HackSafe

Smart Contract Security Audit Report

Global Game Token

June 2022

Security Status

★★★★½

www.hacksafe.io

Audit Details

Audited project
Global Game Token

Deployer address
0xAA0e550F7051233e1430c5F64ff9337D00f30747

Client contacts
GG Token team

Blockchain
Binance Smart Chain

Website
https://ggtkn.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 GGToken to perform an audit of smart contracts:

- https://bscscan.com/address/0x1f7e8fe01aeba6fdaea85161746f4d53dc9bda4f#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 06.06.2022

Contract name	: GGTKN
Contract address	: 0x1F7e8fe01AEbA6fDAEA85161746f4D53DC9bdA4F
Compiler version	: v0.8.12+commit.f00d7308
Max Total supply	: 12,726,273,000
Token Ticker	: GGTKN
Decimals	: 18
Token Holders	: 604
Top 100 token holder's dominance	: 99.98%
Transactions count	: 1,267
Contract deployer address	: 0xAA0e550F7051233e1430c5F64ff9337D00f30747
owner address	: No Owner

Social profiles

CoinmarketCap profile	: https://coinmarketcap.com/currencies/gg-token/
Twitter Profile	: https://twitter.com/gg_tkn
Facebook profie	: https://www.facebook.com/GGToken/
Telegram Profile	: https://t.me/ggtkngroup
Medium blog profile	: https://medium.com/@ggtoken
Reddit profile	: https://www.reddit.com/user/GGTOKEN
WhitePaper Link	: https://ggtkn.com/ggtkn_onepager.pdf

Claimed Smart Contract Features

Claimed Feature Detail	Our Observation
Tokenomics : • **Name** : Global Game Token • **Symbol** : GGToken • **Decimals** : 18 • **2022 circulating supply** : Limited to a maximum 10% of the total cap.	YES, this is valid.

Audit Summary

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

Insecure	Poor secured	Secure	Well-secured

You are here 

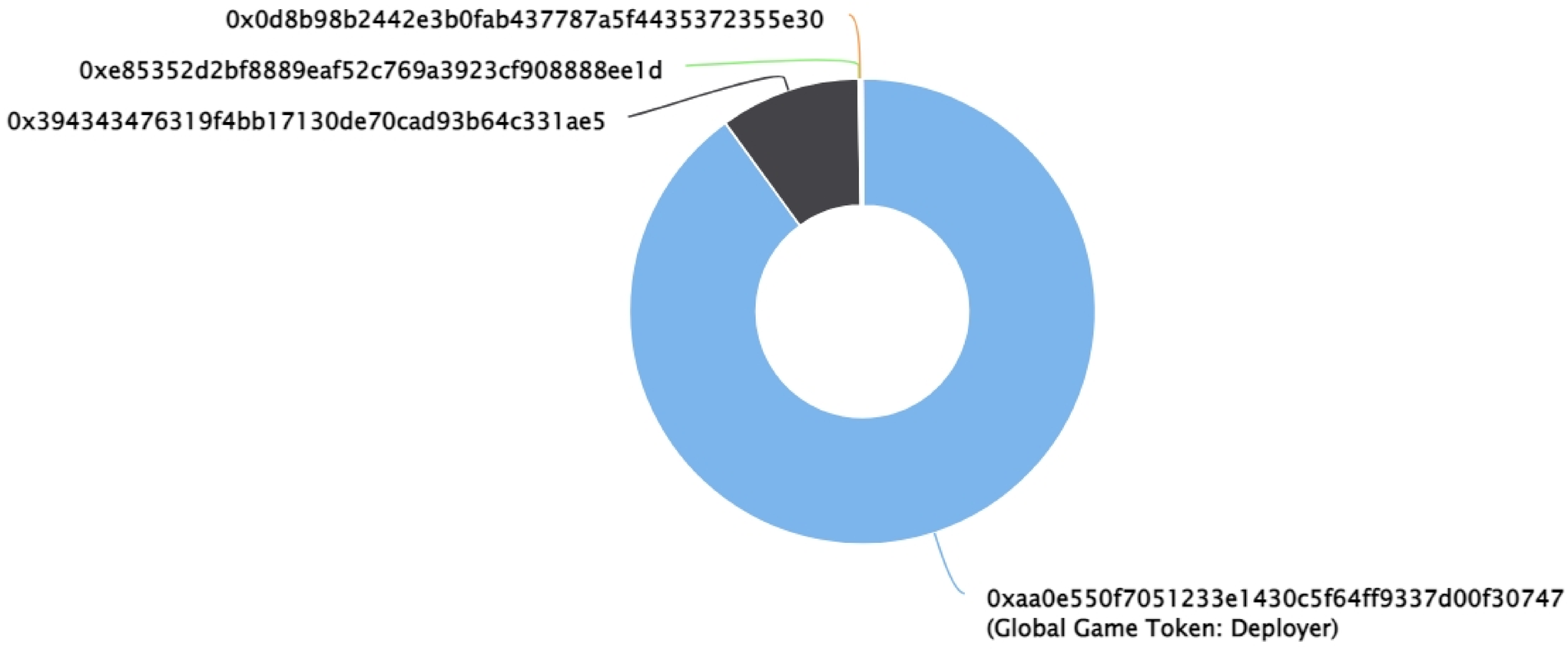
We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the Audit overview section. General overview is presented in AS-IS section and all identified issues can be found in the Audit overview section.

We found 0 critical, 0 high, 0 medium and 2 low and some very low-level issues. These issues are not critical ones.

GG Token Distribution

GG TOKEN Top 100 Token Holders

Source: BscScan.com



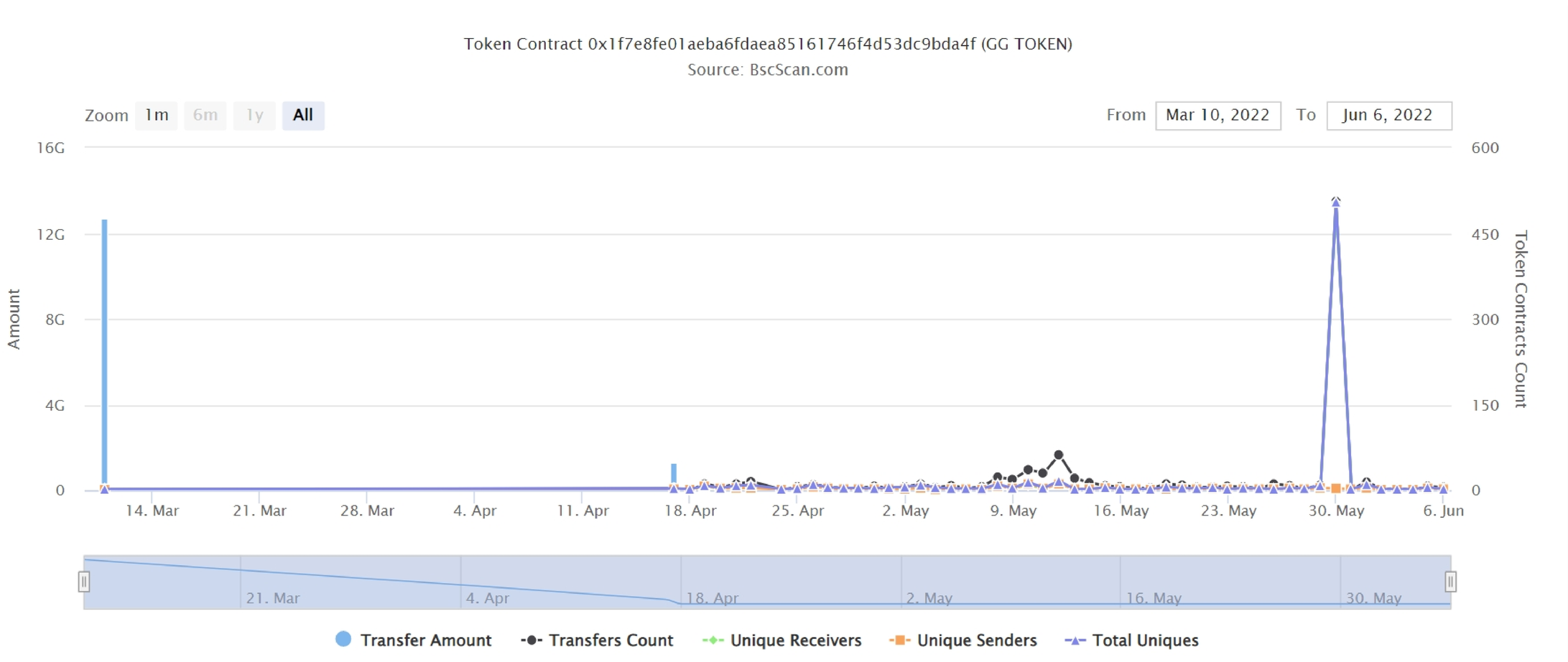
GG Token Distribution

GG Top 20 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	Global Game Token: Deployer	11,453,645,700	90.0000%
2	0x394343476319f4bb17130de70cad93b64c331ae5	1,238,468,658.5	9.7316%
3	0xe85352d2bf8889eaf52c769a3923cf908888ee1d	10,000,000	0.0786%
4	0x0d8b98b2442e3b0fab437787a5f4435372355e30	6,576,879	0.0517%
5	0x1e3bb35f9de1f174020bdb152bc29a508ef6927d	5,000,000	0.0393%
6	0xb4197064a123e9ae4cba2b71cad1a406ff7ca74f	2,876,468	0.0226%
7	0xb80051757209ffdfd6aabdee1e1fa01520883cfe	2,500,000	0.0196%
8	0x73e1471abcae4628bdd8f282297aacb9041ffe33	2,398,900	0.0188%
9	PancakeSwap V2: GGTKN-BUSD	501,373.884507291321492295	0.0039%
10	0xa8efb674e66cc7def8b5c40360baf8d4e5c8ad0c	500,000	0.0039%
11	PancakeSwap V2: GGTKN	407,325.936228954141738383	0.0032%
12	0x3fa0cba10eead0b56c9437bae8d9cdc194761199	139,746.740097520650421022	0.0011%
13	0xd2e27a8086e75dc240a4daabd26e4849073e9707	105,809.020129480185221328	0.0008%
14	0x7d10f6dade3ca5be47e6048da2ad74d0a3abe520	49,860.241396031980444299	0.0004%
15	0xeba2f0fede7e97181f64c8b543f0ac454a615cbe	30,704.891951868343147534	0.0002%
16	0x888ee3068453a36dbf325a23ebd9690b45545f72	16,142.086952789091938139	0.0001%
17	0xedefb9286f30d863966ac8d4c18e260e374c7a34	13,454.165831369577930229	0.0001%
18	0xe202f2248e074009eb9450bd17e70c8ae394e207	8,159.013798295198993836	0.0001%
19	0xd569043d2020079fa89b45573db1b6ea626d329a	8,156.459693001126011026	0.0001%
20	0x8071387e60be77a600999d6e4018a874004a7567	7,631.040722735291970644	0.0001%

GG Token Distribution

GG Contract overview



Contract functions details

+Context

-[Int]_msgsender

-[Int] _msgdata

+ [Int] IERC20

-[Ext]totalSupply

-[Ext]balanceOf

-[Ext]transfer#

-[Ext]allowance

-[Ext]approve#

-[Ext]transferFrom#

+ [Int] IERC20Metadata (IERC20)

-[Ext] name

-[Ext] symbol

-[Ext] decimals

+ERC20 (Context, IERC20, IERC20Metadata)

-<Constructor>#

-[Pub] name

-[Pub] symbol

-[Pub] decimals

-[Pub] totalSupply

-[Pub] balanceOf

-[Pub] transfer#

-[Pub] allowance

-[pub] approve#

-[Pub] transferFrom#

-[Pub] increaseAllowance#

-[Pub] decreasseAllowance#

-[Int] _transfer#

-[Int] _mint#

-[Int] _burn#

-[Int] _approve#

-[Int] _spendAllowance#

-[Int] _beforeTokenTransfer

-[Int] _afterTokenTransfer

Contract functions details

+ ERC20Burnable (Context, ERC20)

    -[Pub] burn#

    -[Pub] burnFrom#

+ GGTKN (ERC20, ERC20Burnable)

    -<constructor>#

($) = 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.	Low issue
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

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**
  Two 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 ^0.8.0 the contract should contain the following line:

  pragma solidity 0.8.12;

2. Scoping and Declarations.

Unused function.

- **Description**

  The _msgData function does nothing.

- **Location**

  Context.sol -> _msgData function

- **Recommendation**

  We advise to remove unused code.

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.