expelee

A Secure Place For Web3

SMART CONTRACT AUDIT OF

Snap Presale

Contract Address

0x503A543ABd5768f94dD0B7fA270462034BB82418

Audit Summary

Expelee team has performed a line-by-line manual analysis and automated review of the smart contract. The smart contract was analysed mainly for common smart contract vulnerabilities, exploits, and manipulation hacks. According to the smart contract audit:

Audit Result: **PASSED (Medium Risk Severity)**

Ownership: NOT **RENOUNCED**

KYC Verification: Not done till date of audit

Audit Date: 06/07/2022

Audit Team: **EXPELEE**

Be aware that smart contracts deployed on the blockchain aren't resistant to internal exploit, external vulnerability, or hack. For a detailed understanding of risk severity, source code vulnerability, functional hack, and audit disclaimer, kindly refer to the audit.

DISCLAMER

All the content provided in this document is for general information only and should not be used as financial advice or a reason to buy any investment. Team provides no guarantees against the sale of team tokens or the removal of liquidity by the project audited in this document.

Always Do your own research and protect yourselves from being scammed. The Expelee team has audited this project for general information and only expresses their opinion based on similar projects and checks from popular diagnostic tools.

Under no circumstances did Expelee receive a payment to manipulate those results or change the awarding badge that we will be adding in our website. Always Do your own research and protect yourselves from scams.

This document should not be presented as a reason to buy or not buy any particular token. The Expelee team disclaims any liability for the resulting losses.

Contract Review

Contract Name	**SNAP**
Compiler Version	**v0.8.7+commit.e28d00a7**
Optimization	**Yes with 200 runs**
License	**MIT license**
Explorer	**https://bscscan.com/address/0x503A543ABd5768f94dD0B7fA270462034BB82418#code**
Symbol	**Snap**
Decimals	**9**
Total Supply	**200,000,000**
Domain	**https://snapcoin.finance/**

Project Review

Token Name: Snap

Web Site: https://snapcoin.finance/

Twitter: https://twitter.com/snapcoin_bsc

Telegram: https://t.me/snapcoin_bsc

Contract Address:
0x503A543ABd5768f94dD0B7fA270462034BB82418

Platform: Binance Smart Chain

Token Type: BEP 20

Language: SOLIDITY

Audit Methodology

The scope of this report is to audit the smart contract source code. We have scanned the contract and reviewed the project for common vulnerabilities, exploits, hacks, and back-doors. Below is the list of commonly known smart contract vulnerabilities, exploits, and hacks:

Category

Smart Contract Vulnerabilities	- Unhandled Exceptions - Transaction Order Dependency - Integer Overflow - Unrestricted Action - Incorrect Inheritance Order - Typographical Errors - Requirement Violation
Source Code Review	- Gas Limit and Loops - Deployment Consistency - Repository Consistency - Data Consistency - Token Supply Manipulation
Functional Assessment	- Operations Trail & Event Generation - Assets Manipulation - Liquidity Access

Vulnerability Checklist

№	Description.	Result
1	Compiler warnings.	Passed
2	Race conditions and Re-entrancy. Cross-function raceconditions.	Passed
3	Possible delays in data delivery.	Passed
4	Oracle calls.	Passed
5	Front running.	Passed
6	Timestamp dependence.	Passed
7	Integer Overflow and Underflow.	Passed
8	DoS with Revert.	Passed
9	DoS with block gas limit.	Passed
10	Methods execution permissions.	Passed
11	Economy model.	Passed
12	The impact of the exchange rate on the logic.	Passed
13	Private user data leaks.	Passed
14	Malicious Event log.	Passed
15	Scoping and Declarations.	Passed
16	Uninitialized storage pointers.	Passed
17	Arithmetic accuracy.	Passed
18	Design Logic.	Passed
19	Cross-function race conditions.	Passed
20	Safe Zeppelin module.	Passed
21	Fallback function security.	Passed

Manual Audit

Low-Risk

4 low-risk code issues found

Medium-Risk

0 medium-risk code issues found

High-Risk

0 high-risk code issues found

Low-Risk

1)Contract contains Reentrancy vulnuerabilities

```
function _transfer(address sender, address recipient, uint256 amount) private returns (bool) {
            require(sender != address(0), "ERC20: transfer from the zero address");
            require(recipient != address(0), "ERC20: transfer to the zero address");

            if(inSwapAndLiquify)
            {
                return _basicTransfer(sender, recipient, amount);
            }
            else
            {
                if(!isTxLimitExempt[sender] && !isTxLimitExempt[recipient]) {
                    require(amount <= _maxTxAmount, "Transfer amount exceeds the maxTxAmount.");
                }

                uint256 contractTokenBalance = balanceOf(address(this));
                bool overMinimumTokenBalance = contractTokenBalance >= minimumTokensBeforeSwap;

                if (overMinimumTokenBalance && !inSwapAndLiquify && !isMarketPair[sender] &&
swapAndLiquifyEnabled){
                    if(swapAndLiquifyByLimitOnly){
                        contractTokenBalance = minimumTokensBeforeSwap;
                    swapAndLiquify(contractTokenBalance);
                    }
                }

                _balances[sender] = _balances[sender].sub(amount, "Insufficient Balance");

                uint256 finalAmount = (isExcludedFromFee[sender] || isExcludedFromFee[recipient]) ?
                 amount : takeFee(sender, recipient, amount);

                if(checkWalletLimit && !isWalletLimitExempt[recipient])
                    require(balanceOf(recipient).add(finalAmount) <= _walletMax);

                _balances[recipient] = _balances[recipient].add(finalAmount);

                emit Transfer(sender, recipient, finalAmount);
                return true;
            }
        }
    }
```

Recommendation

Apply the check-effects-interaction pattern

2) Missing Zero Address Validation

Detect missing zero address validation.

```
function addLiquidity(uint256 tokenAmount, uint256 ethAmount) private {
        // approve token transfer to cover all possible scenarios
        _approve(address(this), address(uniswapV2Router), tokenAmount);

        // add the liquidity
        uniswapV2Router.addLiquidityETH{value: ethAmount}(
            address(this),
            tokenAmount,
            0, // slippage is unavoidable
            0, // slippage is unavoidable
            teamWalletAddress,
            block.timestamp
        );
    }
```

Recommendation

Check that the new address is not zero.

3) Functions that send Ether to arbitary destinations

Detect missing events for critical arithmetic parameters .

```
function addLiquidity(uint256 tokenAmount, uint256 ethAmount) private {
        // approve token transfer to cover all possible scenarios
        _approve(address(this), address(uniswapV2Router), tokenAmount);

        // add the liquidity
        uniswapV2Router.addLiquidityETH{value: ethAmount}(
            address(this),
            tokenAmount,
            0, // slippage is unavoidable
            0, // slippage is unavoidable
            teamWalletAddress,
            block.timestamp
        );
    }
```

Recommendation

Ensure that an arbitary user can’t withdraw unauthorized funds.

4) **Local variable shadowing.**

Unprotected call to a function sending Ether to arbitary address.

```
function sendETHToFee(uint256 amount) private {uint256
    devAmount = amount.div(2);

    uint256 mktAmount = amount.mul(3).div(8);

    uint256 burnAmount = amount.sub(devAmount).sub(mktAmount);

    _appAddress.transfer(devAmount);

    _marketingAddress.transfer(mktAmount);

    _burnAddress.transfer(burnAmount);

}
```

Recommendation

Rename the local variable that shadow another component.

Audit Summary

```
Compiled with solc
Number of lines: 755 (+ 0 in dependencies, + 0 in tests)
Number of assembly lines: 0
Number of contracts: 10 (+ 0 in dependencies, + 0 tests)

Number of optimization issues: 33
Number of informational issues: 53
Number of low issues: 4
Number of medium issues: 0
Number of high issues: 0
ERCs: ERC2612, ERC20
```

Name	# functions	ERCS	ERC20 info	Complex code	Features
SafeMath	8			No	
Address	7			No	Send ETH Assembly
IUniswapV2Factory	8			No	
IUniswapV2Pair	26	ERC20,ERC2612	No Minting Approve Race Cond.	No	
IUniswapV2Router02	24			No	Receive ETH
SNAP	49	ERC20	No Minting Approve Race Cond.	Yes	Receive ETH Send ETH

Manual Audit (Contract Function)

```
contract SNAP is Context, IERC20, Ownable {

    using SafeMath for uint256;
    using Address for address;

    event SwapAndLiquifyEnabledUpdated(bool enabled);
    event SwapAndLiquify(
        uint256 tokensSwapped,
        uint256 ethReceived,
        uint256 tokensIntoLiqudity
    );

    event SwapETHForTokens(
        uint256 amountIn,
        address[] path
    );

    event SwapTokensForETH(
        uint256 amountIn,
        address[] path
    );

    modifier lockTheSwap {
        inSwapAndLiquify = true;
        _;
        inSwapAndLiquify = false;
    }


    address payable private marketingWalletAddress = payable(0x3BA92255Eb8705B932E8a97fdC8860c0ab0B3bDB);
    address payable private teamWalletAddress = payable(0x3BA92255Eb8705B932E8a97fdC8860c0ab0B3bDB);
    address public immutable deadAddress = 0x000000000000000000000000000000000000dEaD;

    mapping (address => uint256) _balances;
    mapping (address => mapping (address => uint256)) private _allowances;

    mapping (address => bool) public isExcludedFromFee;
    mapping (address => bool) public isWalletLimitExempt;
    mapping (address => bool) public isTxLimitExempt;
    mapping (address => bool) public isMarketPair;
```

Important Points To Consider

✗ Source does not contain blacklist capability

✓ The owner cannot stop Trading.

✓ Verified contract source

✓ Token is sellable (not a honeypot) at this time

✗ Ownership renounced or source does not contain an owner contract

✗ Source does not contain a fee modifier

The source code contains a function which can modify the transaction fee.

✗ Buy fee is less than 10% (11%)

✗ Sell fee is less than 10% (26%)

✓ Owner/creator wallet contains less than 10% of circulating token supply (<0.01%)

About Expelee

Expelee is a community driven organisation dedicated to fostering an anti-rug movement. We're here to keep investment safe from fraudsters. We've encountered several rug pulls and know how it feels to be duped, which is why we don't want anybody else to go through the same experience. We are here to raise awareness through our
services so that the future of cryptocurrency can be rug-free.

The auditing process focuses to the following considerations with collaboration of an expert team:

- Functionality test of the Smart Contract to determine if proper logic has been followed throughout the whole process.
- Manually detailed examination of the code line by line by experts.
- Live test by multiple clients using Test net.
- Analysing failure preparations to check how the Smart
- Contract performs in case of any bugs and vulnerabilities.
- Checking whether all the libraries used in the code are on the latest version.
- Analysing the security of the on-chain data.

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