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AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

POPCAP

DATED : 3 July 23'

AUDIT SUMMARY

Project name – POPCAP

Date: 3 July, 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
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/0xF1160454f7fa0B5c9400d800583Cc895350a5CC8

Token Information

Token Name : POPCAP

Token Symbol: $POP

Decimals: 9

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

Token Address:
0xD4292A30C48D9fD5D1229Cde75bA36e150c95747

Checksum:
c7ddad4efe3936adfc04015202cda6b77097b5c2

Owner:
0x48B23E938d7A613B98EFdAD6DfBCE2390E6f7A0b
(at time of writing the audit)

Deployer:
0x48B23E938d7A613B98EFdAD6DfBCE2390E6f7A0b

TOKEN OVERVIEW

Fees:

Buy Fees: 0%

Sell Fees: 0%

Transfer Fees: 0%

Fees Privilege: no fees

Ownership: renounced

Minting: none

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Privileges: - Initial distribution of the tokens

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

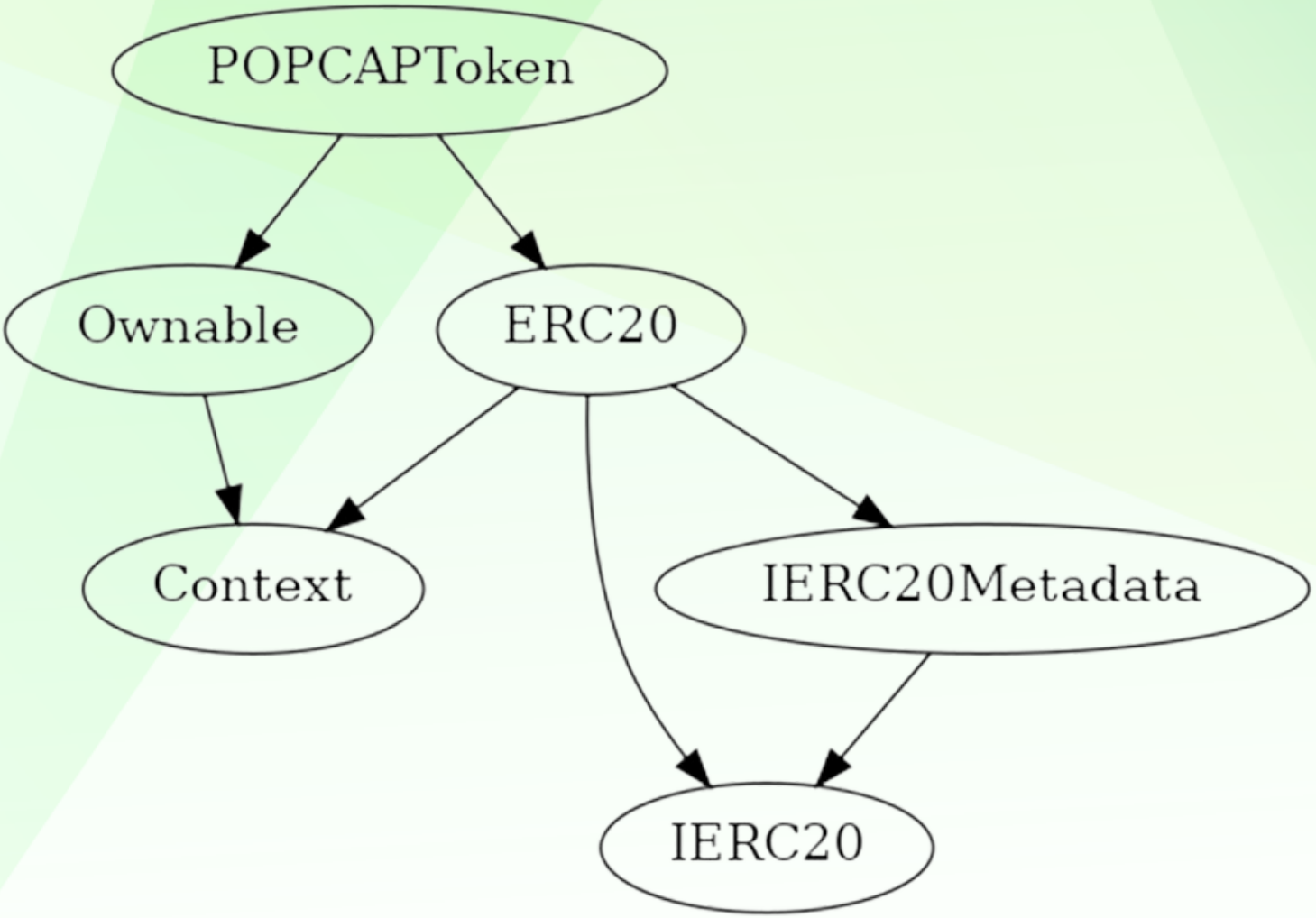
CLASSIFICATION OF RISK

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	0

INHERITANCE TREE



POINTS TO NOTE

- Owner is not able to set buy/sell/transfer fees
- Owner is not able to blacklist an arbitrary address.
- Owner is not able to set max wallet/transfer/buy/sell
- Owner is not able to mint new tokens

CONTRACT ASSESMENT

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
Ownable	Implementation	Context		
└	<Constructor>	Public ❗	🛑	NO ❗
└	owner	Public ❗		NO ❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
└	_transferOwnership	Internal 🔒	🛑	
IERC20	Interface			
└	totalSupply	External ❗		NO ❗
└	balanceOf	External ❗		NO ❗
└	transfer	External ❗	🛑	NO ❗
└	allowance	External ❗		NO ❗
└	approve	External ❗	🛑	NO ❗
└	transferFrom	External ❗	🛑	NO ❗
IERC20Metadata	Interface	IERC20		
└	name	External ❗		NO ❗
└	symbol	External ❗		NO ❗
└	decimals	External ❗		NO ❗
ERC20	Implementation	Context, IERC20, IERC20Metadata		
└	<Constructor>	Public ❗	🛑	NO ❗
└	name	Public ❗		NO ❗
└	symbol	Public ❗		NO ❗
└	decimals	Public ❗		NO ❗
└	totalSupply	Public ❗		NO ❗
└	balanceOf	Public ❗		NO ❗
└	transfer	Public ❗	🛑	NO ❗
└	allowance	Public ❗		NO ❗
└	approve	Public ❗	🛑	NO ❗
└	transferFrom	Public ❗	🛑	NO ❗
└	increaseAllowance	Public ❗	🛑	NO ❗
└	decreaseAllowance	Public ❗	🛑	NO ❗
└	_transfer	Internal 🔒	🛑	
└	_mint	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	

CONTRACT ASSESMENT

└	_approve	Internal 🔒	🛑	
└	_beforeTokenTransfer	Internal 🔒	🛑	
└	_afterTokenTransfer	Internal 🔒	🛑	
POPCAPToken	Implementation	Ownable, ERC20		
└	<Constructor>	Public ❗	🛑	ERC20

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

STATIC ANALYSIS

```
Different versions of Solidity are used:
        - Version used: ['^0.8.0', '^0.8.17']
        - ^0.8.0 (contracts/Token.sol#43)
        - ^0.8.0 (contracts/Token.sol#115)
        - ^0.8.0 (contracts/Token.sol#191)
        - ^0.8.0 (contracts/Token.sol#215)
        - ^0.8.0 (contracts/Token.sol#547)
        - ^0.8.17 (contracts/Token.sol#21)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#different-pragma-directives-are-used

Context._msgData() (contracts/Token.sol#38-40) is never used and should be removed
ERC20._burn(address,uint256) (contracts/Token.sol#475-490) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version^0.8.17 (contracts/Token.sol#21) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
Pragma version^0.8.0 (contracts/Token.sol#43) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#115) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#191) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#215) allows old versions
Pragma version^0.8.0 (contracts/Token.sol#547) allows old versions
solc-0.8.20 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

POPCAPToken.constructor() (contracts/Token.sol#550-552) uses literals with too many digits:
        - _mint(msg.sender,10000000000000000000 * 10 ** decimals()) (contracts/Token.sol#551)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits
```

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

1- Adding liquidity (passed):
https://testnet.bscscan.com/tx/0x52e582ac1a8f299ef29f2324b178767ff018eb5dd6dded17b76f4cf134129ade

2- Buying (0% tax) (passed):
https://testnet.bscscan.com/tx/0xd1342ccbe8a0fbe24457d20227a8d8df784b3164ad73f9edf45ce02e5db5f028

3- Selling (0% tax) (passed):
https://testnet.bscscan.com/tx/0x2389b863c31e89ee97d9a368b2e6bde1019212085b90536b1dcb963ff85c9e42

4- Transferring (0% tax) (passed):
https://testnet.bscscan.com/tx/0x6b37747344de8f2c8a7e62d254579a464197e078573eae1efeea86c6bbbcfc03

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