HackSafe

Smart Contract Security Audit Report

NFTBlackMarket

November 2022

Security Status

★★★★☆

www.hacksafe.io

Audit Details

Audited project
NFTBlackMarket

Deployer address
0xcabafa6736afc9bd9cf68c573ebf9569a55afdda

Client contacts
NFTBlackMarket Team

Blockchain
Binance smart chain

Website
https://nftblackmarket.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.

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 NFTBlackMarket to perform an audit of smart contracts:

- https://bscscan.com/token/0x12Da2f2761038486271C99DA7e0FB4413e2B5E38#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 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 24.11.2022

Token Type	: NFT
Contract name	: NFTBLACKMARKET
Contract address	: 0x12Da2f276103848627lC99DA7e0FB4413e2B5E38
Total supply	: 1,000,000,000,000,000
Token ticker	: NBM
Decimals	: 9
Token Holders	: 43,042
Transactions count	: 88,565
Compiler version	: v0.7.6+commit.7338295f
Contract deployer address	: 0xcabafa6736afc9bd9cf68c573ebf9569a55afdda
Owner address	: 0xcabafa6736afc9bd9cf68c573ebf9569a55afdda

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 secured	Secure	Well-secured

You are here 

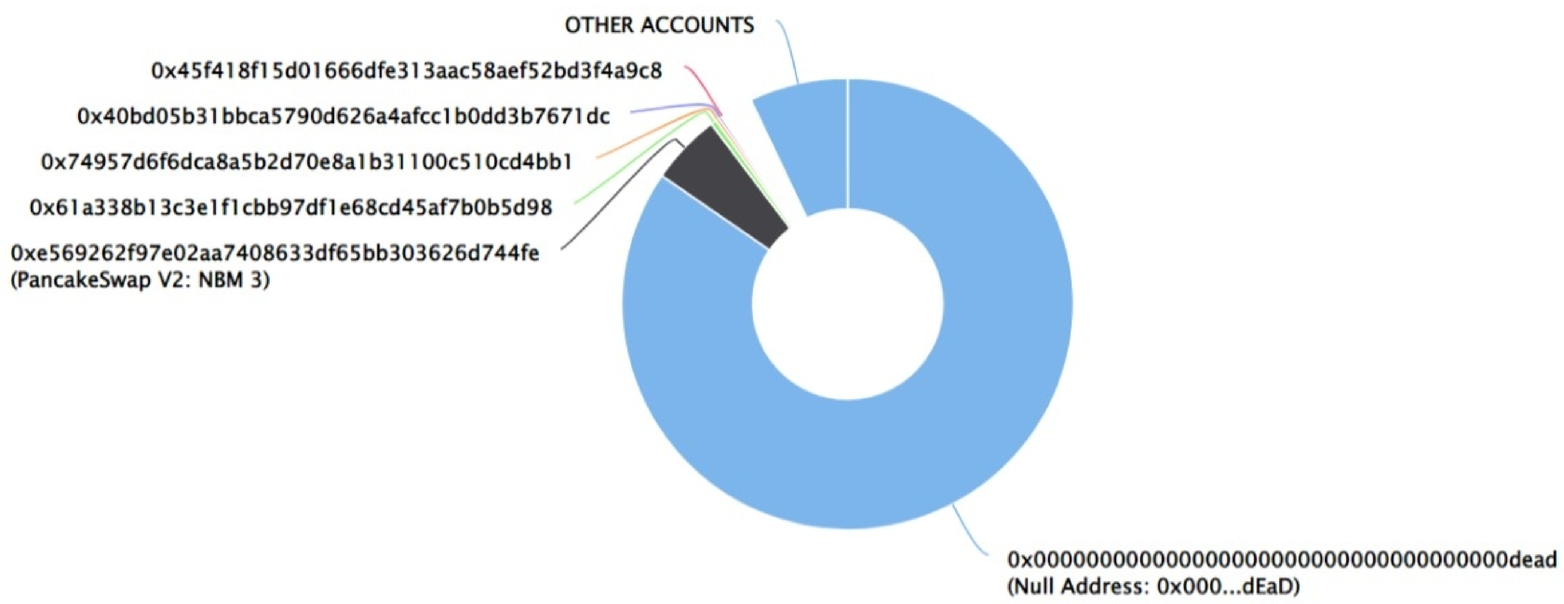
We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 1 medium and 1 low.

NFTBLACKMARKET Distribution

The top 100 holders collectively own 92.95%
(929,498,996,782,190.00 Tokens) of NFTBlackMarket

Token Total Supply: 1,000,000,000,000,000.00 Token | Total Token Holders: 43,042



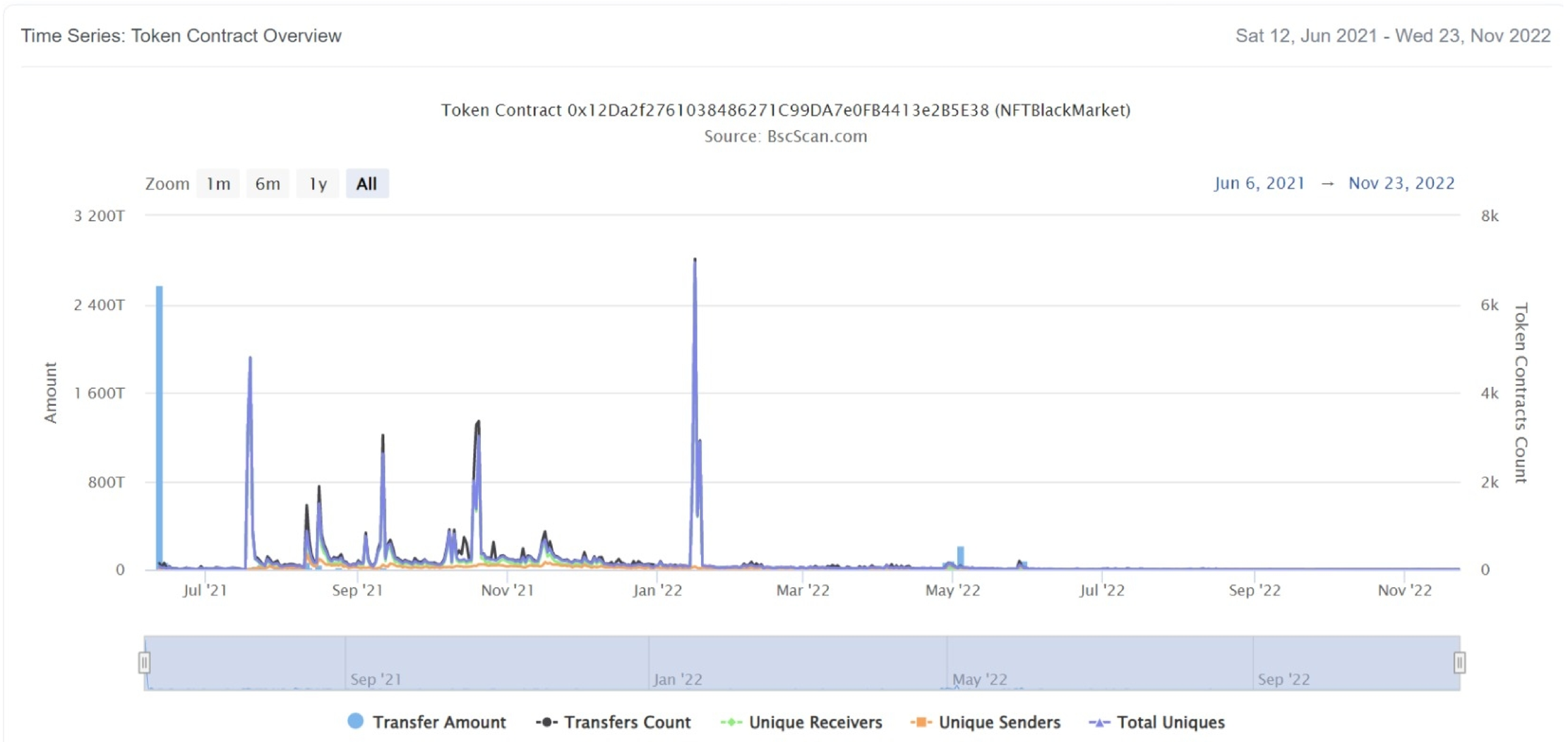
NFTBLACKMARKET Top 20 Token Holders

(A total of 929,498,996,782,190.00 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	Null Address: 0x000...dEaD	846,194,218,008,955.052289712	84.6194%
2	PancakeSwap V2: NBM 3	50,669,745,714,552.064307417	5.0670%
3	0x61a338b13c3e1f1cbb97df1e68cd45af7b0b5d98	4,069,709,109,949.923537542	0.4070%
4	0x74957d6f6dca8a5b2d70e8a1b31100c510cd4bb1	2,611,080,929,588.051566494	0.2611%
5	0x40bd05b31bbca5790d626a4afcc1b0dd3b7671dc	2,007,102,465,606.561995447	0.2007%
6	0x45f418f15d01666dfe313aac58aef52bd3f4a9c8	1,495,559,525,198.878612036	0.1496%
7	0x58886051ce3b7f0202f0611f8e7a1c0709823d8d	1,289,104,090,334.31390096	0.1289%
8	0x4c33f38207191b8d69fe136159838d9fe61aa816	1,203,443,492,496.456156932	0.1203%
9	0xd888561ad9d62c62b921876ac3d398e450e7be60	1,063,246,074,719.814901672	0.1063%
10	0x727f612970130104a3f4fbe38e598fb476e59d9c	907,478,132,490.850534925	0.0907%
11	0x9e8e691d28c8c7b580b404c377d7e05f9fe383f5	566,677,531,738.2330523	0.0567%
12	0x9be567efcb25a00362814d67f66b48697dc4d867	447,247,405,191.368226946	0.0447%
13	0xca9e310f37a9a056f2ae779f63951061a3572187	440,981,016,174.764504538	0.0441%
14	0xb2b3e9c1fd427280621b4994202ada0f08f50a37	440,336,766,159.197875268	0.0440%
15	0x4e9e74da49f1cad70fc92cab9009f26d6ff6e027	436,184,215,745.012576776	0.0436%
16	0xea738628bf4680ecbbf6c616130729609e5cdd59	397,041,182,302.463584278	0.0397%
17	0x77dbc7570db2547a87577c08de296230dd5477bd	394,015,128,238.050535659	0.0394%
18	0xa3c913a25c1a738cc82ece4cf472b18d78668c03	372,407,299,183.063988054	0.0372%
19	0xdeacdf123a6aa3a905f426031a86fbb5bdfacbde	333,757,251,012.841197286	0.0334%
20	0x5b3448b4a5b678a2fcea1e6dc8224f69ea598267	326,853,674,907.881976696	0.0327%

NFTBLACKMARKET Distribution

NFTBLACKMARKET Contract Overview



Contract functions details

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

+[Int] IERC20
  -[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
  -[Pvt] _functionCallWithValue

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

+NFTBLACKMARKET (Context, IERC20, Ownable)

Contract functions details

-<constructor>
-[Ext] getOwner
-[Pub] name
-[Pub] symbol
-[Pub] decimals
-[Pub] totalSupply
-[Pub] balanceOf
-[Pub] transfer #
-[Pub] allowance
-[Pub] approve #
-[Pub] transferFrom #
-[Pub] increaseAllowance #
-[Pub] decreaseAllowance #
-[Pub] isExcluded
-[Pub] totalFees
-[Pub] reflect #
-[Pub] reflectionFromToken
-[Pub] tokenFromReflection
-[Ext] excludeAccount #
  - modifiers: onlyOwner
-[Ext] includeAccount #
  - modifiers: onlyOwner
-[Pvt] _approve #
-[Pvt] _transfer #
-[Pvt] _transferStandard #
-[Pvt] _transferToExcluded #
-[Pvt] _transferFromExcluded #
-[Pvt] _transferBothExcluded #
-[Pvt] _reflectFee #
-[Pvt] _getValues
-[Pvt] _getTValues
-[Pvt] _getRValues
-[Pvt] _getRate
-[Pvt] _getCurrentSupply

($) = 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.	Medium issue
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.	Passed
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Low issue

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
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 issue found.

1. Out of gas limit.

- **Description**

  The smart contract has functions which has used for includeAccount, _getCurrentSupply. Large length of _excluded can cause an error of out of gas for these two functions.

- **Recommendation**

  It is advisable to either remove for loop or use smaller length to avoid the gas limit error while transaction.

Low Severity Issues

One low severity issue found.

1. Old compiler version

- **Description**

  Contract has been deployed using too old solidity version.

- **Recommendation**

  It is advisable to deploy contract using any of the latest version of solidity

Centralization

Owner Privileges :

- NFTBlackMarket Contract:
    - Owner can renounce and transfer ownership.
    - Owner can exclude and include account.

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:

- renounceOwnership
- transferOwnership
- excludeAccount
- includeAccount

Conclusion

Smart contract contains low and 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.