auditace.tech

AuditAce
FROM INCEPTION TO SUCCESS

# Smart Contract Audit

FOR

# SHIB VS PEPE

DATED : 14 September 23'

# AUDIT SUMMARY

**Project name** – SHIB VS PEPE

**Date**: 14 September 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 |
| Not Resolved | 0 | 0 | 0 | 0 | 1 |

# 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/token/0xbf22Ed163Ff4bceab0be42D87E8F582ddce83812

# Token Information

**Token Address :**
0x9653304f08B81F12627525E9A952e5fC30fA9758

**Name:** SHIB VS PEPE🔥🔥🔥

**Symbol:** SVSP

**Decimals:** 18

**Netowrk:** Binance smart chain

**Token Type:** BEP20

**Owner:** 0xEF3e40853AE4268352996486878516aA97841d88
(at time of writing the audit)

**Deployer:**
0xEF3e40853AE4268352996486878516aA97841d88

**Token Supply:** 1,000,000,000,000,000

**Checksum:**
0d13ff50475c3fea38371e558f4b13bc5a383542

**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/token/0xbf22Ed163Ff4bceab0be42D87E8F582ddce83812

# TOKEN OVERVIEW

**buy fee:** 0-25%

**Sell fee:** 0-25%

**transfer fee:** 0-25%

**Fee Privilege:** Owner

**Ownership:** Owned

**Minting:** None

**Max Tx:** None

**Blacklist:** No

**Other Privileges:**

- Initial distribution of the tokens
- Modifying fees

# 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

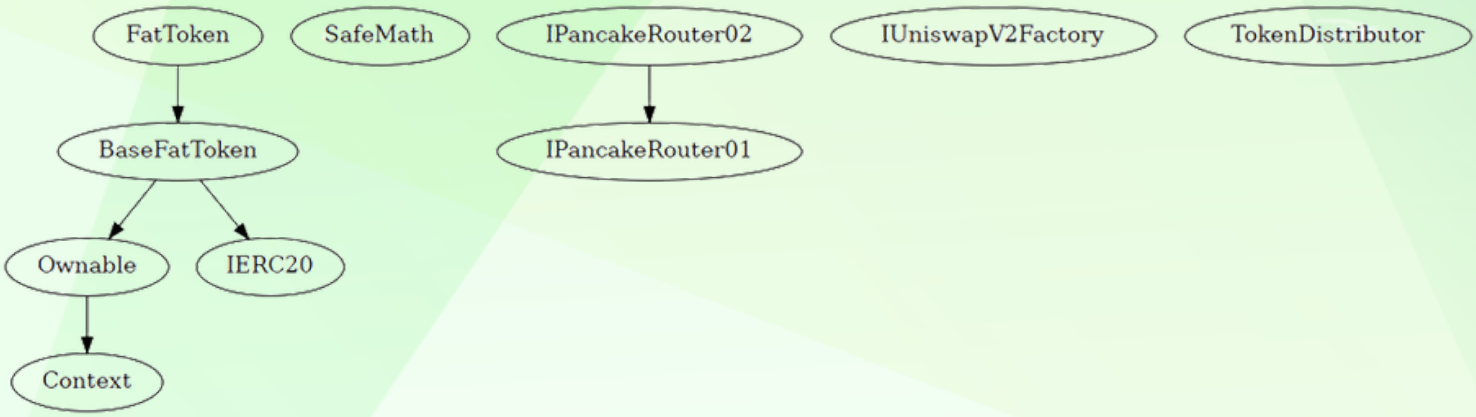
# CLASSIFICATION OF RISK

| 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 | 1 |

# INHERITANCE TREE



# POINTS TO NOTE

- Owner is able to change current fees within 0-25% for buy/sell/transfers
- Owner is not able to blacklist an arbitrary address.
- Owner is not able to mint new tokens
- Owner is not able to disable trades
- Owner is not able to set maximum buy/sell/transfer amounts

# STATIC ANALYSIS

```
Reentrancy in FatToken.swapTokenForFund(uint256,uint256) (contracts/Token.sol#772-877):
        External calls:
        - fundAddress.transfer(fundAmount) (contracts/Token.sol#821)
        External calls sending eth:
        - fundAddress.transfer(fundAmount) (contracts/Token.sol#821)
        - _swapRouter.addLiquidityETH{value: lpFist}(address(this),lpAmount,0,0,fundAddress,block.timestamp) (contracts/Token.sol#825-836)
        Event emitted after the call(s):
        - Failed_AddLiquidityETH() (contracts/Token.sol#835)
Reentrancy in FatToken.transferFrom(address,address,uint256) (contracts/Token.sol#528-540):
        External calls:
        - _transfer(sender,recipient,amount) (contracts/Token.sol#533)
                - fundAddress.transfer(fundAmount) (contracts/Token.sol#821)
        External calls sending eth:
        - _transfer(sender,recipient,amount) (contracts/Token.sol#533)
                - fundAddress.transfer(fundAmount) (contracts/Token.sol#821)
                - _swapRouter.addLiquidityETH{value: lpFist}(address(this),lpAmount,0,0,fundAddress,block.timestamp) (contracts/Token.sol#825-836)
        State variables written after the call(s):
        - _allowances[sender][msg.sender] = _allowances[sender][msg.sender] - amount (contracts/Token.sol#535-537)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-4
INFO:Detectors:
Variable IPancakeRouter01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountADesired (contracts/Token.sol#193) is too similar to IPancakeRouter01.addLiquidit
y(address,address,uint256,uint256,uint256,uint256,address,uint256).amountBDesired (contracts/Token.sol#194)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar
INFO:Detectors:
BaseFatToken.deadAddress (contracts/Token.sol#297) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant
INFO:Detectors:
BaseFatToken._mainPair (contracts/Token.sol#308) should be immutable
BaseFatToken._swapRouter (contracts/Token.sol#304) should be immutable
BaseFatToken.currency (contracts/Token.sol#275) should be immutable
BaseFatToken.currencyIsEth (contracts/Token.sol#264) should be immutable
BaseFatToken.decimals (contracts/Token.sol#294) should be immutable
BaseFatToken.enableKillBlock (contracts/Token.sol#267) should be immutable
BaseFatToken.enableOffTrade (contracts/Token.sol#266) should be immutable
BaseFatToken.enableRewardList (contracts/Token.sol#268) should be immutable
BaseFatToken.totalSupply (contracts/Token.sol#295) should be immutable
FatToken._tokenDistributor (contracts/Token.sol#432) should be immutable
FatToken.enableTransferFee (contracts/Token.sol#592) 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 (10 contracts with 88 detectors), 83 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** |
| | | | | |
| **Context** | Implementation | | | |
| └ | _msgSender | Internal 🔒 | | |
| └ | _msgData | Internal 🔒 | | |
| | | | | |
| **Ownable** | Implementation | Context | | |
| └ | <Constructor> | Public ❗ | 🛑 | NO ❗ |
| └ | renounceOwnership | Public ❗ | 🛑 | onlyOwner |
| └ | transferOwnership | Public ❗ | 🛑 | onlyOwner |
| └ | owner | Public ❗ | | NO ❗ |
| | | | | |
| **SafeMath** | Library | | | |
| └ | add | Internal 🔒 | | |
| └ | sub | Internal 🔒 | | |
| └ | sub | Internal 🔒 | | |
| └ | mul | Internal 🔒 | | |
| └ | div | Internal 🔒 | | |
| └ | div | Internal 🔒 | | |
| └ | mod | Internal 🔒 | | |
| └ | mod | Internal 🔒 | | |
| | | | | |
| **IERC20** | Interface | | | |
| └ | name | External ❗ | | NO ❗ |
| └ | symbol | External ❗ | | NO ❗ |
| └ | totalSupply | External ❗ | | NO ❗ |
| └ | decimals | External ❗ | | NO ❗ |
| └ | balanceOf | External ❗ | | NO ❗ |
| └ | transfer | External ❗ | 🛑 | NO ❗ |
| └ | allowance | External ❗ | | NO ❗ |
| └ | approve | External ❗ | 🛑 | NO ❗ |
| └ | transferFrom | External ❗ | 🛑 | NO ❗ |

# CONTRACT ASSESMENT

| **IPancakeRouter01** | Interface | |||
| └ | factory | External ❗ | |NO❗ |
| └ | WETH | External ❗ | |NO❗ |
| └ | addLiquidity | External ❗ | 🔴 |NO❗ |
| └ | addLiquidityETH | External ❗ | 💵 |NO❗ |
||||||
| **IPancakeRouter02** | Interface | IPancakeRouter01 |||
| └ | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ❗ | 🔴 |NO❗ |
| └ | swapExactTokensForETHSupportingFeeOnTransferTokens | External ❗ | 🔴 |NO❗ |
||||||
| **IUniswapV2Factory** | Interface | |||
| └ | feeTo | External ❗ | |NO❗ |
| └ | feeToSetter | External ❗ | |NO❗ |
| └ | getPair | External ❗ | |NO❗ |
| └ | allPairs | External ❗ | |NO❗ |
| └ | allPairsLength | External ❗ | |NO❗ |
| └ | createPair | External ❗ | 🔴 |NO❗ |
| └ | setFeeTo | External ❗ | 🔴 |NO❗ |
| └ | setFeeToSetter | External ❗ | 🔴 |NO❗ |
||||||
| **BaseFatToken** | Implementation | IERC20, Ownable |||
| └ | changeSwapLimit | External ❗ | 🔴 | onlyOwner |
| └ | changeWalletLimit | External ❗ | 🔴 | onlyOwner |
| └ | launch | External ❗ | 🔴 | onlyOwner |
| └ | disableSwapLimit | Public ❗ | 🔴 | onlyOwner |
| └ | disableWalletLimit | Public ❗ | 🔴 | onlyOwner |
| └ | disableChangeTax | Public ❗ | 🔴 | onlyOwner |
| └ | completeCustoms | External ❗ | 🔴 | onlyOwner |
| └ | transfer | External ❗ | 🔴 |NO❗ |
| └ | transferFrom | External ❗ | 🔴 |NO❗ |
| └ | setAntiSYNCEnable | Public ❗ | 🔴 | onlyOwner |
| └ | balanceOf | Public ❗ | |NO❗ |
| └ | allowance | Public ❗ | |NO❗ |
| └ | approve | Public ❗ | 🔴 |NO❗ |
| └ | _approve | Private 🔐 | 🔴 | |
| └ | setFeeWhiteList | External ❗ | 🔴 | onlyOwner |
| └ | multi_bclist | Public ❗ | 🔴 | onlyOwner |
||||||
| **TokenDistributor** | Implementation | |||
| └ | <Constructor> | Public ❗ | 🔴 |NO❗ |
||||||
| **FatToken** | Implementation | BaseFatToken |||
| └ | <Constructor> | Public ❗ | 🔴 |NO❗ |
| └ | transfer | Public ❗ | 🔴 |NO❗ |
| └ | transferFrom | Public ❗ | 🔴 |NO❗ |

# CONTRACT ASSESMENT

| └ | setFundAddress | External ❗ | 🛑 | onlyOwner |
| └ | isContract | Private 🔐 | | |
| └ | setkb | Public ❗ | 🛑 | onlyOwner |
| └ | isReward | Public ❗ | |NO❗ |
| └ | setAirDropEnable | Public ❗ | 🛑 | onlyOwner |
| └ | _basicTransfer | Internal 🔒 | 🛑 | |
| └ | setAirdropNumbs | Public ❗ | 🛑 | onlyOwner |
| └ | setEnableTransferFee | Public ❗ | 🛑 | onlyOwner |
| └ | _transfer | Private 🔐 | 🛑 | |
| └ | setTransferFee | Public ❗ | 🛑 | onlyOwner |
| └ | _tokenTransfer | Private 🔐 | 🛑 | |
| └ | swapTokenForFund | Private 🔐 | 🛑 | lockTheSwap |
| └ | _takeTransfer | Private 🔐 | 🛑 | |
| └ | setSwapPairList | External ❗ | 🛑 | onlyOwner |
| └ | <Receive Ether> | External ❗ | 💵 |NO❗ |

### Legend

|Symbol | Meaning|
|:--------:|-----------|
| 🛑 | Function can modify state |
| 💵 | Function is payable |

# FUNCTIONAL TESTING

1- Adding liquidity (passed):
https://testnet.bscscan.com/tx/0xdfe0336693d2a6e39c94f2bf8bd39143e90d25341a1448ab9921fac98676a0b1

2- Buying when excluded from fees (0% tax) (passed):
https://testnet.bscscan.com/tx/0x0aa1713014353e46910d725938cf46e184ff062178a33c07b64901d636f5ec35

3- Selling when excluded from fees (0% tax) (passed):
https://testnet.bscscan.com/tx/0x900ccc6bfc52c79584be530b810832c564c114de75f117205134042647273233

4- Transferring when excluded from fees (0% tax) (passed):
https://testnet.bscscan.com/tx/0x30d7cd6c0a6b8fb381998a568040fa7be07d6516de21e85f298b2be643cd5de4

5- Buying when not excluded from fees (0-25% tax) (passed):
https://testnet.bscscan.com/tx/0x46a3aa66b44374c1b1bd173b9917d99e01f8e0fb7052696cee6aa1561dc4b059

6- Selling when not excluded from fees (0-25% tax) (passed):
https://testnet.bscscan.com/tx/0x4738f4a5cac70a2f2b80c4f610f5da6bab1a8203a4fdcb2479fb56c816e281a9

7- Transferring when not excluded from fees (0% tax) (passed):
https://testnet.bscscan.com/tx/0xa319e3c05f7043865ca5bfdf1078f1932ecaa901f2434b7f7cc71cb015b6676b

8- Internal swap (passed):
https://testnet.bscscan.com/tx/0xf0d9cf0999ab080b2099593243f0a2b3edd76969d96ae059364e638af266e5b8

# MANUAL TESTING

**Centralization – Maximum buy and sell**
**Severity: Informational**
**function:** launch
**Status: Not Resolved**
**Overview:**
Owner is able to set maximum buy or sell amount each to zero.

```
  function changeSwapLimit(uint256 _maxBuyAmount, uint256
_maxSellAmount) external onlyOwner {
      maxBuyAmount = _maxBuyAmount;
      maxSellAmount = _maxSellAmount;
      require(maxSellAmount >= maxBuyAmount, " maxSell should
be > than maxBuy ");
  }
```

**Suggestion**
Set an upper bound for maximum amount of buy and sell limits.

```
  function changeSwapLimit(uint256 _maxBuyAmount, uint256
_maxSellAmount) external onlyOwner {
      maxBuyAmount = _maxBuyAmount;
      maxSellAmount = _maxSellAmount;
      reuqire(maxBuyAmount >= totalSupply() / 1000, “Can’t set
mximum buy lower than 0.1% of supply”);
      reuqire(maxSellAmount >= totalSupply() / 1000, “Can’t set
mximum sell lower than 0.1% of supply”));
      require(maxSellAmount >= maxBuyAmount, " maxSell should
be > than maxBuy ");
  }
```

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