HackSafe

Smart Contract Security Audit Report

ZUKI MOBA

March 2023

Security Status

★★★★☆

www.hacksafe.io

Audit Details

Audited project
ZUKI MOBA

Deployer address
0xd8cb3a8c26e48564f3de55ff8cef41c71012a94e

Client contacts
ZUKI MOBA Team

Blockchain
Binance smart chain

Website
https://zukimoba.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 ZUKI MOBA to perform an audit of smart contracts:

- https://bscscan.com/token/0xE81257d932280AE440B17AFc5f07C8A110D21432#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 29.03.2023

Type	: Gaming
Contract name	: Token
Contract address	: 0xE81257d932280AE440B17AFc5f07C8A110D21432
Total supply	: 1,000,000,000
Token ticker	: ZUKI
Decimals	: 18
Token holders	: 25,279
Transactions count	: 388,609
Compiler version	: v0.7.4+commit.3f05b770
Contract deployer address	: 0xd8cb3a8c26e48564f3de55ff8cef41c71012a94e
owner address	: 0x0000000000000000000000000000000000000000

Audit Summary

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

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 0 low.

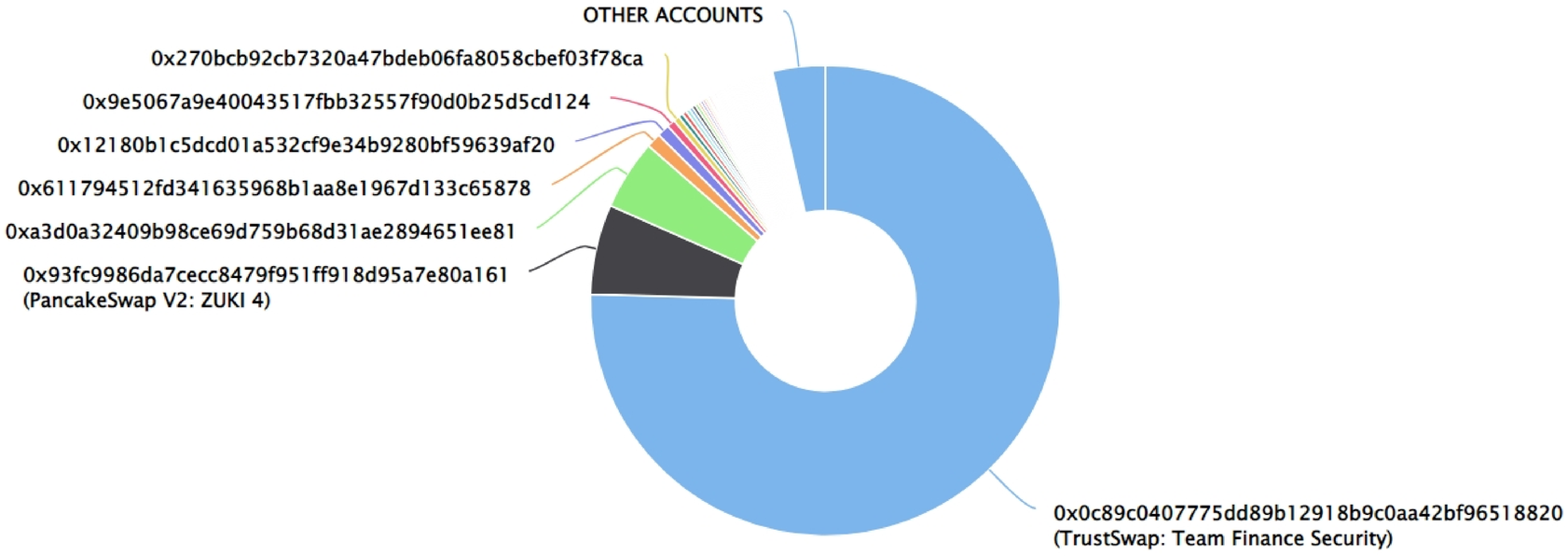
ZUKI MOBA TOKEN Distribution

The top 100 holders collectively own 96.38% (963,772,456.92 Tokens) of ZUKI MOBA

Token Total Supply: 1,000,000,000.00 Token | Total Token Holders: 25,279

ZUKI MOBA Top 100 Token Holders

Source: BscScan.com



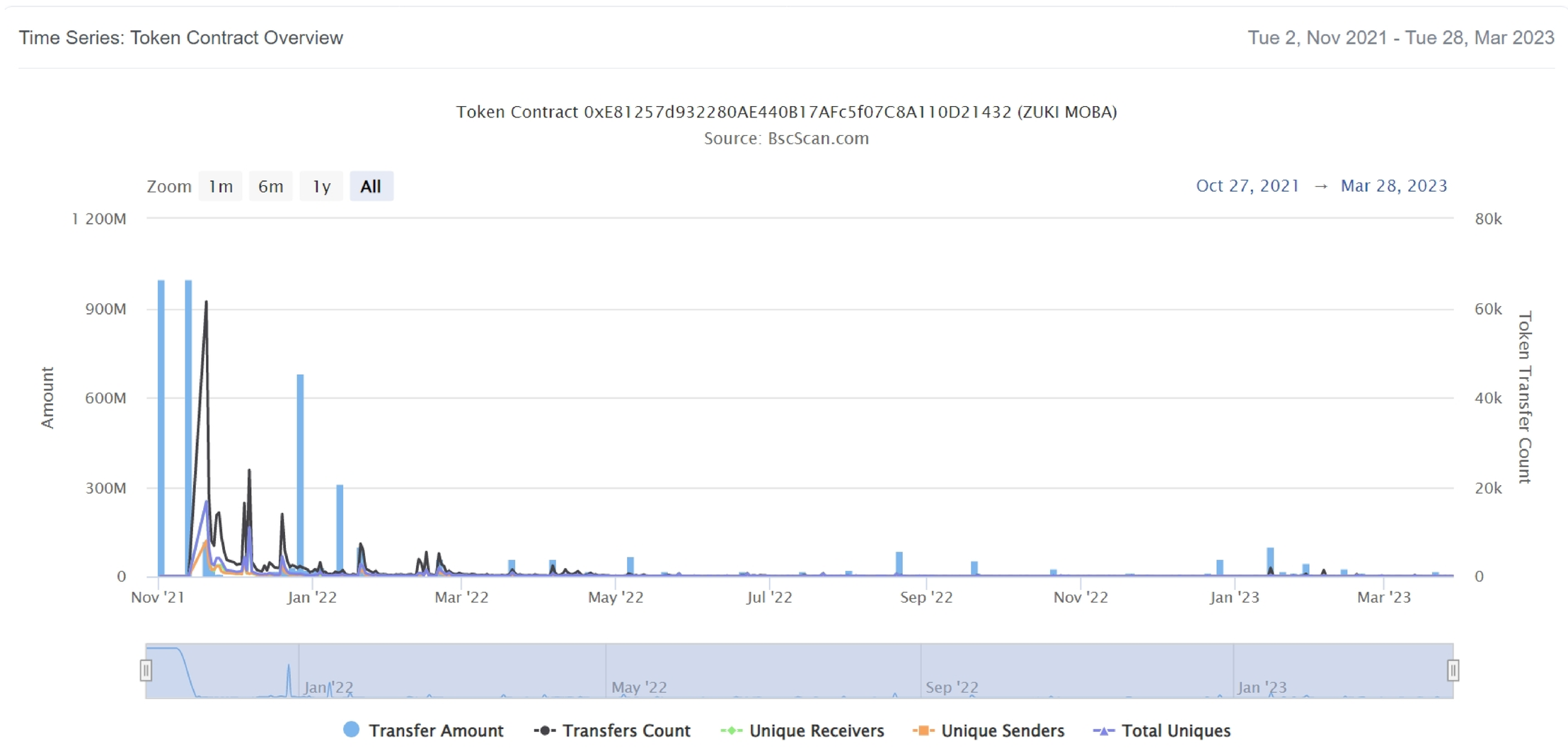
ZUKI MOBA Token Top 20 Token Holders

(A total of 963,772,456.92 tokens held by the top 100 accounts from the total supply of 1,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	TrustSwap: Team Finance Security	754,600,000	75.4600%
2	PancakeSwap V2: ZUKI 4	61,684,643.440023779651976149	6.1685%
3	0xa3d0a32409b98ce69d759b68d31ae2894651ee81	48,033,480	4.8033%
4	0x611794512fd341635968b1aa8e1967d133c65878	10,200,000	1.0200%
5	0x12180b1c5dcd01a532cf9e34b9280bf59639af20	8,610,431.703626438967333132	0.8610%
6	0x9e5067a9e40043517fbb32557f90d0b25d5cd124	5,490,544.163286207571000207	0.5491%
7	0x270bcb92cb7320a47bdeb06fa8058cbef03f78ca	4,137,162.015	0.4137%
8	0x8500d3ca0f55f311f84c2213b23925ec50989aa8	3,216,000	0.3216%
9	0x7b6265c7a04bf872d0df5621c572a4befc425e6d	3,000,000	0.3000%
10	PancakeSwap V2: ZUKI-BUSD 3	2,556,953.488341240320122692	0.2557%
11	0x9d5e5c379ee48f538d708588b2beca8a5310c934	2,464,000	0.2464%
12	0xe6fa2a111d29fe5e3949b3ca0686d3bda35484f1	2,340,406.2726	0.2340%
13	0x13c6d6d11d1c24d9476d1bf6320fc7e632960ede	2,285,751.436409132663833629	0.2286%
14	0xa3d87123ffe647b673684a54d01eafce0d7e67e1	1,913,469.667872	0.1913%
15	0x2fc648b931633c0fb1048bb82ab63154b742e9d8	1,808,038.885691946489445267	0.1808%
16	0x247db61277d6959405aa08cf3b6556cda9a0bec8	1,800,000	0.1800%
17	0xea7b33d264f4b7e6fd283a8250a572f2ceefacd4	1,537,866.189370822444673974	0.1538%
18	0x2691437b0883db7b3bc1906c07283a55912a88d4	1,411,714.675441182539177255	0.1412%
19	0x3f3a01ffcca9d821073fb103e886fa724ec342c7	1,395,000	0.1395%
20	0x0e472060897925fa3a307b4d4e447b2687d6e25f	1,360,820.809978	0.1361%

ZUKI MOBA TOKEN Distribution

ZUKI MOBA Contract Overview



Contract functions details

+[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

Contract functions details

-[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 #

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

+ERC20 (Context, IERC20, Ownable)
-[Int] _initialize #
-[Pub] name
-[Pub] symbol
-[Pub] decimals
-[Pub] totalSupply
-[Pub] balanceOf
-[Pub] transfer #
-[Pub] allowance

Contract functions details

-[Pub] approve #
-[Pub] transferFrom #
-[Pub] increaseAllowance #
-[Pub] decreaseAllowance #
-[Int] _transfer #
-[Int] _mint #
-[Int] _burn #
-[Int] _approve #
-[Int] _setupDecimals #
-[Int] _beforeTokenTransfer #
-[Pub] mint #
 - modifiers: onlyOwner
-[Pub] enableMint #
 - modifiers: onlyOwner
-[Pub] modifyWhiteListSender #
 - modifiers: onlyOwner
-[Pub] isExcludedFromFee
-[Pub] modifyWhiteListReceiver #
  - modifiers: onlyOwner
-[Pub] isExcludedToFee
-[Pub] modifyBlackList #
 - modifiers: onlyOwner
-[Pub] isBlackList
-[Ext] setAntiBot #
 - modifiers: onlyOwner
-[Ext] setSwapWhiteList #
 - modifiers: onlyOwner
-[Pub] transferToken #
 - modifiers: onlyOwner
-[Pub] modifyWhiteListBot #
 - modifiers: onlyOwner
-[Pub] isExcludedFromBot
-[Pub] changeFeeWallet #
 - modifiers: onlyOwner
-[Pub] changeFee #
 - modifiers: onlyOwner
-[Pub] modifyWhiteListPool #
 - modifiers: onlyOwner

Contract functions details

-[Pub] isExcludedFromPool

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

+Ownable (Context)
-[Pub] <Constructor > #
-[Pub] owner
-[Pub] renounceOwnership #
- modifiers: onlyOwner
-[Pub] transferOwnership #
- modifiers: onlyOwner
-[Pub] geUnlockTime
-[Pub] lock #
- modifiers: onlyOwner
-[Pub] unlock #

+[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

+Token (ERC20)
-[Pub] <Constructor> #
-[Pub] burn #

Contract functions details

-[Int] _transfer #
-[Ext] <Fallback> ($)

($) = payable function
= non-constant function

Issues Checking Status

No.	Title	Status
1.	Compiler error	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	Passed

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

- **Issue:**
  • The function modifyWhiteListSender(), modifyWhiteListReceiver(), modifyBlackList(), modifyWhiteListBot(), modifyWhiteListPool() uses the loop to iterate through lists from the argument. Functions will be aborted with OUT_OF_GAS exception if there will be a long addresses list in the function argument.

- **Recommendation**
  Check that the arrays' length is not too big.

- **Low Severity Issues**
  No low severity issue found.

Notes: • Transfer function may have feeless transfer in else block like in transferFrom function

Centralization

Owner Privileges :

- ZUKI MOBA Contract:
    - Owner can mint.
    - Owner can enable/disable mint.
    - Owner can enable/disable antibot and swap whitelist.
    - Owner can change fee value and wallet address.
    - Owner can lock and unlock. By the way, using these functions the owner could retake privileges even after the ownership was renounced.

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.