HackSafe

Smart Contract Security Audit Report

DogePlay

December 2022

Security Status

★★★★☆

www.hacksafe.io

Audit Details

Audited project
DogePlay

Deployer address
0x3F5734d20434d0eE1FADEAE004293ef9D84Eef9D

Client contacts
DogePlay Team

Blockchain
Binance smart chain

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.

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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 to DogePlay perform an audit of smart contracts:

- https://bscscan.com/token/0x68387ea6852cba3629C7952397b115C8A1dAb52a#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 05.12.2022

Token Type	: P2E
Contract name	: AntiBotLiquidityGeneratorToken
Contract address	: 0x68387ea6852cba3629C7952397b115C8A1dAb52a
Total supply	: 1,000,000,000
Token ticker	: DP
Decimals	: 9
Token Holders	: 1,157
Transactions count	: 5,513
Compiler version	: v0.8.4+commit.c7e474f2
Contract deployer address	: 0x3F5734d20434d0eE1FADEAE004293ef9D84Eef9D
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 as ownership has been renounced, which do make it fully decentralized as owner does not 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 0 low.

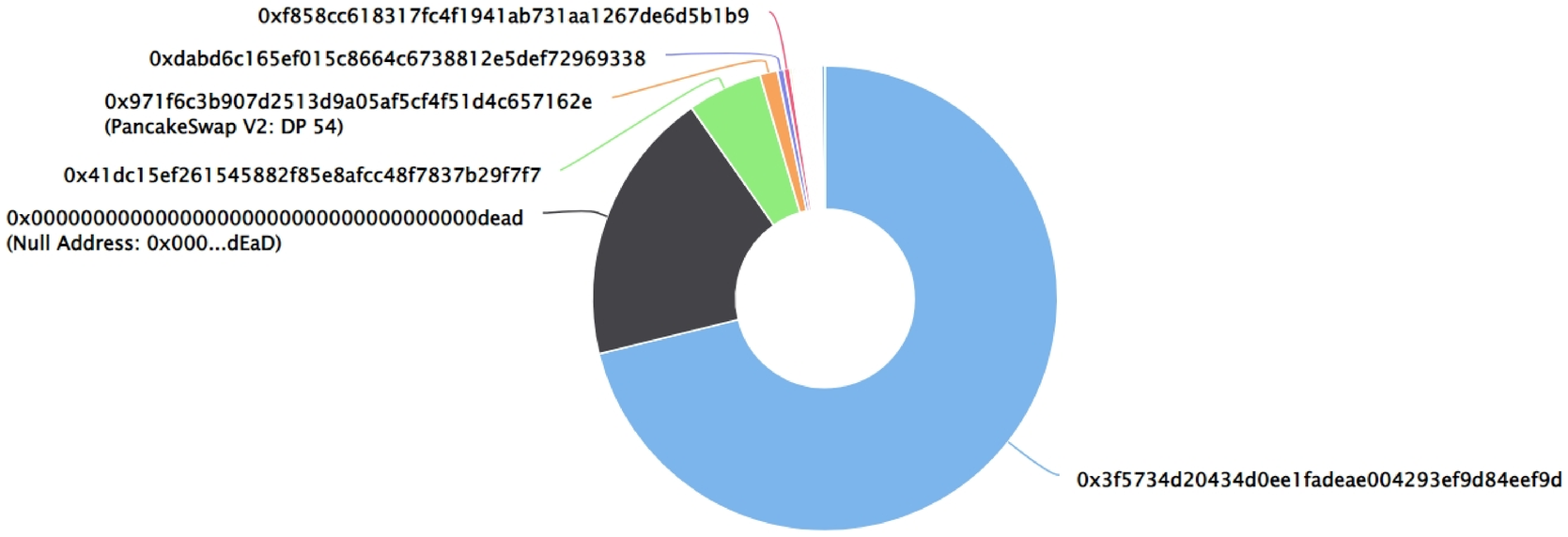
DogePlay Distribution

The top 100 holders collectively own 99.75% (997,502,287.50 Tokens) of DogePlay

Token Total Supply: 1,000,000,000.00 Token | Total Token Holders: 1,157

DogePlay Top 100 Token Holders

Source: BscScan.com



DogePlay Top 20 Token Holders

(A total of 997,502,287.50 tokens held by the top 100 accounts from the total supply of 1,000,000,000.00 token)

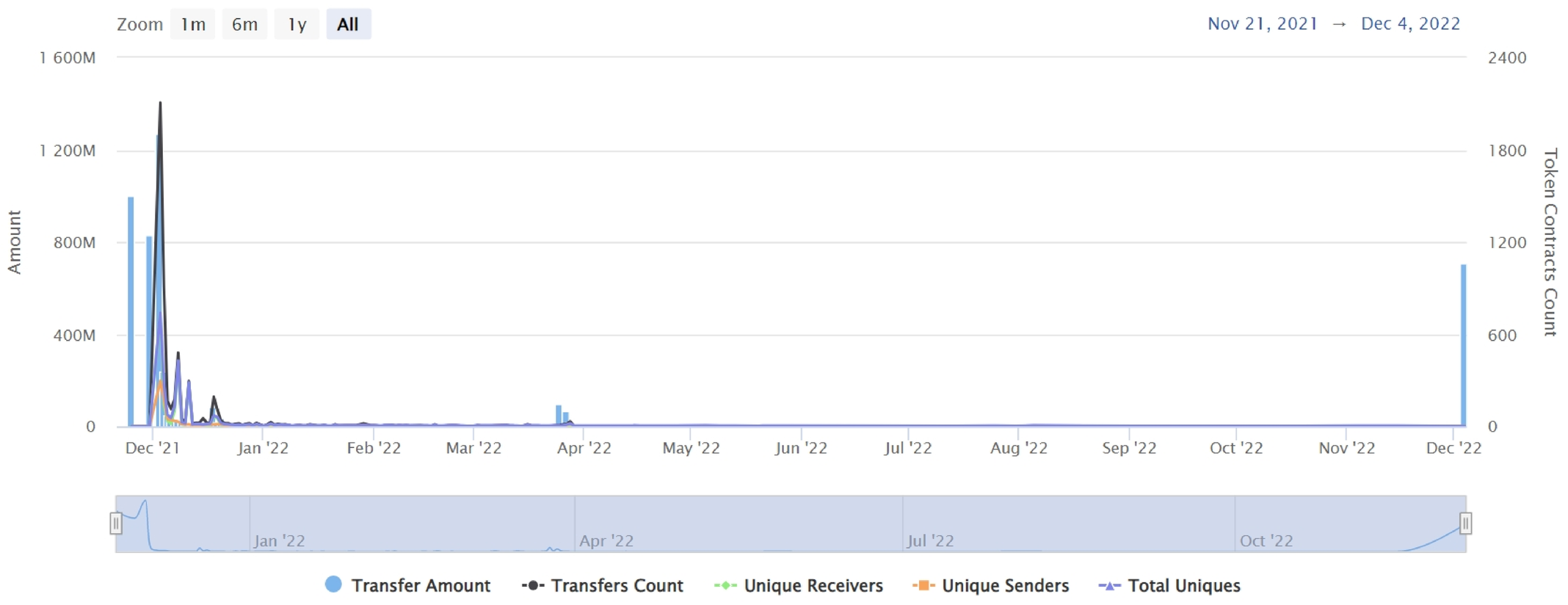
Rank	Address	Quantity (Token)	Percentage
1	0x3f5734d20434d0ee1fadeae004293ef9d84eef9d	711,631,173.521644565	71.1631%
2	Null Address: 0x000...dEaD	191,088,230.039135191	19.1088%
3	0x41dc15ef261545882f85e8afcc48f7837b29f7f7	52,136,864.155449792	5.2137%
4	PancakeSwap V2: DP 54	12,257,549.170489747	1.2258%
5	0xdabd6c165ef015c8664c6738812e5def72969338	4,425,285.410158995	0.4425%
6	0xf858cc618317fc4f1941ab731aa1267de6d5b1b9	4,256,238.36686058	0.4256%
7	0x547e6ef04f1bd32a12f8a91215c34b9d96b7a6f6	1,500,035.957847624	0.1500%
8	0x3dae64ccd657dd446a27ca308e67d34f200225c9	1,436,330.834385932	0.1436%
9	0xab0a701a8e153c7161d3b3af3614eb59f2c8e17b	1,429,941.538517863	0.1430%
10	0x9ed4973d82591d6ccc1bc0760b282e71a9e6cd4a	1,169,248.681579697	0.1169%
11	0x204465484a97f382eb8732fc1fba57e1d05bd60d	1,108,487.961333455	0.1108%
12	0xe9312d92cbabe3cb60df6724677eb5f0636b3ae3	1,020,599.729603942	0.1021%
13	0x5f923789c375e64a71c0329f9ab587d8966698a3	738,168.508767579	0.0738%
14	0x7b8cbb344260bdaced8f3af686b4b904f0f53ffb	714,959.744384446	0.0715%
15	0xaa8b09c0057a3b3e1a5346d8c6bfefdb9ffc8fdc	631,540.770778873	0.0632%
16	0xeabb1a3472de438f124ac752c1d8ec685a3415e3	621,705.787232427	0.0622%
17	0x70518dd669ffda33f9f790936bd5ac41867f19fa	566,157.481442232	0.0566%
18	0xffdcfe638b3862fc4463f2c4380fbf98da11ff27	517,829.926788345	0.0518%
19	0x65fa8bed914dab55b2ea205a4b164e3a3134d886	436,909.799007983	0.0437%
20	0x24dce7e567d4302418b66444dc515e68a42f9cd5	420,576.306072699	0.0421%

DogePlay Distribution

DogePlay Overview

Time Series: Token Contract Overview

Thu 25, Nov 2021 - Sun 4, Dec 2022



Contract functions details

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

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

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

+[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

+[Lib] Address
    -[Int] isContract
    -[Int] sendValue
    -[Int] functionCall

Contract functions details

-[Int] functionCall
-[Int] functionCallWithValue
-[Int] functionCallWithValue
-[Int] functionStaticCall
-[Int] functionStaticCall
-[Int] functionDelegateCall
-[Int] functionDelegateCall
-[Int] verifyCallResult

+[Int] IUniswapV2Router01
-[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 #

+[Int] IUniswapV2Factory
-[Ext] feeTo

Contract functions details

-[Ext] feeToSetter
-[Ext] getPair
-[Ext] allPairs
-[Ext] allPairsLength
-[Ext] createPair #
    -[Ext] setFeeTo #
    -[Ext] setFeeToSetter #

+[Int] IPinkAntiBot
    -[Ext] setTokenOwner #
    -[Ext] onPreTransferCheck #

+BaseToken
+ AntiBotLiquidityGeneratorToken (IERC20, Ownable, BaseToken)
    -[Pub] <Constructor>($)
    -[Ext] setEnableAntiBot #
      - modifiers: onlyOwner
    -[Pub] name
    -[Pub] symbol
    -[Pub] decimals
    -[Pub] totalSupply
    -[Pub] balanceOf
    -[Pub] transfer #
    -[Pub] allowance
    -[Pub] approve #
    -[Pub] transferFrom #
    -[Pub] increaseAllowance #
    -[Pub] decreaseAllowance #
    -[Pub] isExcludedFromReward
    -[Pub] totalFees
    -[Pub] deliver #
    -[Pub] reflectionFromToken
    -[Pub] tokenFromReflection
    -[Pub] excludeFromReward #
      - modifiers: onlyOwner
    -[Ext] includeInReward #
      - modifiers: onlyOwner
    -[Pvt] _transferBothExcluded #
    -[Pub] excludeFromFee #

Contract functions details

  - modifiers: onlyOwner
-[Pub] includeInFee #
  - modifiers: onlyOwner
-[Ext] setTaxFeePercent #
  - modifiers: onlyOwner
-[Ext] setLiquidityFeePercent #
  - modifiers: onlyOwner
-[Pub] setSwapAndLiquifyEnabled #
  - modifiers: onlyOwner
-[Ext]< Fallback >($)
-[Pvt] _reflectFee #
-[Pvt] _getValues
-[Pvt] _getTValues
-[Pvt] _getRValues
-[Pvt] _getRate
-[Pvt] _getCurrentSupply
-[Pvt] _takeLiquidity #
-[Pvt] _takeCharityFee #
-[Pvt] calculateTaxFee
-[Pvt] calculateLiquidityFee
-[Pvt] calculateCharityFee
-[Pvt] removeAllFee #
-[Pvt] restoreAllFee #
-[Pub] isExcludedFromFee
-[Pvt] _approve #
-[Pvt] _transfer #
-[Pvt] swapAndLiquify #
  - modifiers: lockTheSwap
-[Pvt] swapTokensForEth #
-[Pvt] addLiquidity #
-[Pvt] _tokenTransfer #
-[Pvt] _transferStandard #
-[Pvt] _transferToExcluded #
-[Pvt] _transferFromExcluded #

($) = 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	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 limit

- **Description**

  The function includeInReward() uses the loop to find and remove addresses from the _excluded list. Function will be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

  The function _getCurrentSupply also uses the loop for evaluating total supply. It also could be aborted with OUT_OF_GAS exception if there will be a long excluded addresseses list.

- **Recommendation**

  Use EnumerableSet instead of array or do not use long arrays.

- **Low Severity Issues**

  No low severity issue found.

Centralization

Owner privileges :

- DogePlay Contract:
    - Owner can renounce and transfer ownership.
    - Owner can enable antibot.
    - Owner can exclude/include from fee.
    - Owner can exclude/include from reward.
    - Owner can set tax fee percentage.
    - Owner can set liquidity fee percentage.

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 been renounced.

- renounceOwnership
- transferOwnership
- setenableAntibot
- excludeFromReward
- includeinReward
- excludeFromReward
- excludeFromFee
- includeinFee
- settaxFeePercent
- setswapAndLiquiFyEnabled
- setliquidityFeePercent

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.