



**DOGIRA
SMART CONTRACT
SECURITY AUDIT REPORT**

Disclaimer

This is a limited report of findings based on an analysis of industry best practices as of the date of this report regarding cybersecurity vulnerabilities and issues in smart contract frameworks and algorithms, the details of which are detailed in this report. stated in the report. To get the full picture of our analysis, it's important to read the full report. Although we have conducted our analysis and have done our best to prepare this report, you should not rely on this report and cannot claim against us based on what it does or does not say or how it was produced. It is important to do your own research before making any decisions. This is explained in more detail in the following disclaimer. Please be sure to read to the end.

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Security analytics are based solely on smart contracts. Application or process security not checked. Product code not reviewed.

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Executive Summary

Objectives

Proof Audit, carried out an audit of DOGIRA, specifically their ERC20 token. The project is based on the Ethereum Network. We reviewed documentation which helped with understanding the functions of their code. Our findings in the audit ranged from minor to critical.

Project Info



Audited project

DOGIRA



Deployer Address

0x47C5aA82fDA7A79C7965BeB6d7c6a265FE59921b



Contract Address

0xD8C1232FcD219286E341271385bd70601503B3D7



Blockchain

Ethereum



Project website:

<https://www.dogira.net/>

Methodology

During the audit process, we inspected the repository thoroughly, using a line-by-line code read through to review vulnerabilities, quality of the code and adherence to best practices and specifications. We used Computer-Aided Verification to support the audit process.

Our auditing process is as follows:

- 1. Code Review:**

A review of the scope, specifications and documentation provided to ensure an in depth understanding of the purpose and functionality of the relevant smart contracts.

- 2. Automated Analysis:**

A series of reviews carried out with the use of automated tools. These reviews serve as a basis for further manual analysis and provide relevant visualizations of the code.

- 3. Testing & Manual Review of Code:**

Test coverage analysis and a line-by-line read through of the project code in order to identify vulnerabilities, errors and weaknesses in code quality.

- 4. Specification Comparison:**

A review of the code against the specifications provided to ensure that the code operates as is intended.

- 5. Best Practices Review:**

A review of the smart contracts to identify potential improvements in effectiveness, efficiency, and maintainability, with a focus on adherence to industry best practices.

Scope

The contracts audited are from the DogiraOfficial/DogiraToken git repository. The audit is based on the commit 'Small gas optimisations under transfer function' from 17/09/2021.

The audited contracts are:

Dogira.sol

The scope of the audit is limited to these files. No other files in this repository were audited. Its dependencies are assumed to work according to their documentation. Also, no tests were reviewed for this audit.

Dogira.sol Interaction Graph



Analyses

Without being limited to them, the audit process included the following analyses:

- Arithmetic errors
- Outdated version of Solidity compiler
- Race conditions
- Reentrancy attacks
- Misuse of block timestamps
- Denial of service attacks
- Excessive gas usage
- Missing or misused function qualifiers
- Needlessly complex code and contract interactions
- Poor or nonexistent error handling
- Insufficient validation of the input parameters
- Incorrect handling of cryptographic signatures
- Centralization and upgradeability

Summary of Findings

We found **0** critical issue, **0** Major issues, **0** medium issues, and **5** minor issues.



Security Issues

ID	Title	Severity	Status
01	Contract uses raw addition	Minor	Acknowledged
02	transferERC20 does not use SafeERC20	Minor	Acknowledged
03	Before-after method in swapTokens is unnecessary	Minor	Acknowledged
04	excludeFromFee has unnecessary setting to zero address	Minor	Acknowledged
05	Lack of events for takeFee and transferERC20	Minor	Acknowledged

Findings

Severity Classification

Security risks are classified as follows:

- **Critical:** These are issues that we manage to exploit. They compromise the system seriously. They must be fixed **immediately**.
- **Medium:** These are potentially exploitable issues. Even though we did not manage to exploit them, or their impact is not clear, they might represent a security risk in the near future. We suggest fixing them **as soon as possible**.
- **Minor:** These issues represent problems that are relatively small or difficult to take advantage of but can be exploited in combination with other issues. These kinds of issues do not block deployments in production environments. They should be taken into account and be fixed **when possible**.

Issues Status

An issue detected by this audit can have four distinct statuses:

- **Unresolved:** The issue has not been resolved.
- **Acknowledged:** The issue remains in the code but is a result of an intentional decision.
- **Resolved:** Adjusted program implementation to eliminate the risk.
- **Partially resolved:** Adjusted program implementation to eliminate part of the risk. The other part remains in the code but is a result of an intentional decision.
- **Mitigated:** Implemented actions to minimize the impact or likelihood of the risk.

Critical Severity Issues

N/A

Major Severity Issues

N/A

Medium Severity Issues

N/A

Minor Severity Issues

Contract uses raw addition

Description: The contract uses raw addition. Although the risk of overflows is low, this risk still remains and may present itself in edge cases as the contract uses Solidity version ^0.6.12.

Recommendation: Consider using SafeMath's add rather than raw addition.

Status: **Acknowledged**

transferERC20 does not use SafeERC20

Description: It is considered best practice to use OpenZeppelin's SafeERC20 for any token transfer operations.

Recommendation: Consider importing and using safeTransfer instead of transfer in the function.

Status: **Acknowledged**

Before-after method in swapTokens is unnecessary

Description: The before-after method allows for only the amounts of ETH received from swapTokensForEth to be transferred to the devWallet. However, as no user funds are actually held in the token contract, the before-after method looks to be redundant.

Recommendation: Consider removing this as it is redundant code.

Status: **Acknowledged**

excludeFromFee has unnecessary setting to zero address

Description: Setting this to the zero address in line 231 is not required since the next line simply just removes it.

Recommendation: Consider removing this line as it is unnecessary.

Status: **Acknowledged**

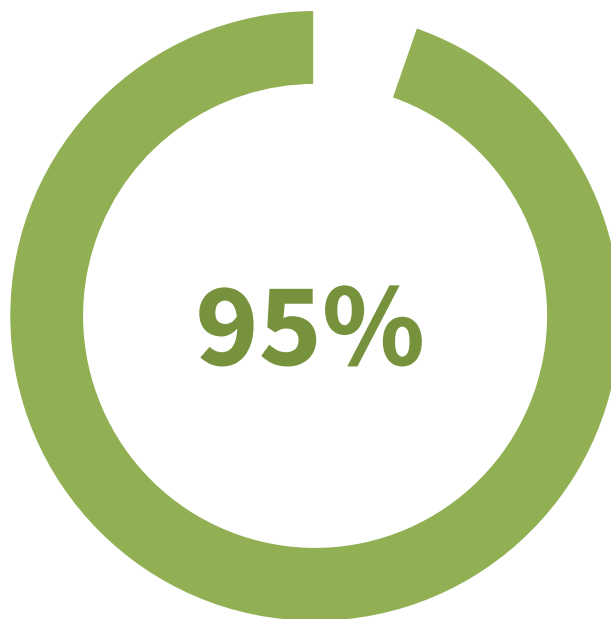
Lack of events for takeFee and transferERC20

Description: Functions that affect the status of sensitive variables should emit events as notifications.

Recommendation: Add events for the relevant functions.

Status: **Acknowledged**

Security Rating



Based on Vulnerabilities Found

