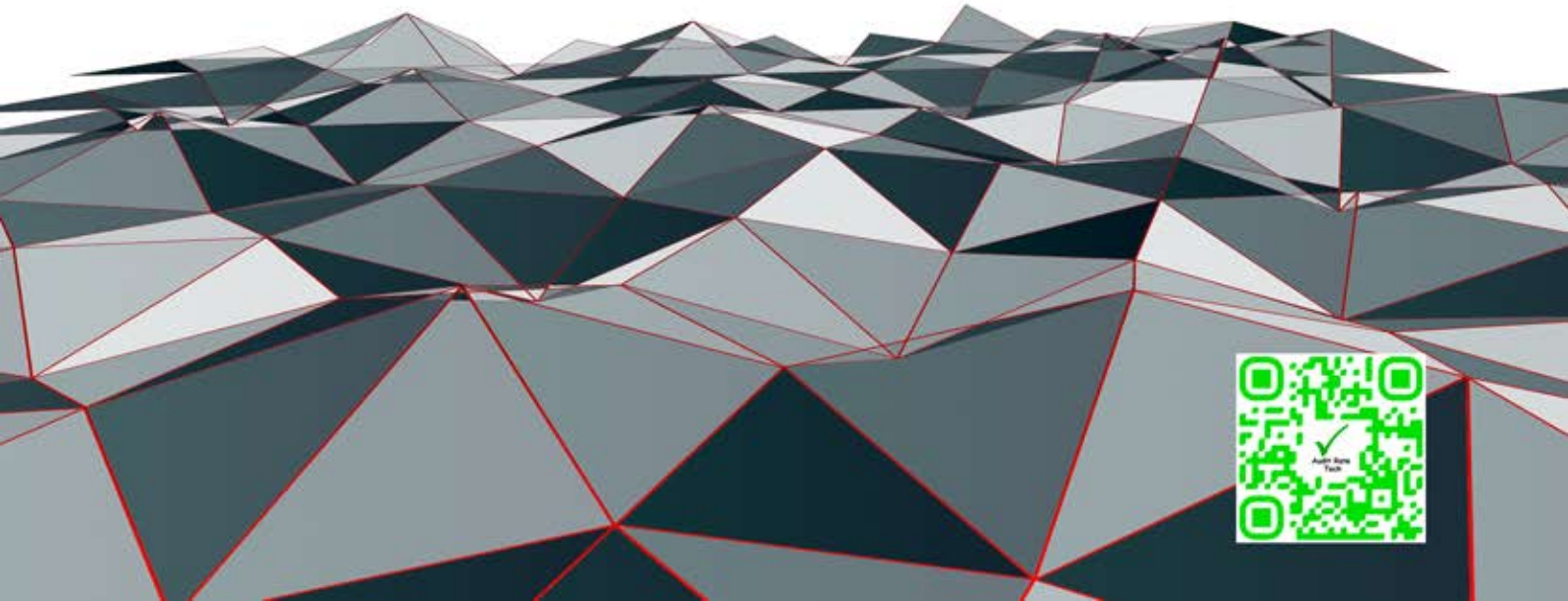
Smart Contract Security Audit

AUDIT RATE TECH

for

Mystery Inu



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.

Audit details:

Audited project: Mystery Inu

Total supply: 100,000,000,000

Token ticker: MINU

Decimals: 18

Contract address: 0xd6D6924942Bc2cDf5D5493A73D8D67ec9AEDd6A5

Languages: Solidity (Smart contract)

Platforms and Tools: Remix IDE, Truffle, Truffle Team, Ganache, Solhint, VScode, Mythril, Contract Library

Compiler Version: v0.6.12+commit.27d51765

Optimization Enabled: Yes with 200 runs

Contract Deployer Address: 0xB80259f398dfDaA2DCf4ce4069044f28fab259E4

Blockchain: Binance Smart Chain

Project website: https://mysteryinu.com/

The audit items and results:

(Other unknown security vulnerabilities are not included in the audit responsibility scope)

Audit Result: Passed

Audit Date: May 19, 2022

Audit Team: AUDIT RATE TECH

https://www.auditrate.tech/

Introduction

This Audit Report mainly focuses on the overall security of Mystery Inu Smart Contract.
With this report, we have tried to ensure the reliability and correctness of their smart contract by complete and rigorous assessment of their system's architecture and the smart contract codebase.

Auditing Approach and Methodologies applied

The AUDIT RATE TECH team has performed rigorous testing of the project starting with analyzing the code design patterns in which we reviewed the smart contract architecture to ensure it is structured and safe use of third-party smart contracts and libraries.
Our team then performed a formal line by line inspection of the Smart Contract to find any potential issue like race conditions, transaction-ordering dependence, timestamp dependence, and denial of service attacks.
In the Unit testing Phase, we coded/conducted custom unit tests written for each function in the contract to verify that each function works as expected.
In Automated Testing, we tested the Smart Contract with our in-house developed tools to identify vulnerabilities and security flaws.
The code was tested in collaboration of our multiple team members and this included -

- Testing the functionality of the Smart Contract to determine proper logic has been followed throughout the whole process.
- Analyzing the complexity of the code in depth and detailed, manual review of the code, lineby-line.
- Deploying the code on testnet using multiple clients to run live tests.
- Analyzing failure preparations to check how the Smart Contract performs in case of any bugs and vulnerabilities.
- Checking whether all the libraries used in the code are on the latest version.
- Analyzing the security of the on-chain data.

Audit Goals

The focus of the audit was to verify that the Smart Contract System is secure, resilient and working according to the specifications. The audit activities can be grouped in the following three categories:
Security
Identifying security related issues within each contract and the system of contract.
Sound Architecture
Evaluation of the architecture of this system through the lens of established smart contract best practices and general software best practices.
Code Correctness and Quality
A full review of the contract source code. The primary areas of focus include:

- Accuracy
- Readability
- Sections of code with high complexity
- Quantity and quality of test coverage

Issue Categories

Every issue in this report was assigned a severity level from the following:
High level severity issues
Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.
Medium level severity issues
Issues on this level could potentially bring problems and should eventually be fixed.
Low level severity issues
Issues on this level are minor details and warnings that can remain unfixed but would be better fixed at some point in the future.

Manual Audit:

For this section the code was tested/read line by line by our developers. We also used Remix IDE's JavaScript VM and Kovan networks to test the contract functionality.

Automated Audit

Remix Compiler Warnings
It throws warnings by Solidity's compiler. If it encounters any errors the contract cannot be compiled and deployed. No issues found.

Issues Checking Status

SWC ID	Description	Checking status
SWC-100	Function Default Visibility	Passed
SWC-101	Integer Overflow and Underflow	Passed
SWC-102	Outdated Compiler Version	Passed
SWC-103	Floating Pragma	Passed
SWC-104	Unchecked Call Return Value	Passed
SWC-105	Unprotected Ether Withdrawal	Passed
SWC-106	Unprotected SELFDESTRUCT Instruction	Passed
SWC-107	Reentrancy	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	Delegatecall to Untrusted Callee	Passed
SWC-113	DoS with Failed Call	Passed
SWC-114	Transaction Order Dependence	Passed
SWC-115	Authorization through tx.origin	Passed
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	LOW
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 hardcoded gas amount	Passed
SWC-135	Code With No Effects	Passed
SWC-136	Unencrypted Private Data On-Chain	Passed

Owner privileges

435 renounceOwnership
444 transferOwnership
455 lock
854 excludeFromReward
864 includeInReward
888 excludeFromFee
892 includeInFee
896 setMarketingWallet
900 setDevelopmentWallet
904 setRewardsWallet
908 setSwapAndLiquifyEnabled
1219 disableAllFees
1236 setRouterAddress

Top Token Holders

At the time of the audit

The top 3 holders collectively own 100.00% (100,000,000,000.00 Tokens) of Mystery Inu

Token Total Supply: 100,000,000,000.00 Token | Total Token Holders: 1

(A total of 100,000,000,000.00 tokens held by the top 3 accounts from the total supply of 100,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	0xb80259f398dfdaa2dcf4ce4069044f28fab259e4	100,000,000,000	100.0000%

KYC/Doxx

At the time of the audit, there is no information about the conduct of KYC / Doxx

Owner cannot set fees
No mint function found
Owner cannot set max tx amount
Owner cannot pause trading

Smart contracts contains the following risks:

Out of gas
Issue:
includeInReward()
The function includeInReward() 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 addresses list.
Recommendation:
Check that the excluded array length is not too big.

Out of gas
Issue:
getRate()
The function getRate also uses the loop for evaluating reflect rate. It also could be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.
Recommendation:
Check that the array length is not too big.

Out of gas
Issue:
getCurrentSupply()
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 addresses list.
Recommendation:
Check that the excluded array length is not too big.

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. The analysis of the contract does not give complete security and includes only the analysis that is indicated in the report. We do not analyze locked tokens or LP tokens, the presence of KYC in other companies, and so on. Also, our audit is not a recommendation for investment. All responsibility for the loss of investment lies with you!