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AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

Squishy

DATED : 16 Sep 24'

MANUAL TESTING

Centralization – The owner can Blacklist Wallet.

Severity: High

Function: blacklist

Status: Open

Overview:
The owner can blacklist multiple wallets.

```
function blacklist(address _address, bool _isBlacklisting) external onlyOwner {
    blacklists[_address] = _isBlacklisting;
}
```

Suggestion:
There should be a locking period so that the wallet cannot be locked in an indefinite
Period of time.

AUDIT SUMMARY

Project name – Squishy

Date: 16 Sep, 2024

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

Audit Status: **High Risk Major Flag**

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	1	0	2	1
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/0xe6dc4cc1cf81cf832821bed437005d865555863c#code

Token Information

Token Address:
0x87b5c6F208cd08AE0F84bEa7672Cf23b937948E1

Name: Squishy

Symbol: SQUISHY

Decimals: 18

Network: Ethereum Network

Token Type: ERC-20

Owner: 0x0e370dE3E84E3Bf21ed70e3d4DcEF4941B12E61b

Deployer: 0x0e370dE3E84E3Bf21ed70e3d4DcEF4941B12E61b

Token Supply: 1000000000

Checksum: Ac6659e84744e0102ab19c1d1e78a21a

Testnet:
https://testnet.bscscan.com/address/0xe6dc4cc1cf81cf832821bed437005d865555863c#code

TOKEN OVERVIEW

Buy Fee: 0-0%

Sell Fee: 0-0%

Transfer Fee: 0-0%

Fee Privilege: Owner

Ownership: Owned

Minting: None

Max Tx: None

Blacklist: Yes

AUDIT METHODOLOGY

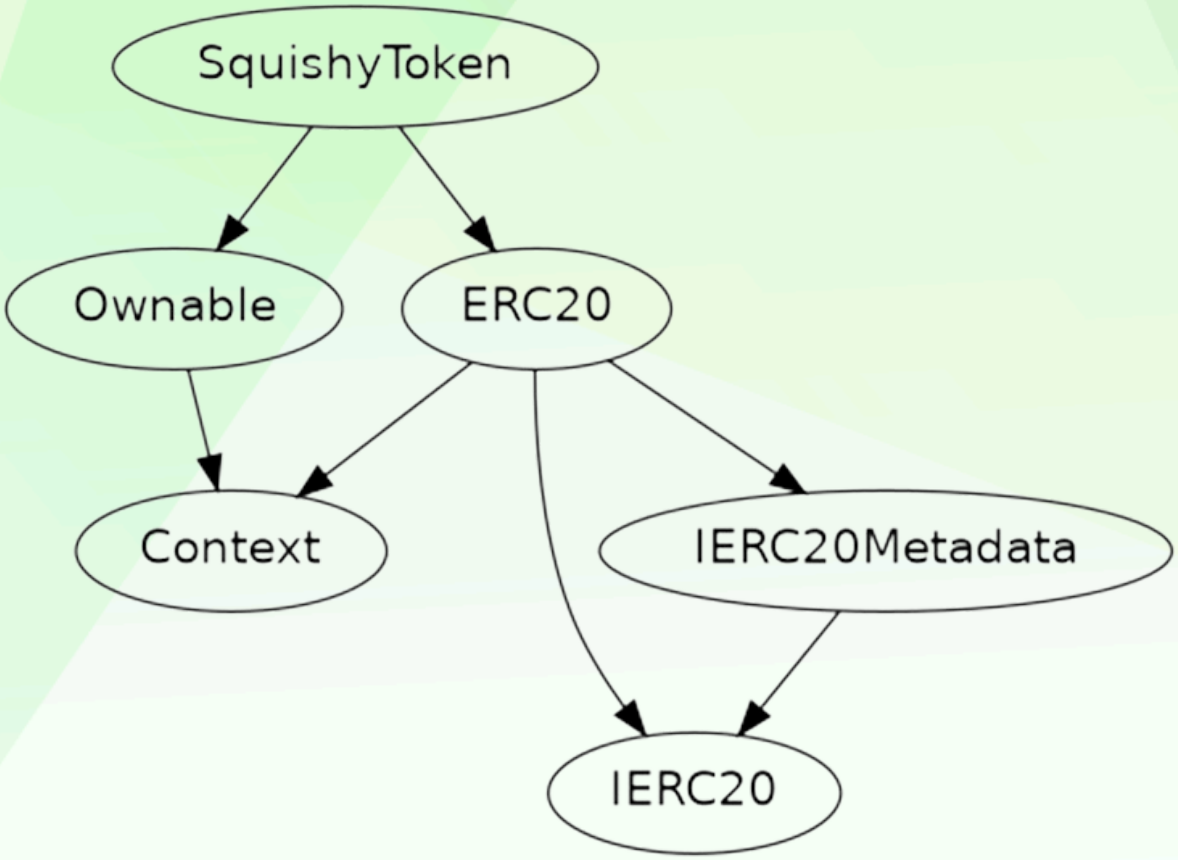
The auditing process will follow a routine as special considerations by Auditace:

- 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

INHERITANCE TREE



POINTS TO NOTE

- The owner can transfer ownership.
- The owner can renounce ownership.
- The owner can blacklist the address.
- The owner can set the rule.

STATIC ANALYSIS

```
INFO:Detectors:
SquishyToken.constructor(uint256)._totalSupply (SquishyToken.sol#599) shadows:
        - ERC20._totalSupply (SquishyToken.sol#266) (state variable)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#local-variable-shadowing
INFO:Detectors:
SquishyToken.setRule(bool,address,uint256,uint256) (SquishyToken.sol#607-612) should emit an event for:
        - maxHoldingAmount = _maxHoldingAmount (SquishyToken.sol#610)
        - minHoldingAmount = _minHoldingAmount (SquishyToken.sol#611)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-arithmetic
INFO:Detectors:
SquishyToken.setRule(bool,address,uint256,uint256)._uniswapV2Pair (SquishyToken.sol#607) lacks a zero-check on :
                - uniswapV2Pair = _uniswapV2Pair (SquishyToken.sol#609)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-zero-address-validation
INFO:Detectors:
2 different versions of Solidity are used:
        - Version constraint ^0.8.0 is used by:
                -^0.8.0 (SquishyToken.sol#10)
                -^0.8.0 (SquishyToken.sol#38)
                -^0.8.0 (SquishyToken.sol#116)
                -^0.8.0 (SquishyToken.sol#202)
                -^0.8.0 (SquishyToken.sol#232)
        - Version constraint ^0.8.17 is used by:
                -^0.8.17 (SquishyToken.sol#589)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#different-pragma-directives-are-used
INFO:Detectors:
Context._msgData() (SquishyToken.sol#27-29) is never used and should be removed
ERC20._beforeTokenTransfer(address,address,uint256) (SquishyToken.sol#557-561) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code
INFO:Detectors:
Version constraint ^0.8.0 contains known severe issues (https://solidity.readthedocs.io/en/latest/bugs.html)
        - FullInlinerNonExpressionSplitArgumentEvaluationOrder
        - MissingSideEffectsOnSelectorAccess
        - AbiReencodingHeadOverflowWithStaticArrayCleanup
        - DirtyBytesArrayToStorage
        - DataLocationChangeInInternalOverride
        - NestedCalldataArrayAbiReencodingSizeValidation
        - SignedImmutables
        - ABIDecodeTwoDimensionalArrayMemory
        - KeccakCaching.
```

```
INFO:Detectors:
Parameter SquishyToken.blacklist(address,bool)._address (SquishyToken.sol#603) is not in mixedCase
Parameter SquishyToken.blacklist(address,bool)._isBlacklisting (SquishyToken.sol#603) is not in mixedCase
Parameter SquishyToken.setRule(bool,address,uint256,uint256)._limited (SquishyToken.sol#607) is not in mixedCase
Parameter SquishyToken.setRule(bool,address,uint256,uint256)._uniswapV2Pair (SquishyToken.sol#607) is not in mixedCase
Parameter SquishyToken.setRule(bool,address,uint256,uint256)._maxHoldingAmount (SquishyToken.sol#607) is not in mixedCase
Parameter SquishyToken.setRule(bool,address,uint256,uint256)._minHoldingAmount (SquishyToken.sol#607) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
INFO:Slither:SquishyToken.sol analyzed (6 contracts with 94 detectors), 14 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

FUNCTIONAL TESTING

1- Approve (passed):

https://testnet.bscscan.com/tx/0x7ac7409a3bf4d9e1e0e560a858c89f19ede5a95f4ec6bc335993360151d30982

2- Blacklist (passed):

https://testnet.bscscan.com/tx/0x9a44ddd58b1a91c040d5dfd74e7f3ed611dd8172da012bbab008b2be2544499b

3- Set Rule (passed):

https://testnet.bscscan.com/tx/0xefd9b467cdb1af79e434ee699df0d685f3fd96ca6adad4002eff5153a292d92f

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	1
Medium-Risk	0
Low-Risk	2
Gas Optimization / Suggestions	1

MANUAL TESTING

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Function: blacklist

Status: Open

Overview:
The owner can blacklist multiple wallets.

```
function blacklist(address _address, bool _isBlacklisting) external onlyOwner {
    blacklists[_address] = _isBlacklisting;
}
```

Suggestion:
There should be a locking period so that the wallet cannot be locked in an indefinite
Period of time.

MANUAL TESTING

Centralization – Missing Events

Severity: Low

Subject: Missing Events

Status: Open

Overview:
They serve as a mechanism for emitting and recording data onto the blockchain, making it transparent and easily accessible.

```
function blacklist(address _address, bool _isBlacklisting) external onlyOwner {
    blacklists[_address] = _isBlacklisting;
  }
function setRule(bool _limited, address _uniswapV2Pair, uint256
_maxHoldingAmount, uint256 _minHoldingAmount) external onlyOwner {
    limited = _limited;
    uniswapV2Pair = _uniswapV2Pair;
    maxHoldingAmount = _maxHoldingAmount;
    minHoldingAmount = _minHoldingAmount;
  }
```

Suggestion:
Emit an event for critical changes

MANUAL TESTING

Centralization – Missing zero/dead address.

Severity: Low

Status: Open

Subject: Zero/dead address check.

Overview:

```
function setRule(bool _limited, address _uniswapV2Pair, uint256
_maxHoldingAmount, uint256 _minHoldingAmount) external onlyOwner {
    limited = _limited;
    uniswapV2Pair = _uniswapV2Pair;
    maxHoldingAmount = _maxHoldingAmount;
    minHoldingAmount = _minHoldingAmount;
  }
```

Suggestion:

It is recommended that the address should not be zero or dead address check.

MANUAL TESTING

Optimization

Severity: Informational

Subject: Floating Pragma.

Status: Open

Overview:
It is considered best practice to pick one compiler version and stick with it. With a floating pragma, contracts may accidentally be deployed using an outdated.
pragma solidity ^0.8.0;

Suggestion:
Adding the latest constant version of solidity is recommended, as this prevents the unintentional deployment of a contract with an outdated compiler that contains unresolved bugs.

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