auditace.tech

AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

SafeWard AI

DATED : 12 October 23'

AUDIT SUMMARY

Project name – SafeWard AI

Date: 12 October 2023

Scope of Audit- Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

Audit Status: Passed

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0

USED TOOLS

Tools:

1- Manual Review:
A line by line code review has been performed by audit ace team.

2- BSC Test Network: All tests were conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

3- Slither :
The code has undergone static analysis using Slither.

Testnet version:
The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:
https://testnet.bscscan.com/address/0x1Dd6bdaFAaDC5f1a50443CB9B3296375441b58Ee#code

Token Information

Token Address :
0x5E4769e64C104F23AdfA64a606645fA489dbcF40

Name: SafeWard AI

Symbol: SWI

Decimals: 18

Network: Binance smart chain

Token Type: BEP20

Owner: 0xc4968f7F0B80CB594eA737a3F8baDa56a396c4E3

Deployer:
0xc4968f7F0B80CB594eA737a3F8baDa56a396c4E3

Token Supply: 123,456,789,123,456

Checksum:
087aae78a48b40afff2b31b35e3dcb3e15e9d12e

Testnet version:
The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:
https://testnet.bscscan.com/address/0x1Dd6bdaFAaDC5f1a50443CB9B3296375441b58Ee#code

TOKEN OVERVIEW

buy fee: 0%

Sell fee: 0%

transfer fee: 0%

Fee Privilege: No fees

Ownership: Not owned

Minting: None

Max Tx: No

Blacklist: No

Other Privileges:

- Initial distribution of the tokens

AUDIT METHODOLOGY

The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
- Test coverage analysis determines whether the test cases are covering the code and how much code isexercised when we run the test cases.
- Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

VULNERABILITY CHECKLIST

- [x] Return values of low-level calls
- [x] Private modifier
- [x] Multiple Sends
- [x] Using Suicide
- [x] Gas Limitand Loops
- [x] Address hardcoded
- [x] Exception Disorder
- [x] Using inline assembly
- [x] Divide before multiply
- [x] Missing Zero Address Validation
- [x] Compiler version not fixed
- [x] **Gasless Send**
- [x] Using block.timestamp
- [x] Re-entrancy
- [x] Tautology or contradiction
- [x] Timestamp Dependence
- [x] Revert/require functions
- [x] Use of tx.origin
- [x] Integer overflow/underflow
- [x] Dangerous strict equalities
- [x] Using SHA3
- [x] Using throw

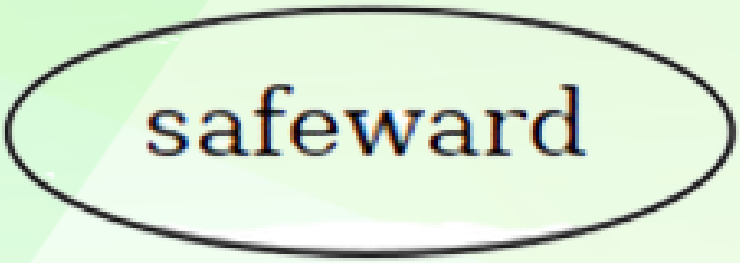
CLASSIFICATION OF RISK

Severity	Description
Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
Gas Optimization /Suggestion	A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
Critical	0
High-Risk	0
Medium-Risk	0
Low-Risk	0
Gas Optimization / Suggestions	0

INHERITANCE TREE



POINTS TO NOTE

- **Owner is not able to set fees**
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to disable trades
- Owner is not able to mint new tokens
- Owner is not able to set maximum wallet and maximum buy/sell/transfer limits

STATIC ANALYSIS

```
INFO:Detectors:
Pragma version^0.8.17 (contracts/Token.sol#5) allows old versions
solc-0.8.17 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
INFO:Detectors:
Contract safeward (contracts/Token.sol#7-55) is not in CapWords
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
INFO:Detectors:
safeward.decimals (contracts/Token.sol#10) should be constant
safeward.name (contracts/Token.sol#8) should be constant
safeward.symbol (contracts/Token.sol#9) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant
INFO:Detectors:
safeward.totalSupply (contracts/Token.sol#11) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
INFO:Slither:./contracts/Token.sol analyzed (1 contracts with 88 detectors), 7 result(s) found
```

Result => A static analysis of contract's source code has been performed using slither,

No major issues were found in the output

CONTRACT ASSESMENT

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
safeward	Implementation			
└	<Constructor>	Public ❗	🛑	NO ❗
└	transfer	Public ❗	🛑	NO ❗
└	approve	Public ❗	🛑	NO ❗
└	transferFrom	Public ❗	🛑	NO ❗

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

FUNCTIONAL TESTING

1- Adding liquidity (passed):

https://testnet.bscscan.com/tx/0x7e6a74b9bc093e5d7384f5f273f723aec85f1015034b4ac3ee177fd31b336e7e

2- Buying (0% tax) (passed):

https://testnet.bscscan.com/tx/0x9244b3cdd9a20447814f5f3393d76be19da5274afe6cd275ff0765a9f208a751

3- Selling (0% tax) (passed):

https://testnet.bscscan.com/tx/0xdca138a0d82f13c34e009379e6ac6396a8a0fb7efcc38bf8a6489daec79ac3b4

4- Transferring (0% tax) (passed):

https://testnet.bscscan.com/tx/0xbe126d375f695c5240333545f5ffe58d013fef0b2f67b9a7a8f43bf595487919

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