HackSafe

Smart Contract Security Audit Report

QuackInu

June 2022

Security Status

★★★★½

www.hacksafe.io

Audit Details

Audited project
QuackInu

Deployer address
0xD911b333c88b31b014ef50a0C59F384a402953d9

Client contacts
QuackInu team

Blockchain
Binance Smart Chain

Website
https://quackinu.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 QuackInu token to perform an audit of smart contracts:

- https://bscscan.com/address/0xF5D4158AB289D844A639dD5ccd9D86Da7CaC2Ff4#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 24.06.2022

Token Type	: ERC20
Contract name	: QuackInu
Contract address	: 0xF5D4158AB289D844A639dD5ccd9D86Da7CaC2Ff4
Compiler version	: v0.8.15+commit.e14f2714
Max Total supply	: 10,000,000,000,000
Token Ticker	: QUACK
Decimals	: 18
Token Holders	: 1,024
Top 100 token holder's dominance	: 99.13%
Transactions count	: 2,950
Contract deployer address	: 0xD911b333c88b31b014ef50a0C59F384a402953d9
Owner address	: 0xa4bff76176e4609232ce531e24caa81ba2c88dbf

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.

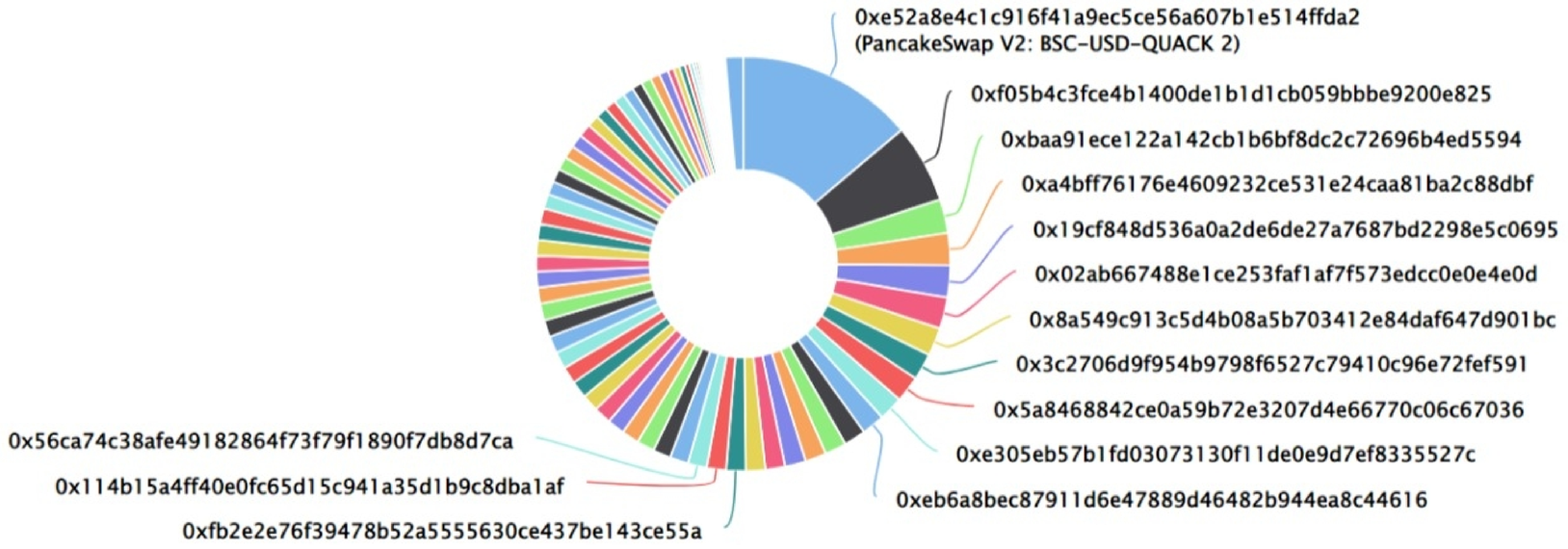
We found 0 critical, 0 high, 0 medium and 1 low and some very low-level issues. These issues are not critical ones.

QuackInu Distribution

The top 100 holders collectively own 98.60% (9,860,269,776,596.04 Tokens) of QuackInu | Token Total Supply: 10,000,000,000,000.00 Token | Total Token Holders: 1,112

QuackInu Top 100 Token Holders

Source: BscScan.com

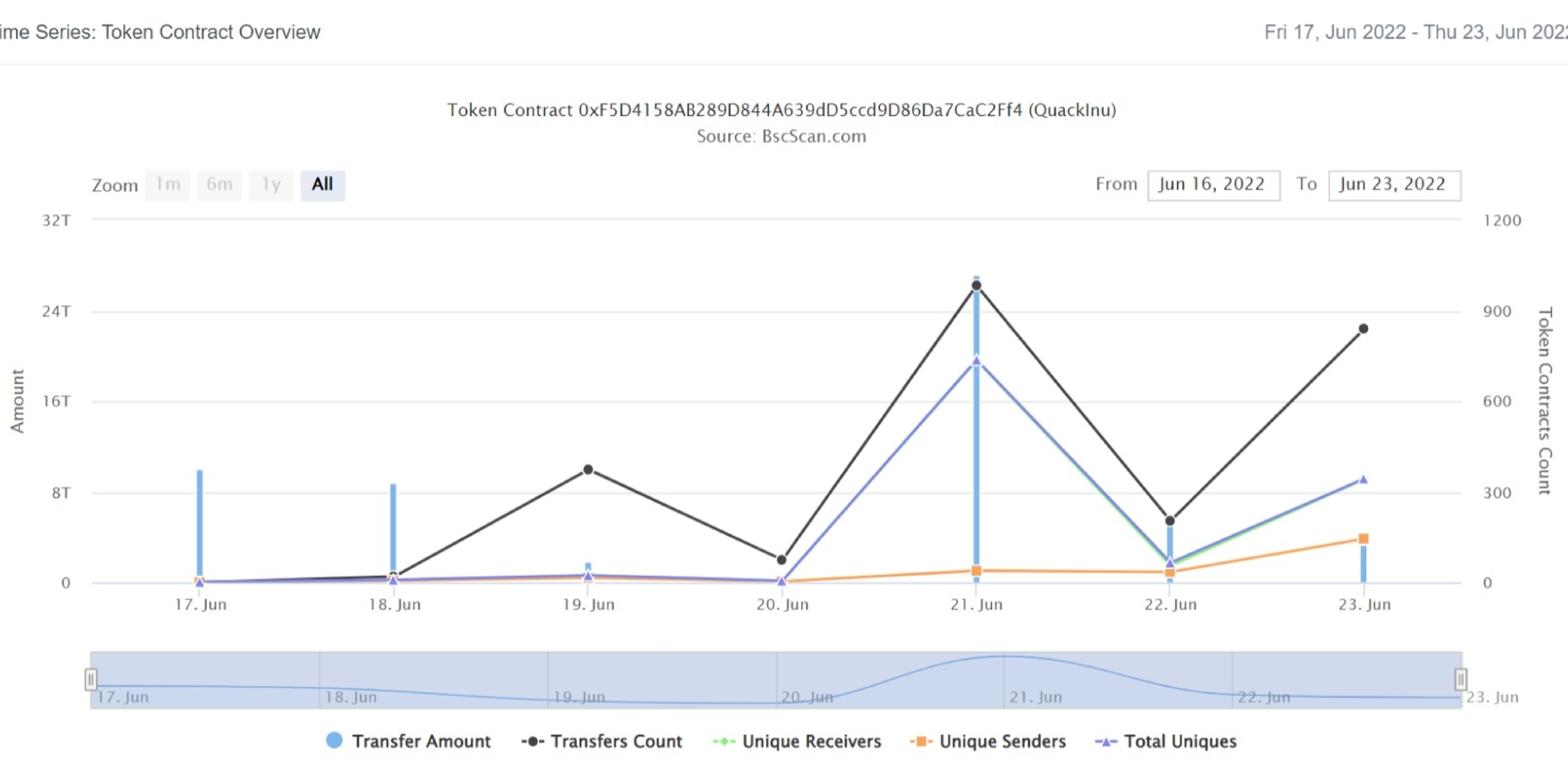


QuackInu Top 20 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	PancakeSwap V2: BSC-USD-QUACK 2	1,385,219,772,675.426466588766729026	13.8522%
2	0xf05b4c3fce4b1400de1b1d1cb059bbbe9200e825	614,297,468,636.628871624239115467	6.1430%
3	0xbaa91ece122a142cb1b6bf8dc2c72696b4ed5594	264,247,067,806.901769678712419977	2.6425%
4	0xa4bff76176e4609232ce531e24caa81ba2c88dbf	250,000,000,000	2.5000%
5	0x19cf848d536a0a2de6de27a7687bd2298e5c0695	249,962,922,821.952776143458148906	2.4996%
6	0x02ab667488e1ce253faf1af7f573edcc0e0e4e0d	243,747,230,998.034412894599435638	2.4375%
7	0x8a549c913c5d4b08a5b703412e84daf647d901bc	220,026,160,840.903960995693411418	2.2003%
8	0x3c2706d9f954b9798f6527c79410c96e72fef591	208,469,566,175.584548680519144545	2.0847%
9	0x5a8468842ce0a59b72e3207d4e66770c06c67036	202,848,984,459.617589064574727062	2.0285%
10	0xe305eb57b1fd03073130f11de0e9d7ef8335527c	191,999,338,000	1.9200%
11	0xeb6a8bec87911d6e47889d46482b944ea8c44616	179,352,976,922.039849643440756881	1.7935%
12	0x3e1987b493034d63bf6901181e99a0249eacae14	170,087,011,364.115154747239051195	1.7009%
13	0x1e346301bd9e82ea26f842a283793ff3395ceb79	168,610,579,168.622996029750176328	1.6861%
14	0xce76ab3e292ecfefb0b3de97ad9151d264bc734d	163,804,268,915.10994592401123214	1.6380%
15	0xc7fbcce9ccac0295a5d8cfe60336faafb353b6fc	162,742,451,197.952241304281840075	1.6274%
16	0x8e5454544728a761971f55323462cda9cfe5471e	154,497,465,549.628029919165816998	1.5450%
17	0x3fc06d914c052c291233799a8db7a30fc878c484	153,227,491,911.542671702189474545	1.5323%
18	0xfb2e2e76f39478b52a5555630ce437be143ce55a	150,771,488,303.092644473282409468	1.5077%
19	0x114b15a4ff40e0fc65d15c941a35d1b9c8dba1af	150,429,833,596.413352752653033696	1.5043%
20	0x56ca74c38afe49182864f73f79f1890f7db8d7ca	147,857,247,567.934000804418786177	1.4786%

QuackInu Distribution

QuackInu Contract overview



Contract functions details

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

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

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

+ Ownable (Context)
  -[Pub] owner #
  -[Pub] renounceOwnership #
    -modifers: onlyOwner
  -[Pub] transferOwnership #
    -modifiers: onlyOwner
  -[Int] _setOwner #

+ QuackInu (Context, IERC20, IERC20Metadata,Ownable)
  -< constructor >
  -[Ext] Vote #
    -modifiers: onlyOwner
  -[Pub] name
  -[Pub] symbol
  -[Pub] decimals
  -[Pub] totalSupply
  -[Pub] balanceOf
  -[Pub] transfer #
  -[Pub] allowance #
  -[Pub] approve #
  -[Pub] transferFrom #
  -[Pub] increaseAllowance #

Contract functions details

-[Pub] decreaseAllowance #
-[Pub] BalanceOFF $
  -modifiers: onlyOwner
-[Int] _transfer #
  -[Int] _mint #
  -[Int] _approve #
  -[Int] _beforeTokenTransfer #
  -[Int] _afterTokenTransfer #

($) = payable function
= non-constant function

Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Low issue
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.	Passed
19.	Incorrect Naming State Variable	Passed
20.	Compiler version too old	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

No medium severity issues found.

Low Severity Issues

One low severity issue found.

1. Unlocked Compiler Version.

- **Description**

  The contract utilizes an unlocked compiler version. An unlocked compiler version in the contract's source code permits the user to compile it at or above a particular version. This, in turn, leads to differences in the generated bytecode between compilations due to differing compiler version numbers. This can lead to ambiguity when debugging as compiler-specific bugs may occur in the codebase that would be difficult to identify over a span of multiple compiler versions rather than a specific one.

- **Recommendation**

  It is advisable that the compiler version is alternatively locked at the lowest version possible so that the contract can be compiled. For example, for version ^0.8.9the contract should contain the following line:

  pragma solidity 0.8.15;

Centralization

Owner Privileges

- QuackInu Contract:
    - Owner can transfer ownership.
    - Owner can renounce ownership.
    - Owner can address and bool variable if that address can transfer tokens or not depending on bool variable.
    - Owner can transfer contract native balance in to owner’s address.

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 owner can set the address to transfer tokens. The ownership of the smart contract isn't renounced for the QuackInu token, which means the owners are able to modify contract behavior (for example: disable selling, change fees, mint new tokens, or transfer tokens). Please exercise with extra caution if you are investing in this asset. Following are Admin functions:

- Renounceownership
- Transferownership
- Vote
- Balanceoff

Conclusion

Smart contract contains low 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.