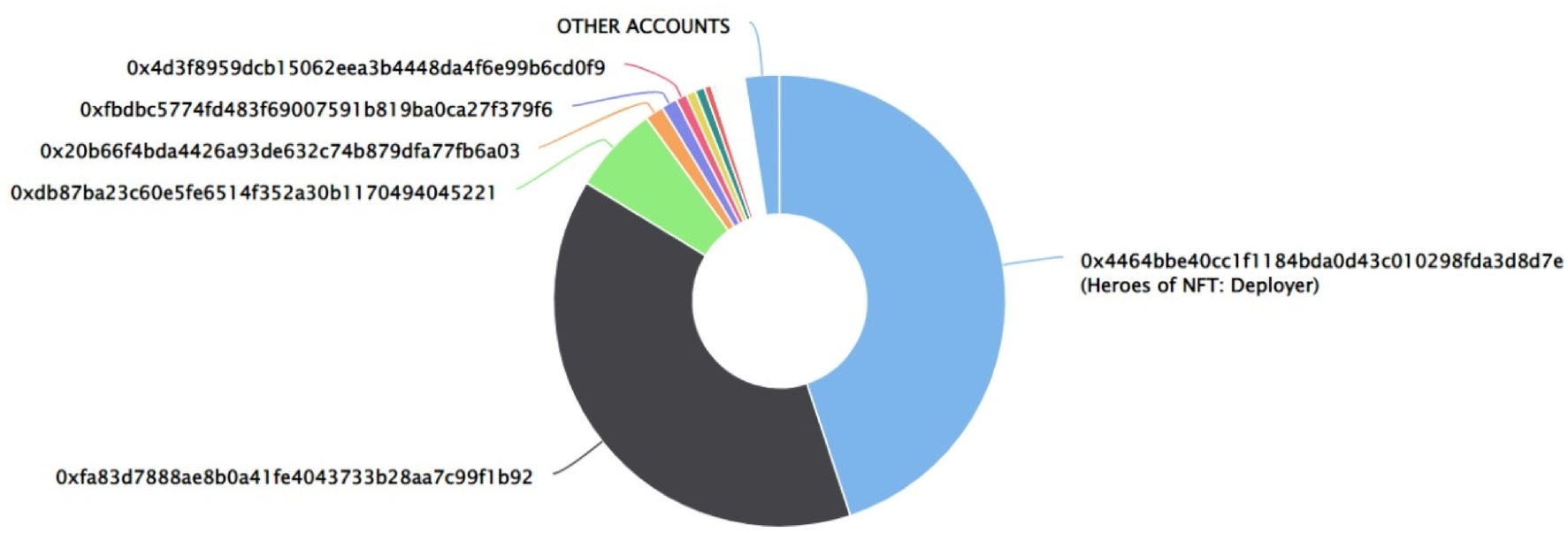
HonToken Token Distribution

The top 100 holders collectively own 97.53% (195,067,503.32 Tokens) of HonToken

Token Total Supply: 200,000,000.00 Token | Total Token Holders: 21,204

HonToken Top 100 Token Holders

Source: snowtrace.io



HonToken Top 20 Token Holders

(A total of 195,067,503.32 tokens held by the top 100 accounts from the total supply of 200,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	Heroes of NFT: Deployer	89,876,943.560639834390652914	44.9385%
2	0xfa83d7888ae8b0a41fe4043733b28aa7c99f1b92	77,577,339.847622	38.7887%
3	0xdb87ba23c60e5fe6514f352a30b1170494045221	12,497,699.367755008382892686	6.2488%
4	0x20b66f4bda4426a93de632c74b879dfa77fb6a03	2,672,250	1.3361%
5	0xfbdbc5774fd483f69007591b819ba0ca27f379f6	2,265,623.124091820795533153	1.1328%
6	0x4d3f8959dcb15062eea3b4448da4f6e99b6cd0f9	1,573,782.49807636358715359	0.7869%
7	0x5edaca6ae76c154315d6c38b26d5b1f0a39ffaeb	1,373,601.53109834126820325	0.6868%
8	0x7de0083fdb3bb7034e5fb23a0671f795800aebed	1,360,910.565075661419095659	0.6805%
9	0x5449d8cea89b3d8a6f097f2fb1b644e35d1ce2e4	996,433.079356399195540749	0.4982%
10	0x670d49fa5a80f57eef65a1fd6cb9792cfc7d4be3	313,472.666668	0.1567%
11	0x4160e132deaad59247c1c1bec8cd17b17c1ad223	300,000	0.1500%
12	0xbd262fe718f79591258414b99a561ecc4a12b2dd	280,000.500012	0.1400%
13	0x9fa643d80093a3fc7b2bc7baed33512d9dc77abd	198,597.112475649838882	0.0993%
14	0x0acfc1f3bcac7449e7431d32f4596ba8be932ef6	164,621.145128728130300143	0.0823%
15	0xdd8988b390e746285384c444ea086fb11f6b4dd4	158,314.127855646891551964	0.0792%
16	0x5317eba7fcced090d602cac5bd0b7ef07774cad2	154,961.619191878595648029	0.0775%
17	0x2e21a934ac0a4c25bcb383f3e7395557bdb9fec1	141,711.746242952324133245	0.0709%
18	0xda7c764316db83543aa6180c9e7fe67a4dc05e9e	124,144.749634538019598228	0.0621%
19	0x59bcb7e6e15832bc4d47a58c29c2998514ad8fee	119,926.912137423578105196	0.0600%
20	0x06dacefefb7d9ecb7091a8adaa6238703819588d	115,625.000016	0.0578%

Contract functions details

HonToken.sol
+HonToken (Ownable, ERC20)
- <constructor>
- [Ext] deposit
- [Ext] withdraw
- [Ext] assetID
- [Int] _mint
- [Int] _burn
- [Pub] transfer
- [Pub] transferFrom
- [Int] recover
- [Ext] delegates
- [Ext] delegate
- [Ext] delegateBySig
- [Ext] getCurrentVotes
- [Ext] getPriorVotes
- [Int] _delegate
- [Int] _moveDelegates
- [Int] _writeCheckpoint
- [Int] safe32
- [Int] getChainId
- [Pub] withdrawStuck

Ownable.sol
+Ownable (Context)
- <constructor>
- [Pub] owner
- [Pub] renounceOwnership #
  - modifiers: onlyOwner
- [Pub] transferOwnership
  - modifiers: onlyOwner
- [Int] _transferOwnership

ERC20.sol
+ ERC20 (Context, IERC20, IERC20Metadata)
- <constructor>
- [Pub] name
- [Pub] symbol

Contract functions details

-[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] _beforeTokenTransfer #
-[Int] _afterTokenTransfer #

NativeAssets.sol
+[Lib] NativeAssets
-[Pub] assetBalance
-[Pub] assetCall

Context.sol
+ Context
-[Int] _msgSender
-[Int] _msgData

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

IERC20Metadata.sol
+IERC20Metadata (IERC20)
-[Ext] name
-[Ext] symbol
-[Ext] decimals

Contract functions details

($) = payable function
= non-constant function

Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Passed
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	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.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Passed
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Medium issue
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Passed

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.

Security Issues

Critical Severity Issues

No critical severity issue found.

High Severity Issues

No high severity issue found.

Medium Severity Issues

One medium severity issues found.

1. Safe Open Zeppelin contracts implementation and usage.

- **Description**

  Contract HonToken.sol have direct imported some contract files form openzeppelin repository.

- **Recommendation**

  It is advisable to not direct import from github or any repository as any changes in their files can affect your code too.

Low Severity Issues

No low severity issue found.

Centralization

Owner Privileges :

- HonToken Contract:
    - Owner can remove and transfer ownership.

This smart contract has some functions which can be executed by the Admin (Owner) only. If the admin wallet private key would be compromised, then it would create trouble as smart contract ownership has not been renounced. Following are Admin functions functions:

- Transferownership
- Renounceownership

Conclusion

Smart contract contains medium severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe 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.