auditace.tech

AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

PuppyLoveCoin

DATED : 6 Feb, 2024

AUDIT SUMMARY

Project name – PuppyLove Coin

Date: 6 Feb, 2024

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	1	2
Acknowledged	0	0	0	0	0
Resolved	0	2	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/0xefb527bea12c48e2f7877d7289250a95da2bdbf0#code

Token Information

Token Name : PuppyLove Coin

Token Symbol: $PuppyLove

Decimals: 18

Token Supply: 1000000000000

Network: ETHScan

Token Type: ERC-20

Token Address:
0x9471a367C34fEb503d9A5F2c050cf2C28e5d7Ac0

Checksum:
hde3cef7c2c788bc03532d7342fc9112

Owner:
0x408AAaCD1bb5Cf55E4bC615F7EC3f5463e56D1C4

Deployer:
0x408AAaCD1bb5Cf55E4bC615F7EC3f5463e56D1C4

TOKEN OVERVIEW

Fees:

Buy Fee: 0-25%

Sell Fee: 5-25%

Transfer Fee: 0-0%

Fees Privilege: Owner

Ownership: Renounced

Minting: None

Max Tx Amount/ Max Wallet Amount: No

Blacklist: Yes

AUDIT METHODOLOGY

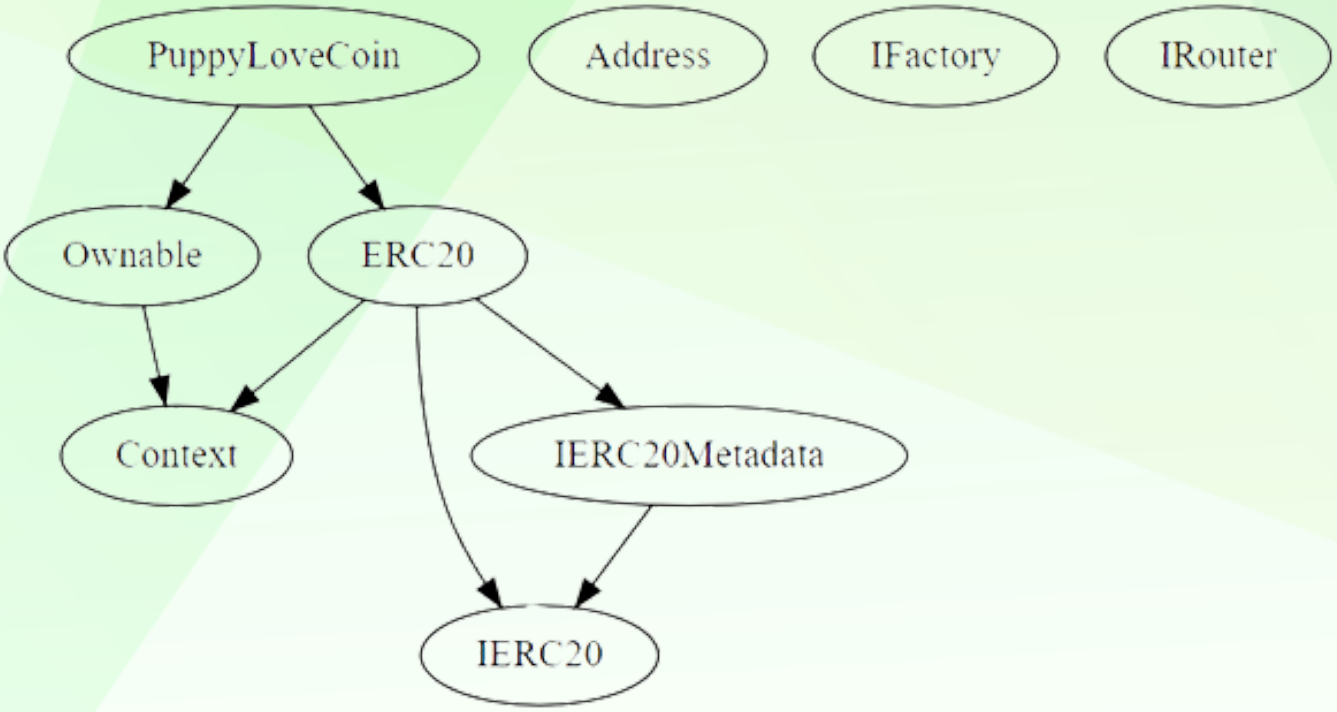
The auditing process will follow a routine as special considerations by Auditace:

- 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

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

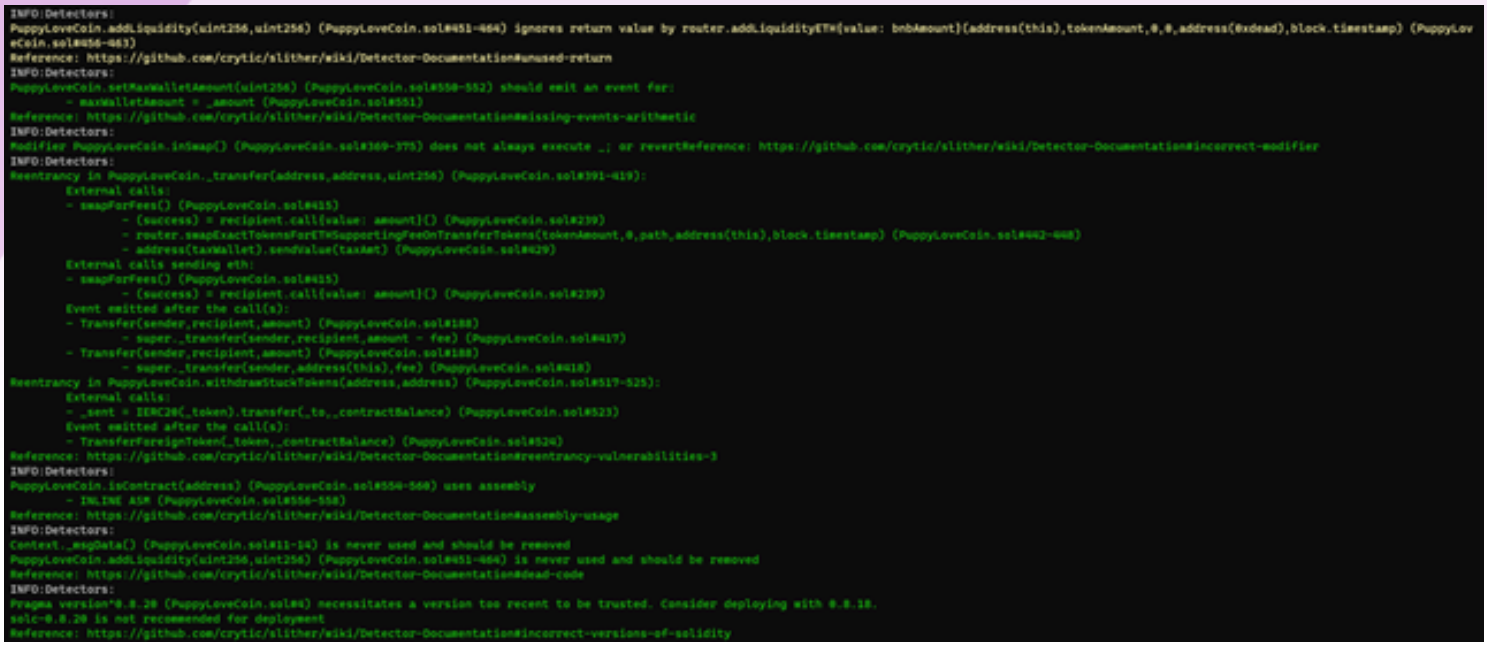
INHERITANCE TREE



STATIC ANALYSIS

A static analysis of the code was performed using Slither.

No issues were found.



STATIC ANALYSIS

```
INFO:Detectors:
Context._msgData() (PuppyLoveCoin.sol#11-14) is never used and should be removed
PuppyLoveCoin.addLiquidity(uint256,uint256) (PuppyLoveCoin.sol#451-464) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code
INFO:Detectors:
Pragma version^0.8.20 (PuppyLoveCoin.sol#4) necessitates a version too recent to be trusted. Consider deploying with 0.8.18.
solc-0.8.20 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
INFO:Detectors:
Low level call in Address.sendValue(address,uint256) (PuppyLoveCoin.sol#233-244):
        - (success) = recipient.call{value: amount}() (PuppyLoveCoin.sol#239)
Low level call in PuppyLoveCoin.unclog() (PuppyLoveCoin.sol#533-540):
        - (success,None) = address(taxWallet).call{value: ethtax}() (PuppyLoveCoin.sol#539)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls
INFO:Detectors:
Function IRouter.WETH() (PuppyLoveCoin.sol#296) is not in mixedCase
Event PuppyLoveCoin.taxWalletUpdated() (PuppyLoveCoin.sol#345) is not in CapWords
Parameter PuppyLoveCoin.setSwapThreshold(uint256).new_amount (PuppyLoveCoin.sol#472) is not in mixedCase
Parameter PuppyLoveCoin.setBuyTaxes(uint256)._tax (PuppyLoveCoin.sol#481) is not in mixedCase
Parameter PuppyLoveCoin.setSellTaxes(uint256)._tax (PuppyLoveCoin.sol#488) is not in mixedCase
Parameter PuppyLoveCoin.setExcludedFromFees(address,bool)._address (PuppyLoveCoin.sol#509) is not in mixedCase
Parameter PuppyLoveCoin.withdrawStuckTokens(address,address)._token (PuppyLoveCoin.sol#517) is not in mixedCase
Parameter PuppyLoveCoin.withdrawStuckTokens(address,address)._to (PuppyLoveCoin.sol#517) is not in mixedCase
Parameter PuppyLoveCoin.setBlacklistAddress(address,bool)._address (PuppyLoveCoin.sol#546) is not in mixedCase
Parameter PuppyLoveCoin.setMaxWalletAmount(uint256)._amount (PuppyLoveCoin.sol#550) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
INFO:Detectors:
Redundant expression "this (PuppyLoveCoin.sol#12)" inContext (PuppyLoveCoin.sol#6-15)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements
INFO:Detectors:
Reentrancy in PuppyLoveCoin.clearStuckEthers(uint256) (PuppyLoveCoin.sol#527-531):
        External calls:
        - address(msg.sender).transfer((amountETH * amountPercentage) / 100) (PuppyLoveCoin.sol#529)
        Event emitted after the call(s):
        - StuckEthersCleared() (PuppyLoveCoin.sol#530)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-4
INFO:Detectors:
PuppyLoveCoin.constructor() (PuppyLoveCoin.sol#377-389) uses literals with too many digits:
        - _mint(msg.sender,1000000000000 * 10 ** decimals()) (PuppyLoveCoin.sol#378)
PuppyLoveCoin.slitherConstructorVariables() (PuppyLoveCoin.sol#323-565) uses literals with too many digits:
        - swapThreshold = 1000000 * 10 ** 18 (PuppyLoveCoin.sol#353)
PuppyLoveCoin.slitherConstructorVariables() (PuppyLoveCoin.sol#323-565) uses literals with too many digits:
        - maxWalletAmount = 10000000 * 10 ** 18 (PuppyLoveCoin.sol#355)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits
INFO:Detectors:
PuppyLoveCoin.pair (PuppyLoveCoin.sol#327) should be immutable
PuppyLoveCoin.router (PuppyLoveCoin.sol#326) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
INFO:Slither:PuppyLoveCoin.sol analyzed (9 contracts with 93 detectors), 30 result(s) found
```

FUNCTIONAL TESTING

1- Approve (passed):
https://testnet.bscscan.com/tx/0x88649ef103595325920a26489de21c9f58d0a25d3ef858d98b84640daf64b323

2- Set Buy Taxes (passed):
https://testnet.bscscan.com/tx/0x6e9203084ce61d45dac559f2ac31dc17df28f06524ac30d55d69d5df2fe85aae

3- Set Buy Taxes (passed):
https://testnet.bscscan.com/tx/0x461f9d1b295e16c2155c201338f7850de47a5b88d9c5c4814cdec58c4a2b7d6c

4- Set Blacklist Address (passed):
https://testnet.bscscan.com/tx/0xb9285bb5ae9be190475cf1e6ebfd119edda7a2ac2979b9ccc9379d3e95a58bc9

5- Settax Wallet (passed):
https://testnet.bscscan.com/tx/0x82580a6bcb66f8128ef0b9b65de77e8687b8209330dfe9e91ddeb228dd26bfa5

6- Renounce Ownership (passed):
https://etherscan.io/tx/0x3efeefad8ab2ae781ab13d4ff8527b3f7a7858b863002d93143a1e7b9b0e1fb6

POINTS TO NOTE

- The owner can enable/disable swapping.
- The owner can update the swap threshold amount.
- The owner can update the buy and sell tax of not more than 25%.
- The owner can update the tax wallet address.
- The owner can exclude wallets from fees.
- The owner can claim the stuck tokens including the contract's tokens.
- The owner can manually swap tokens.

The Ownership of the token is renounced; hence the owner cannot change any settings

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

MANUAL TESTING

Centralization – The owner can Blacklist Wallet

Severity: High

Function: setBlacklistAddress

Status: Resolved (Ownership Renounced)

Overview:

The owner can blacklist multiple wallets owner.

```
function setBlacklistAddress(address _address, bool isBlacklisted) external on-
lyOwner {
    blacklisted[_address] = isBlacklisted;
    }
```

MANUAL TESTING

Centralization – The owner can lock the token

Severity: High

Function: setMaxWalletAmount

Status: Resolved (Ownership Renounced)

Overview:
In this setMaxWalletAmount.

```
function setMaxWalletAmount(uint256 _amount) external onlyOwner {
        maxWalletAmount = _amount;
    }
```

Suggestion:
It is recommended that there be a required check for zero address.

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 setBlacklistAddress(address _address, bool isBlacklisted) external on-
lyOwner {
    blacklisted[_address] = isBlacklisted;
    }
function setMaxWalletAmount(uint256 _amount) external onlyOwner {
      maxWalletAmount = _amount;
    }
```

MANUAL TESTING

Optimization

Severity: Informational

Function: 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 ^0.8.20;
```

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.

MANUAL TESTING

Optimization

Severity: Optimization

Function: Remove unused code.

Status: Open

Overview:

Unused variables are allowed in Solidity, and they do. not pose a direct security issue. It is the best practice. though to avoid them.

```
function _msgData() internal view virtual returns (bytes calldata) {
        this;
        return msg.data;
    }
event DevelopmentWalletUpdated();
event StoicDaoWalletUpdated();
event MaxTxAmountUpdated();
event MaxWalletAmountUpdated();
```

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