AuditAce
FROM INCEPTION TO SUCCESS

# Smart Contract Audit

FOR

# Asian Pepe

DATED : 6 July 23'

# MANUAL TESTING

## Centralization – Enabling Trades

**Severity**: High

**function**: enableTrading

**Status:** Not Resolved

**Overview:**

Owner of the contract must enable trades manually for investors, otherwise no one would be able to buy/sell/transfer their tokens.

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

**Suggestion**

Its suggested to either enable trades prior to presale, or transfer ownership of the contract to a certified pinsksale safu developer to guearanee enabling of trades.

# AUDIT SUMMARY

**Project name** – Asian Pepe

**Date**: 6 July, 2023

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

**Audit Status:** **Passed With High Risk**

## Issues Found

| Status | Critical | High | Medium | Low | Suggestion |
|---|---|---|---|---|---|
| Open | 0 | 1 | 2 | 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/token/0xe69d73d7d8edd288e7b899412cde1376d45bf078

# Token Information

**Token Name** : Asian Pepe

**Token Symbol**: $Asian Pepe

**Decimals:** 18

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

**Token Address:**
--

**Checksum:**
aebbe21646d49e34c96296a62339ac485bc6a716

**Owner:**
--
**(at time of writing the audit)**

**Deployer:**
--

# TOKEN OVERVIEW

**Fees:**

Buy Fees: 0-15%

Sell Fees: 0-15%

Transfer Fees: 0-15%

**Fees Privilege:** owner

**Ownership**: owned

**Minting:** No mint function

**Max Tx Amount/ Max Wallet Amount: Yes**

**Blacklist:** No

**Other Privileges**: Initial distribution of the tokens

- modifying fees
- enabling trades

# 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

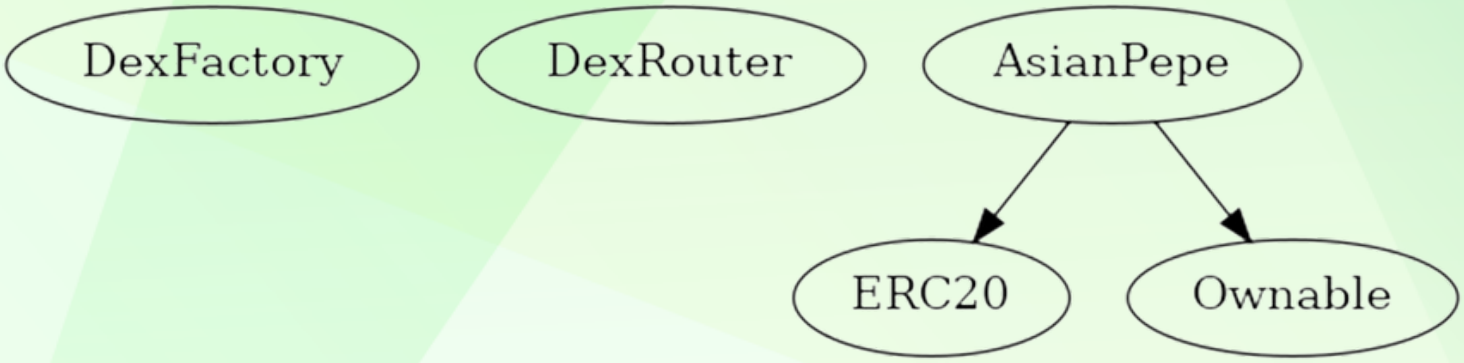
# CLASSIFICATION OF RISK

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

# INHERITANCE TREE



# CONTRACT ASSESMENT

| Contract | Type | Bases | | |
|:---|:---|:---|:---|:---|
| └ | **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
| | | | | |
| **DexFactory** | Interface | | | |
| └ | createPair | External ❗ | 🛑 | NO ❗ |
| | | | | |
| **DexRouter** | Interface | | | |
| └ | factory | External ❗ | | NO ❗ |
| └ | WETH | External ❗ | | NO ❗ |
| └ | addLiquidityETH | External ❗ | 💵 | NO ❗ |
| └ | swapExactTokensForETHSupportingFeeOnTransferTokens | External ❗ | 🛑 | NO ❗ |
| | | | | |
| **AsianPepe** | Implementation | ERC20, Ownable | | |
| └ | <Constructor> | Public ❗ | 🛑 | ERC20 |
| └ | initialize | External ❗ | 🛑 | onlyOwner |
| └ | setMarketingWallet | External ❗ | 🛑 | onlyOwner |
| └ | setSwapTokensAtAmount | External ❗ | 🛑 | onlyOwner |
| └ | toggleSwapping | External ❗ | 🛑 | onlyOwner |
| └ | setWhitelistStatus | External ❗ | 🛑 | onlyOwner |
| └ | checkWhitelist | External ❗ | | NO ❗ |
| └ | updateBuyFees | Public ❗ | 🛑 | onlyOwner |
| └ | updateSellFees | Public ❗ | 🛑 | onlyOwner |
| └ | updateTransferFees | Public ❗ | 🛑 | onlyOwner |
| └ | updateMaxBuy | Public ❗ | 🛑 | onlyOwner |
| └ | updateMaxSell | Public ❗ | 🛑 | onlyOwner |
| └ | _takeTax | Internal 🔒 | 🛑 | |
| └ | enableTrading | External ❗ | 🛑 | onlyOwner |
| └ | _transfer | Internal 🔒 | 🛑 | |
| └ | internalSwap | Internal 🔒 | 🛑 | |
| └ | swapAndLiquify | Internal 🔒 | 🛑 | |
| └ | swapToETH | Internal 🔒 | 🛑 | |
| └ | addLiquidity | Private 🔐 | 🛑 | |
| └ | withdrawStuckETH | External ❗ | 🛑 | onlyOwner |
| └ | withdrawStuckTokens | External ❗ | 🛑 | onlyOwner |
| └ | <Receive Ether> | External ❗ | 💵 | NO ❗ |

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

# POINTS TO NOTE

- **Owner is able to update buy/sell/transfer fees (0-15%)**
- Owner is not able to blacklist an address
- Owner is not able to disable buy/sell/transfers
- Owner is not able to set max wallet limit and minimum wallet limits
- Owner is not able to mint new tokens
- **Owner must enable trades manually**

# STATIC ANALYSIS

```
Context._msgData() (contracts/Token.sol#25-27) is never used and should be removed
ERC20._burn(address,uint256) (contracts/Token.sol#735-751) is never used and should be removed
SafeMath.add(uint256,uint256) (contracts/Token.sol#242-244) is never used and should be removed
SafeMath.div(uint256,uint256) (contracts/Token.sol#284-286) is never used and should be removed
SafeMath.div(uint256,uint256,string) (contracts/Token.sol#336-341) is never used and should be removed
SafeMath.mod(uint256,uint256) (contracts/Token.sol#300-302) is never used and should be removed
SafeMath.mod(uint256,uint256,string) (contracts/Token.sol#358-363) is never used and should be removed
SafeMath.mul(uint256,uint256) (contracts/Token.sol#270-272) is never used and should be removed
SafeMath.sub(uint256,uint256) (contracts/Token.sol#256-258) is never used and should be removed
SafeMath.sub(uint256,uint256,string) (contracts/Token.sol#317-322) is never used and should be removed
SafeMath.tryAdd(uint256,uint256) (contracts/Token.sol#171-177) is never used and should be removed
SafeMath.tryDiv(uint256,uint256) (contracts/Token.sol#213-218) is never used and should be removed
SafeMath.tryMod(uint256,uint256) (contracts/Token.sol#225-230) is never used and should be removed
SafeMath.tryMul(uint256,uint256) (contracts/Token.sol#196-206) is never used and should be removed
SafeMath.trySub(uint256,uint256) (contracts/Token.sol#184-189) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version^0.8.0 (contracts/Token.sol#8) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#37) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#120) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#153) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#373) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#461) allows old versions
Pragma version^0.8.17 (contracts/Token.sol#836) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.20 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in AsianPepe.internalSwap() (contracts/Token.sol#1027-1056):
        - (success) = address(marketingWallet).call{value: address(this).balance}() (contracts/Token.sol#1054)
Low level call in AsianPepe.withdrawStuckETH() (contracts/Token.sol#1086-1089):
        - (success) = address(msg.sender).call{value: address(this).balance}() (contracts/Token.sol#1087)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function DexRouter.WETH() (contracts/Token.sol#845) is not in mixedCase
Parameter AsianPepe.setMarketingWallet(address)._newmarketing (contracts/Token.sol#924) is not in mixedCase
Parameter AsianPepe.setSwapTokensAtAmount(uint256)._newAmount (contracts/Token.sol#929) is not in mixedCase
Parameter AsianPepe.setWhitelistStatus(address,bool)._wallet (contracts/Token.sol#942) is not in mixedCase
Parameter AsianPepe.setWhitelistStatus(address,bool)._status (contracts/Token.sol#942) is not in mixedCase
Parameter AsianPepe.checkWhitelist(address)._wallet (contracts/Token.sol#947) is not in mixedCase
Parameter AsianPepe.swapAndLiquify(uint256)._amount (contracts/Token.sol#1058) is not in mixedCase
Parameter AsianPepe.swapToETH(uint256)._amount (contracts/Token.sol#1069) is not in mixedCase
Parameter AsianPepe.addLiquidity(uint256,uint256).ETHAmount (contracts/Token.sol#1079) is not in mixedCase
Parameter AsianPepe.withdrawStuckTokens(address).erc20_token (contracts/Token.sol#1091) is not in mixedCase
Constant AsianPepe._totalSupply (contracts/Token.sol#871) is not in UPPER_CASE_WITH_UNDERSCORES
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
```

**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- Adding liquidity (passed):**

https://testnet.bscscan.com/tx/0xc2a15ac3cc8437c1cc930014ab4a03ba7e5cf9180e35e703b7f35b4b98c96914

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

https://testnet.bscscan.com/tx/0xd978315113178a0724ee1b48d68294ab32ebc793a352557dea66bef1996a0864

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

https://testnet.bscscan.com/tx/0x857b80b2948e9a42e16cdd21532895f79c0e004cca4fc69d8e112cb92e66f6e6

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

https://testnet.bscscan.com/tx/0x1512bfdc89167244c15d3858df14782394511593036 4ffe3d958ce7e2768ef76

**5- Buying(0-15% tax) (passed):**

https://testnet.bscscan.com/tx/0x6b4a80e807d3a1e1289ac08ce5c1428aeecf1b1fe5bfed4204544ef312f351b3

**6- Selling (0-15% tax) (passed):**

https://testnet.bscscan.com/tx/0x51d3c5c78563ebcc12d8eb18e6e077207cfe620f5414229c0048da49bc666ff3

# FUNCTIONAL TESTING

**4- Transferring (0-15% tax) (passed):**

https://testnet.bscscan.com/tx/0xc65d25c42216a75ec15e8a000543c78ad1d4bf4457658f2656f9e0ee2fb4cbfa

**4- Internal swap (auto liquidity | marketing BNB) (passed):**

https://testnet.bscscan.com/tx/0x51d3c5c78563ebcc12d8eb18e6e077207cfe620f5414229c0048da49bc666ff3

# MANUAL TESTING

## Centralization – Enabling Trades

**Severity**: High

**function**: enableTrading

**Status:** Not Resolved

**Overview:**

Owner of the contract must enable trades manually for investors, otherwise no one would be able to buy/sell/transfer their tokens.

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

**Suggestion**

Its suggested to either enable trades prior to presale, or transfer ownership of the contract to a certified pinsksale safu developer to guearanee enabling of trades.

# MANUAL TESTING

## Centralization – Excessive Fees

**Severity**: Medium

**function**: updateBuyFees – updateSellFees - updateTransferFees

**Status:** Not Resolved

**Overview:**

Owner is able to change buy/sell/transfer fees within 0-15% each.

```
function updateBuyFees(uint256 marketing, uint256 liquidity) public onlyOwner {
    buyTaxes.liquidityTax = liquidity;
    buyTaxes.marketingTax = marketing;
    require(marketing + liquidity <= 15, "Can't set fees higher than 15%");
    totalBuyFees = marketing + liquidity;
}

function updateSellFees(uint256 marketing, uint256 liquidity) public onlyOwner {
    sellTaxes.liquidityTax = liquidity;
    sellTaxes.marketingTax = marketing;
    require(marketing + liquidity <= 15, "Can't set fees higher than 15%");
    totalSellFees = marketing + liquidity;
}

function updateTransferFees(uint256 marketing, uint256 liquidity) public onlyOwner {
    transferTaxes.liquidityTax = liquidity;
    transferTaxes.marketingTax = marketing;
    require(marketing + liquidity <= 15, "Can't set fees higher than 15%");
    totalTransferFees = marketing + liquidity;
}
```

### Suggestion

Its suggested to keep fees within 0-10%

0% <= buy fees <= 10%

0% <= sell fees <= 10%

0% <= transfer fees <= 10%

# MANUAL TESTING

## Centralization – Trade limits

**Severity**: Medium

**function**: updateMaxBuy - updateMaxSell

**Status:** Not Resolved

**Overview:**

Owner is able to set maximum buy and sell limits. This limits can not be set to 0 and are always more than 1% of supply

```
    function updateMaxBuy(uint256 maxBuyAmount) public onlyOwner {
        maxBuy = maxBuyAmount;
        require(maxBuyAmount >= _totalSupply / 100, "Can't update max buy to lower than 1% of
supply");
    }

    function updateMaxSell(uint256 maxSellAmount) public onlyOwner {
        maxSell = maxSellAmount;
        require(maxSellAmount >= _totalSupply / 100, "Can't update max sell to lower than 1% of
supply");
    }
```

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