



SAFU AUDIT
SMART CONTRACT AUDITING

TRIVIOLOGY

SMART CONTRACT AUDIT

**TRIVIOLOGY
NETWORK**

February 20, 2022



INTRODUCTION

Client	Triviology
Language	Solidity
Contract address	0xf9EC74640E611C850e819A9d275587eB6fc295bA
Website	http://triviology.network/
Telegram	https://t.me/triviologynetwork
Twitter	https://twitter.com/triviologynet

Description

Triviology (TRV) P2E game is based on the Trivia notion that we decided to develop in this society where all the education values seem to fade.

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Approach



Audit Details

Our comprehensive audit report provides a full overview of the audited system's architecture, smart contract codebase, and details on any vulnerabilities found within the system.



Audit Goals

The audit goal is to ensure that the project is built to protect investors and users, preventing potentially catastrophic vulnerabilities after launch, that lead to scams and rugpulls.



Code Quality

Our analysis includes both automatic tests and manual code analysis for the following aspects:

- Exploits
 - Back-doors
 - Vulnerability
 - Accuracy
 - Readability
-



Tools

- Remix IDE
- MythX, Myhrlil
- SWC Registry
- Open Zeppelin Code Analyzer
- Solidity Code Complier

RISK CLASSIFICATION

CRITICAL

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

MEDIUM

Issues on this level could potentially bring problems and should eventually be fixed.

LOW

Issues on this level are minor details and warnings that can remain unfixed but would be better fixed at some point in the future

INFORMATIONAL

Information level is to offer suggestions for improvement of efficacy or security for features with a risk free factor.

ABSTRACT

Fees	Ownership	Mint function
Buy Fees: 11% Sell Fees: 11%	Owned	No mint function found
Owner can set fees Owner can set the fees up to 25%	Max Tx amount Owner can't set max tx amount	Pause Owner can't pause trading

SWC Attacks

SWC ID	Description	
SWC-100	Function Default Visibility	Passed
SWC-101	Integer Overflow and Underflow	Passed
SWC-102	Outdated Compiler Version	Passed
SWC-103	FloatingPragma	Passed
SWC-104	Unchecked Call Return Value	Passed
SWC-105	Unprotected Ether Withdrawal	Passed
SWC-106	Unprotected SELF-DESTRUCT Instruction	Passed
SWC-107	Re-entrancy	Passed
SWC-108	State Variable Default Visibility	Passed
SWC-109	Uninitialized Storage Pointer	Passed
SWC-110	Assert Violation	Passed
SWC-111	Use of Deprecated Solidity Functions	Passed
SWC-112	Delegate Call to Untrusted Callee	Passed
SWC-113	DoS with Failed Call	Passed
SWC-114	Transaction Order Dependence	Passed
SWC-115	Authorization through tx.origin	Low

SWC-116	Block values as a proxy for time	Passed
SWC-117	Signature Malleability	Passed
SWC-118	Incorrect Constructor Name	Passed
SWC-119	Shadowing State Variables	Passed
SWC-120	Weak Sources of Randomness from Chain Attributes	Passed
SWC-121	Missing Protection against Signature Replay Attacks	Passed
SWC-122	Lack of Proper Signature Verification	Passed
SWC-123	Requirement Violation	Passed
SWC-124	Write to Arbitrary Storage Location	Passed
SWC-125	Incorrect Inheritance Order	Passed
SWC-126	Insufficient Gas Griefing	Passed
SWC-127	Arbitrary Jump with Function Type Variable	Passed
SWC-128	DoS With Block Gas Limit	Passed
SWC-129	Typographical Error	Passed
SWC-130	Right-To-Left-Override control character (U+202E)	Passed
SWC-131	Presence of unused variables	Passed
SWC-132	Unexpected Ether balance	Passed
SWC-133	Hash Collisions With Multiple Variable Length Arguments	Passed
SWC-134	Message call with the hardcoded gas amount	Passed
SWC-135	Code With No Effects (Irrelevant/Dead Code)	Passed
SWC-136	Unencrypted Private Data On-Chain	Passed

MANUAL ANALYSIS

The contract is verified to check if functions do and work as they should and malicious code is not inserted.

	Tested	Result
Transfer	Yes	Passed
Total Supply	Yes	Passed
Buy Back	Yes	NA
Burn	Yes	Passed
Mint	Yes	NA
Rebase	Yes	NA
Pause	Yes	NA
Blacklist	Yes	NA
Lock	Yes	NA
Max Transaction	Yes	Passed
Transfer Ownership	Yes	Passed
Renounce Ownership	Yes	Passed

MANUAL AUDIT

Important snippets



Owner can exclude from fees

```
function excludeFromFees(address account, bool excluded) public onlyOwner {  
    require(  
        _isExcludedFromFees[account] != excluded,  
        "BABYTOKEN: Account is already the value of 'excluded'"  
    );  
    _isExcludedFromFees[account] = excluded;  
  
    emit ExcludeFromFees(account, excluded);  
}
```

Owner can exclude multiple Addresses from fees

```
function excludeMultipleAccountsFromFees(  
    address[] calldata accounts,  
    bool excluded  
) public onlyOwner {  
    for (uint256 i = 0; i < accounts.length; i++) {  
        _isExcludedFromFees[accounts[i]] = excluded;  
    }  
  
    emit ExcludeMultipleAccountsFromFees(accounts, excluded);  
}
```

Owner can exclude from Dividends

```
function excludeFromDividends(address account) external onlyOwner {  
    require(!excludedFromDividends[account]);  
    excludedFromDividends[account] = true;  
  
    _setBalance(account, 0);  
    tokenHoldersMap.remove(account);  
  
    emit ExcludeFromDividends(account);  
}
```



Website	http://triviology.network
Domain Registry	http://www.namecheap.com
Domain Validity	Expires on 2022-12-27
Response Code	200
SSL Checker and HTTPS Test	Medium
Deprecated HTML tags	Passed
Robots.txt	Passed
Sitemap Test	Passed
SEO Friendly URL	Passed
Responsive Test	Passed
JS Error Test	Passed
Console Errors Test	Passed
Site Loading Speed Test	Passed 3.24s
HTTP2 Test	Low
Safe Browsing Test	Passed

DISCLAIMER

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The purpose of the audit is to analyse the on-chain smart contract source code, and to provide basic overview of the project.

While we have used all the information available to us for this straightforward investigation, you should not rely on this report only – we recommend proceeding with several independent audits. Be aware that smart contracts deployed on a blockchain aren't secured enough against external vulnerability, or a hack. Be aware that active smart contract owner privileges constitute an elevated impact to smart contract's safety and security. Therefore, SafuAudit does not guarantee the explicit security of the audited smart contract. 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.

AUDIT RESULTS

CRITICAL

No critical severity issues have been found.

MEDIUM

No medium severity issues have been found.

LOW

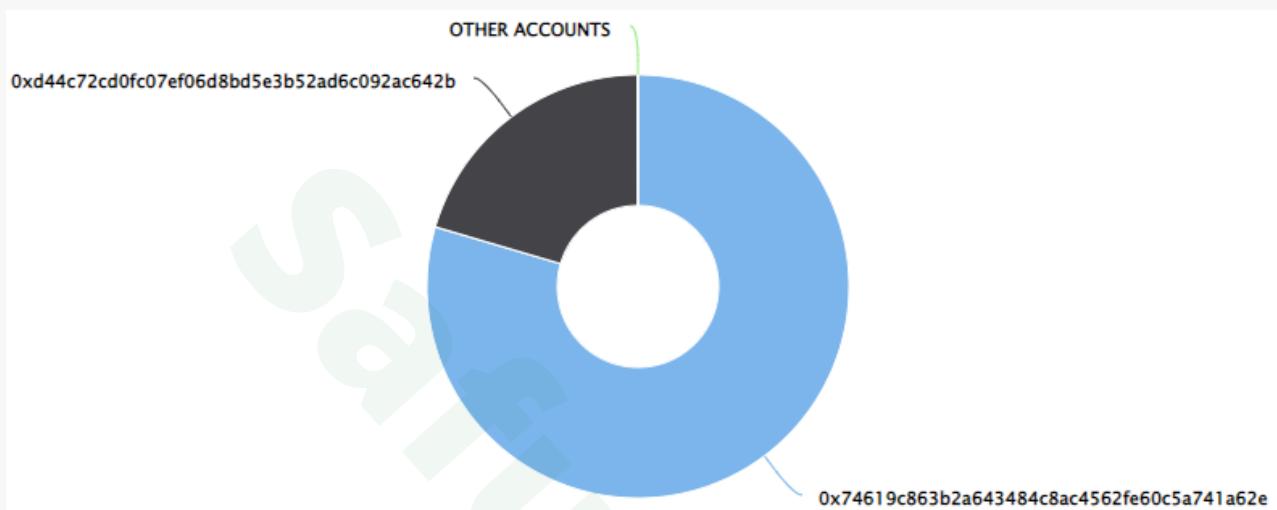
Owner can exclude multiple addresses from fees.

INFORMATIONAL

The standard audit model does not offer suggestions and consulting for improvements of the smart contract.

SUMMARY

Top 10 holders



Rank	Address	Quantity (Token)	Percentage
1	0x74619c863b2a643484c8ac4562fe60c5a741a62e	7,954,017,600	79.5402%
2	0xd44c72cd0fc07ef06d8bd5e3b52ad6c092ac642b	2,045,982,400	20.4598%

Conclusion

Project Triviology does not contain any severe issues or risk characteristics!
SafuAudit has tested the security based on manual and automated tests.
Please note that we don't offer any warranties for business model.