

Smart Contract Audit

FOR

Spongebob Inu

DATED: 26 Apr 23'



AUDIT SUMMARY

Project name - Spongebob Inu

Date: 26 April, 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	2	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 done on BSC Test network, each test has its transaction has attached to it.

3- Slither: Static Analysis

Testnet Link: all tests were done using this contract, tests are done on BSC Testnet

https://testnet.bscscan.com/token/0x316e39a96d48 9ced3d376ed1c1564d00a323dbe2



Token Information

Token Name: Spongebob Inu

Token Symbol: Spongebob

Decimals: 18

Token Supply:100,000,000,000,000

Token Address:

0xC23796b5De89631bE645e718D7bD2a566FFd378C

Checksum:

a1ba5be6880c7a13a4d7c070bc345c7cae291ae9

Owner:

0x20C9E801491D2DB90Fb1dbc40E8f2c6146f3d4B4

Deployer:

0x583312730e667F72c15667a8706808289094b9d7



TOKEN OVERVIEW

Fees:

Buy Fees: upto 8 %

Sell Fees: upto 8 %

Transfer Fees: 0%

Fees Privilige: none

Ownership: Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Priviliges: modifying swap threshold - toggling internal swap - excluding wallets from fee - including wallets in fee - modifying fees - changing buyback threshold



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-byline 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





CLASSIFICATION OF RISK

Severity

- Critical
- High-Risk
- Medium-Risk
- Low-Risk
- Gas Optimization/Suggestion

Description

These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.

A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.

A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.

A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.

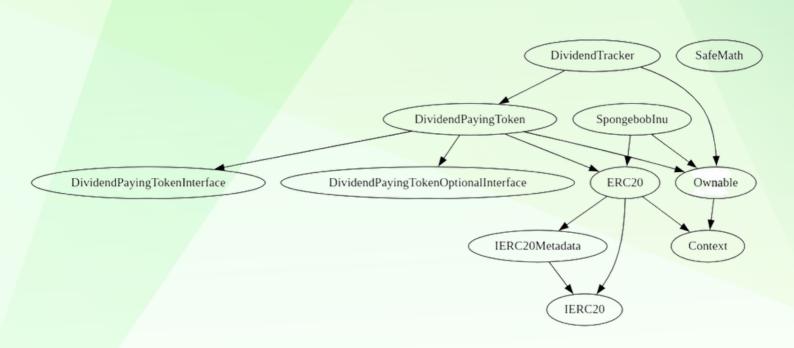
A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
◆ Critical	0
♦ High-Risk	2
◆ Medium-Risk	0
♦ Low-Risk	0
Gas Optimization /Suggestions	0



INHERITANCE TREE





POINTS TO NOTE

- Owner is able to change buy/sell each one up to 8%
- Owner is not ablet o set transfer taxes (0% forever)
- Owner is not able to set max buy/sell/transfer/hold amount
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to disable trades
- Owner has to enable trades manually for holders
- Owner is not able to mint new tokens
- Token has BNB rewards with auto-distribution
- Fees are used for rewards (BNB), buyback and marketing



```
| Contract |
                Type
                             Bases
| **Function Name** | **Visibility** | **Mutability** | **Modifiers** | |
| **Context** | Implementation | |||
| L | _msgData | Internal 🦰 | | |
111111
**Ownable** | Implementation | Context | | |
| L | <Constructor> | Public | | | | NO | |
| L | owner | Public | | NO | |
| L | renounceOwnership | Public | | | | onlyOwner |
📙 | transferOwnership | Public 🛮 | 🛑 | onlyOwner |
📙 🗀 _transferOwnership | Internal 🦰 | 🛑 | |
\Pi\Pi\Pi\Pi
| **SafeMath** | Library | ||| |
| L | add | Internal 🦲 | | |
| L | sub | Internal 🦰 | | | |
| L | sub | Internal 🦰 | | | |
| L | mul | Internal 🦰 | | | |
| L | div | Internal 🦲 | | |
| L | div | Internal 🦲 | | |
| L | mod | Internal 🦲 | | |
| L | mod | Internal 🦰 | | |
\Pi\Pi\Pi\Pi\Pi
| **SafeMathInt** | Library | | | | |
| L | mul | Internal 🦰 | | | |
| L | div | Internal 🦰 | | | |
| L | sub | Internal 🦰 | | | |
| L | add | Internal 🦰 | | | |
| L | abs | Internal 🦰 | | | |
| L | toUint256Safe | Internal 🦰 | | |
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| **SafeMathUint** | Library | | | |
| L | toInt256Safe | Internal 🦰 | | |
\Pi\Pi\Pi\Pi\Pi
| **IterableMapping** | Library | | | | |
| L | get | Internal 🦰 | | | |
| L | getIndexOfKey | Internal 🦰 | | |
| L | size | Internal 🦰 | | |
| L | set | Internal 🦰 | 🛑 | |
| L | remove | Internal 🦰 | 🛑 | |
```



```
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**IUniswapV2Factory** | Interface | |||
| L | feeTo | External | | NO | |
| | | feeToSetter | External | | | | NO
| L | getPair | External | | NO | | |
| L | allPairs | External | | | NO | |
| L | allPairsLength | External | | NO | |
| L | createPair | External | | | NO | |
| L | setFeeTo | External | | | NO | |
| | setFeeToSetter | External | | | NO | |
ши
**IUniswapV2Pair** | Interface | |||
| L | name | External | | | NO | |
| L | symbol | External | | NO | |
| L | decimals | External | | NO | |
| L | totalSupply | External | | NO | |
| L | balanceOf | External | | NO | |
| L | allowance | External | | NO | |
| L | approve | External | | | NO | |
| L | transfer | External | | | NO | |
| L | transferFrom | External | | | NO | |
| L | DOMAIN_SEPARATOR | External | | NO | |
| L | PERMIT TYPEHASH | External | | | NO | |
| L | nonces | External | | NO | |
| L | permit | External | | | NO | |
| L | MINIMUM LIQUIDITY | External | | NO |
| L | factory | External | | NO | |
| L | token0 | External | | NO | |
| L | token1 | External | | NO | |
| L | getReserves | External | | NO | |
| L | price0CumulativeLast | External | | NO | |
| L | price1CumulativeLast | External | | NO |
| L | kLast | External | | NO | |
| L | mint | External | | | NO | |
| L | burn | External | | | NO | |
| L | swap | External | | | NO | |
| L | skim | External | | | NO | |
| L | sync | External | | | NO | |
| L | initialize | External | | | NO | |
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| **IUniswapV2Router01** | Interface | |||
```



```
| L | factory | External | | NO | |
| | WETH | External | | NO
| L | addLiquidity | External | | | | NO | |
| L | addLiquidityETH | External | | III | NO | |
| | removeLiquidity | External | | | NO | |
| L | removeLiquidityETH | External | | | NO | |
| L | removeLiquidityWithPermit | External | | | NO | |
| | removeLiquidityETHWithPermit | External | | | NO | |
| | swapExactTokensForTokens | External | | | NO | |
| L | swapTokensForExactTokens | External | | | NO | |
| L | swapExactETHForTokens | External | | 🔟 | NO | |
📙 | swapTokensForExactETH | External 📗 🛑 | NO 📗
| L | swapExactTokensForETH | External | | 🛑 | NO | |
| L | quote | External | | NO | |
| L | getAmountOut | External | | NO | |
| L | getAmountin | External | | NO | |
| L | getAmountsOut | External | | | NO | |
| L | getAmountsIn | External | | NO | |
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| **IUniswapV2Router02** | Interface | IUniswapV2Router01 | | | | | |
| L | removeLiquidityETHSupportingFeeOnTransferTokens | External | | | NO | |
| | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External | | | | NO | |
| L | swapExactTokensForTokensSupportingFeeOnTransferTokens | External | | | | NO | |
| L | swapExactTokensForETHSupportingFeeOnTransferTokens | External | | | NO | |
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| **IERC20** | Interface | ||| | |
| L | totalSupply | External | | NO | |
| L | balanceOf | External | | NO | |
| L | allowance | External | | NO | |
| L | transfer | External | | | NO | |
| L | approve | External | | | NO | |
| L | transferFrom | External | | | NO | |
IIIIIII
| **Address** | Library | | | |
| L | isContract | Internal 🖲 | | |
| L | sendValue | Internal 🦰 | 🛑 | |
| L | functionCall | Internal 🦲 | 🧓 | |
| L | functionCall | Internal 🦲 | 🧓 | |
| L | functionCallWithValue | Internal 🦰 | 🛑 | |
```



```
| L | functionCallWithValue | Internal 🦲 | 🧓 | |
| L | functionCallWithValue | Private (P) | ( ) | |
**IERC20Metadata** | Interface | IERC20 | | |
| | name | External | | NO | |
| L | symbol | External | | NO | |
| L | decimals | External | | NO | |
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| **IPinkAntiBot** | Interface | | | | | |
| L | setTokenOwner | External | | | NO | |
| L | onPreTransferCheck | External | | | NO | |
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**ERC20** | Implementation | Context, IERC20, IERC20Metadata | | |
| L | <Constructor> | Public | | ( NO | | | |
| L | name | Public | | NO | |
| L | symbol | Public | | NO | |
| L | decimals | Public | | NO | |
| L | totalSupply | Public | | NO | |
| L | balanceOf | Public | | NO | |
| L | transfer | Public | | | NO | |
| L | allowance | Public | | NO | |
| L | approve | Public | | | | NO | |
| L | transferFrom | Public | | | NO | |
| L | increaseAllowance | Public | | | NO | |
| L | decreaseAllowance | Public | | ( ) | NO | |
| L | _transfer | Internal 🦰 | 🛑 | |
| L | _mint | Internal 🦲 | 🧓 | |
| L | burn | Internal 🦰 | 🛑 | |
| L | _approve | Internal 🦰 | 🛑 | |
| L | beforeTokenTransfer | Internal 🦲 | 🛑 | |
| **DividendPayingTokenInterface** | Interface | |||
| L | dividendOf | External | | | NO | |
| L | withdrawDividend | External | | | NO | |
| **DividendPayingTokenOptionalInterface** | Interface | | | |
| L | withdrawableDividendOf | External | | NO | |
| L | withdrawnDividendOf | External | | NO | |
| L | accumulativeDividendOf | External | | NO | |
| **DividendPayingToken** | Implementation | ERC20, Ownable, DividendPayingTokenInterface,
DividendPayingTokenOptionalInterface | | |
```



```
| L | distributeDividends | Public | | 🛑 | onlyOwner |
| L | withdrawDividend | Public | | ( NO | |
| L | _withdrawDividendOfUser | Internal 🦰 | 🛑 | |
| L | dividendOf | Public | | NO | |
| | withdrawableDividendOf | Public | | NO | |
| | withdrawnDividendOf | Public | | NO | |
| L | accumulativeDividendOf | Public | | NO | |
| L | _mint | Internal 🦰 | 🛑 | |
| L | _burn | Internal 🦰 | 🛑 | |
📙 | _setBalance | Internal 🦰 | 🛑 | |
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| **DividendTracker** | Implementation | Ownable, DividendPayingToken | | | | | |
| L | _transfer | Internal 🦰 | | |
| L | withdrawDividend | Public | | NO | |
| L | updateMinimumTokenBalanceForDividends | External | | | | onlyOwner |
| L | excludeFromDividends | External | | | | onlyOwner |
| L | setLastProcessedIndex | External | | | | onlyOwner |
| L | getLastProcessedIndex | External | | NO | |
| L | getNumberOfTokenHolders | External | | NO | |
| L | getAccount | Public | | NO | |
| L | getAccountAtIndex | Public | | NO | |
| L | canAutoClaim | Private 🦳 | | |
| L | setBalance | External | | | | onlyOwner |
| L | process | Public | | | | NO | |
| L | processAccount | Public | | ( ) | onlyOwner |
\Pi\Pi\Pi\Pi\Pi
| **SpongebobInu** | Implementation | ERC20, Ownable | | | | |
| L | <Constructor> | Public | | ( ) | ERC20 |
| L | <Receive Ether> | External | | I NO | |
| L | claimStuckTokens | External | | | | onlyOwner |
| L | excludeFromFees | External | | | | onlyOwner |
| L | isExcludedFromFees | Public | | NO | |
| L | updateBuyFees | External | | | | onlyOwner |
| L | updateSellFees | External | | | | onlyOwner |
| L | enableTrading | External | | | | onlyOwner |
```



```
| L | _transfer | Internal 🦰 | 🛑 | | | |
| L | swapAndSendDividends | Private 🖳 | 🛑 | |
| L | setSwapEnabled | External | | | | onlyOwner |
| L | setBNBValueForBuyBurn | Public | | 🛑 | onlyOwner |
| L | buyBack | Internal 🦰 | 🛑 | |
| L | setSwapTokensAtAmount | External | | | | onlyOwner |
| L | updateDividendTracker | Public | | ( ) | onlyOwner |
| L | updateGasForProcessing | Public | | | | onlyOwner |
| L | updateMinimumBalanceForDividends | External | | | | onlyOwner |
| L | getClaimWait | External | | NO | |
| | getTotalDividendsDistributed | External | | NO | |
| L | withdrawableDividendOf | Public | | NO | |
| L | dividendTokenBalanceOf | Public | | NO | |
| L | totalRewardsEarned | Public | | NO | |
| L | excludeFromDividends | External | | | | onlyOwner |
| L | isExcludedFromDividends | Public | | NO | |
| | getAccountDividendsInfo | External | | NO | |
| L | getAccountDividendsInfoAtIndex | External | | | NO | |
| L | processDividendTracker | External | | | NO | |
| L | claim | External | | | NO | |
| L | claimAddress | External | | | | onlyOwner |
| L | getLastProcessedIndex | External | NO |
| L | setLastProcessedIndex | External | | | | onlyOwner |
| L | getNumberOfDividendTokenHolders | External | | | NO | |
| Symbol | Meaning |
|:-----|
      | Function can modify state |
   Function is payable |
```



STATIC ANALYSIS

```
Function Uniswapy/Pair_DOMAIN SEPARTON() (contracts/Token.sol#303) is not in mixed/case
Function Uniswapy/Pair_MIRMEN (INCURTY) (contracts/Token.sol#305) is not in mixed/case
Function Uniswapy/Pair_MIRMEN (INCURTY) (contracts/Token.sol#305) is not in mixed/case
Function Uniswapy/Pair_MIRMEN (INCURTY) (contracts/Token.sol#305) is not in mixed/case
Parameter DividendByingToken.dividendG/(address)., quaer_(contracts/Token.sol#309) is not in mixed/case
Parameter DividendByingToken.dividendG/(address)., quaer_(contracts/Token.sol#309) is not in mixed/case
Parameter DividendByingToken.withdramableDividendG/(address)., quaer_(contracts/Token.sol#309) is not in mixed/case
Parameter DividendByingToken.withdramableDividendG/(address)., quaer_(contracts/Token.sol#309) is not in mixed/case
Parameter DividendByingToken.mapitude (contracts/Token.sol#309) is not in mixed/case
Parameter DividendTracter.updatedHinimanGokalanceforDividendS(uint226). newtrinimanGokalance(contracts/Token.sol#309) is not in mixed/case
Parameter SongbobDium.updatedByFes(uint236, uint236, uint236, uint236). newtrinimanGokalance(contracts/Token.sol#309) is not in mixed/case
Parameter SongbobDium.updatedByFes(uint236, uint236, uint236). marketingFeedDividendS(uint236). IntellegendDividendS(uint236). marketingFeedDividendS(uint236). IntellegendDividendS(uint236). IntellegendDividendS(
```

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

No major issues were found in the output



FUNCTIONAL TESTING

Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

All the functionalities have been tested, no issues were found

1- Adding liquidity (passed):

https://testnet.bscscan.com/tx/0x08a5d23aeb5db77acf55151350 5d65c57d29baf4041508654f384a18281e1c57

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

https://testnet.bscscan.com/tx/0xcfbe71234b3e16c4dc9065a76f0d6a3d71e50f07037779ae941eb6afd2d73f17

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

https://testnet.bscscan.com/tx/0x718aa8fb8c4bf8a527ae9326df2a16d91336f764015d4d1f45a1d7cae1d856f4

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

https://testnet.bscscan.com/tx/0x40536a087e022bc584fe0345a5 bf45a3a18d423dcc5c8658efdc4e6a101ed352

5- Buying when not excluded (8% tax) (passed):

https://testnet.bscscan.com/tx/0x8245330da5b777e01539075d26 1974ab362647aafd9408cde92976a90bd01daf

6- Selling when not excluded (8% tax) (passed):

https://testnet.bscscan.com/tx/0xb6b0e88cb5e7d02880a545725d48703f8b51e7605b72e3e5fbf5b39c8ad4f80c



FUNCTIONAL TESTING

7- Transferring when not excluded (0% tax) (passed):

https://testnet.bscscan.com/tx/0xddb52521e87a8c0a50aa2f19471 9eec5702afaffef37dd48d3128e31bdc0b6b9

8- Internal swap (passed):

Marketing wallet received BNB

https://testnet.bscscan.com/address/0xc106ad08f4d436bdb69a14 88c628994968998aff#internaltx

9- Buyback(passed):

Buyback happened after reaching the threshold, and tokens were sent to dead wallet

https://testnet.bscscan.com/token/0x316e39a96d489ced3d376ed 1c1564d00a323dbe2?



MANUAL TESTING

Logical – Upgradeable dividend tracker

Severity: High

Function: enableTrading

Lines: 1531

Status: Not Resolved

Overview:

Owner of the contract is able to change dividend tracker to another address. If new dividend tracker has issues (spending lots of gas, not compatible with current token implementation etc), buy/sell/transfers would be disabled.

```
function updateDividendTracker(address newAddress) public onlyOwner {
  require(
    newAddress != address(dividendTracker),
    "The dividend tracker already has that address"
  );
  DividendTracker newDividendTracker = DividendTracker(
    payable(newAddress)
  );
  require(
    newDividendTracker.owner() == address(this),
    "The new dividend tracker must be owned by the token contract"
  );
    newDividendTracker.excludeFromDividends(address(newDividendTracker))
  try newDividendTracker.excludeFromDividends(address(this)) {} catch {}
  try newDividendTracker.excludeFromDividends(DEAD) {} catch {}
    newDividendTracker.excludeFromDividends(address(uniswapV2Router))
  {} catch {}
    newDividendTracker.excludeFromDividends(address(uniswapV2Pair))
  {} catch {}
  emit UpdateDividendTracker(newAddress, address(dividendTracker));
  dividendTracker = newDividendTracker;
```

Recommendation:

There are several options to mitigate this issue

- renounce the ownership
- Ensure that dividend tracker is not upgradeable
- Add additional functions to current dividend tracker so be able to change reward token, router address etc. this means we don't need to create a new dividend tracker later in order to update current one.



MANUAL TESTING

Centralization - Owner Must Enable Trades

Severity: High / Informational Function: enableTrading

Lines: 1531

Status: Not Resolved

Overview:

The owner is required to enable trading for investors. If trading remains disabled, token holders will not have the ability to buy, sell, or transfer their tokens.

```
function enableTrading() external onlyOwner {
  tradingEnabled = true;
}
```

Recommendation:

While the presence of this function is considered a feature rather than a flaw, it is crucial to highlight the centralization risk it inherently poses. To address this issue and ensure the enablement of trades, one possible solution would be to transfer the contract's ownership to a trusted third party, such as a Pinksale Safu developer. This would help mitigate the centralization risk associated with this function.



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Social Media

Social Media Details for Spongebob Inu



https://spongebobinu.world/



https://t.me/OfficialSpongebobInu



https://twitter.com/spongebobinubsc



ABOUT AUDITACE

We specializes in providing thorough and reliable audits for Web3 projects. With a team of experienced professionals, we use cutting-edge technology and rigorous methodologies to evaluate the security and integrity of blockchain systems. We are committed to helping our clients ensure the safety and transparency of their digital assets and transactions.



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