AUDIT REPORT

SecureWise

SMART CONTRACT AUDIT

https://github.com/securewise
https://t.me/securewise
https://securewise.info/

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Overview

Token Name: DOGE SQ

Methodology: Automated Analysis, Manual Code Review

Language: Solidity

Contract Address: 0x219A756D08694Cbe0b8f4d0298094104A2ED1357

ContractLink: https://bscscan.com/address/0x219A756D08694Cbe0b8f4d0298094104A2ED1357

Network: Binance Smart Chain (BSC)

Decimals: 9

Supply: 100,000,000,000.0

Website: https://dogesq.io/

Twitter: https://twitter.com/Dogesq_official

Telegram: https://t.me/DogeSQArmy

Report Date: September 20, 2022

Quick Result

SecureWise has applied the automated and manual analysis of Smart Contract and were reviewed for common contract vulnerabilities and centralized exploits

Owner Privileges

 The owner can stop trading

 The owner can set fees up to 100%

 Auto liquidity is going to an externally owned account

 The owner can set a blacklist any account.

 The owner can exclude accounts from fees

DOGE SQ has succesfully **PASSED** the smart contract audit with **HIGH** **MEDIUM** and **LOW** severity issue

Auditing Approach and Methodologies

SecureWise has performed starting with analyzing the code, issues, code quality, and libraries. Reviewed line-by-line by our team. Finding any potential issue like race conditions, transaction-ordering dependence, timestamp dependence, and denial of service attacks.

Methodology

- Understanding the size, scope and functionality of your project's source code
- Manual review of code, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Testing and automated analysis of the Smart Contract to determine proper logic has been followed throughout the whole process
- Deploying the code on testnet using multiple live test
- Analyzing a program to determine the specific input that causes different parts of a program to execute its functions.
- Checking whether all the libraries used in the code are on the latest version.

Goals

Smart Contract System is secure, resilient and working according to the specifications and without any vulnerabilities.

Risk Classification

High: Exploits, vulnerabilities or errors that will certainly or probabilistically lead towards loss of funds, control, of the contract and its functions. Must be fixed as soon as possible.

Medium: Bugs or issues with that may be subject to exploit, though their impact is somewhat limited. Must be fxed as soon as possible.

Low: Effects are minimal in isolation and do not pose a signifcant danger to the project or its users. Issues under this classifcation are recommended to be fixed nonetheless.

Automated Analysis

Symbol	Meaning
	Function can modify state
	Function is payable

Context	Implementation			
L	_msgSender	Internal		
L	_msgData	Internal		
IERC20	Interface			
L	totalSupply	External		NO
L	balanceOf	External		NO
L	transfer	External		NO
L	allowance	External		NO
L	approve	External		NO
L	transferFrom	External		NO
SafeMath	Library			
L	add	Internal		
L	sub	Internal		
L	sub	Internal		
L	mul	Internal		
L	div	Internal		
L	div	Internal		
L	mod	Internal		
L	mod	Internal		
Address	Library			
L	isContract	Internal		
L	sendValue	Internal		
L	functionCall	Internal		
L	functionCall	Internal		
L	functionCallWithValue	Internal		
L	functionCallWithValue	Internal		
L	_functionCallWithValue	Private		
Ownable	Implementation	Context		
L		Public		NO
L	owner	Public		NO
L	renounceOwnership	Public		onlyOwner
L	transferOwnership	Public		onlyOwner

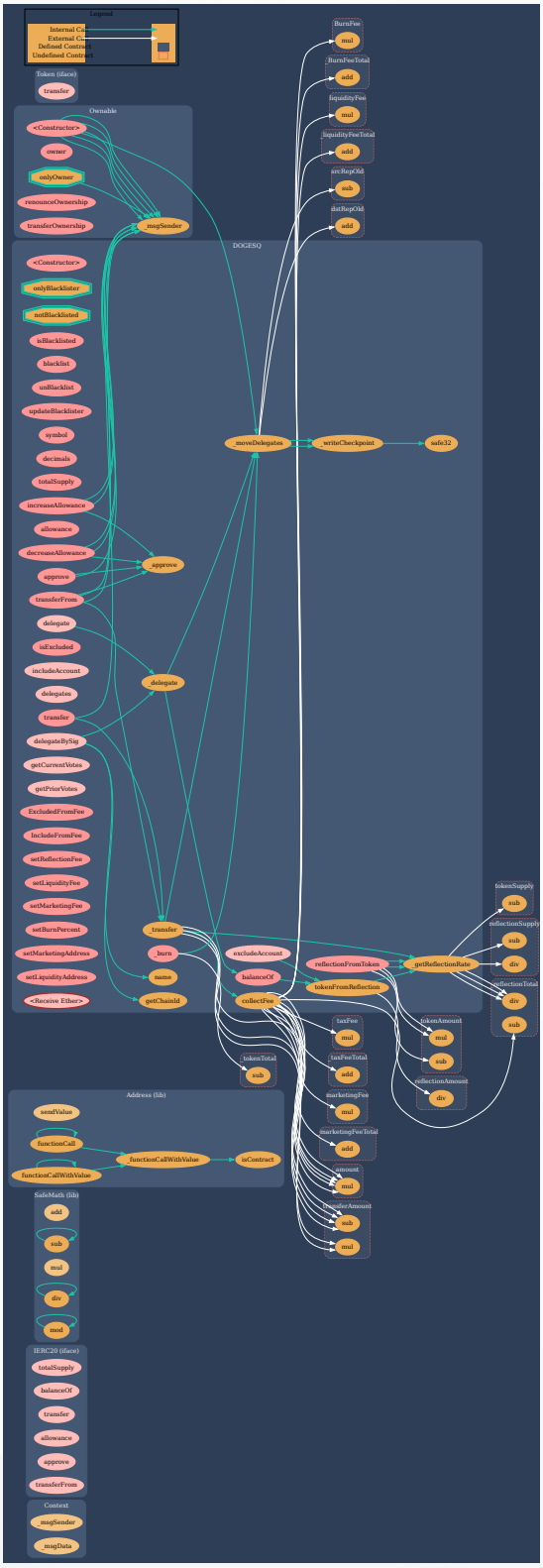
Automated Analysis

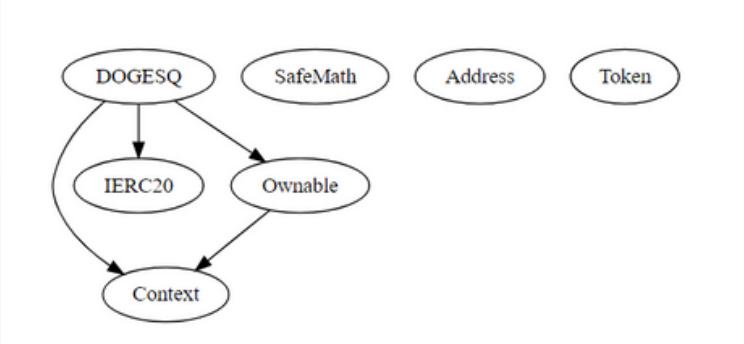
Token	Interface			
└	transfer	External ❗	🔴	NO❗
DOGESQ	Implementation	Context, IERC20, Ownable		
└		Public ❗	🔴	NO❗
└	isBlacklisted	Public ❗		NO❗
└	blacklist	Public ❗	🔴	onlyBlacklister
└	unBlacklist	Public ❗	🔴	onlyBlacklister
└	updateBlacklister	Public ❗	🔴	onlyOwner
└	name	Public ❗		NO❗
└	symbol	Public ❗		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❗
└	isExcluded	Public ❗		NO❗
└	reflectionFromToken	Public ❗		NO❗
└	tokenFromReflection	Public ❗		NO❗
└	excludeAccount	External ❗	🔴	onlyOwner
└	includeAccount	External ❗	🔴	onlyOwner
└	_approve	Private 🔐	🔴	
└	_transfer	Private 🔐	🔴	
└	_burn	Public ❗	🔴	onlyOwner
└	collectFee	Private 🔐	🔴	
└	_getReflectionRate	Private 🔐		
└	delegates	External ❗		NO❗
└	delegate	External ❗	🔴	NO❗
└	delegateBySig	External ❗	🔴	NO❗
└	getCurrentVotes	External ❗		NO❗

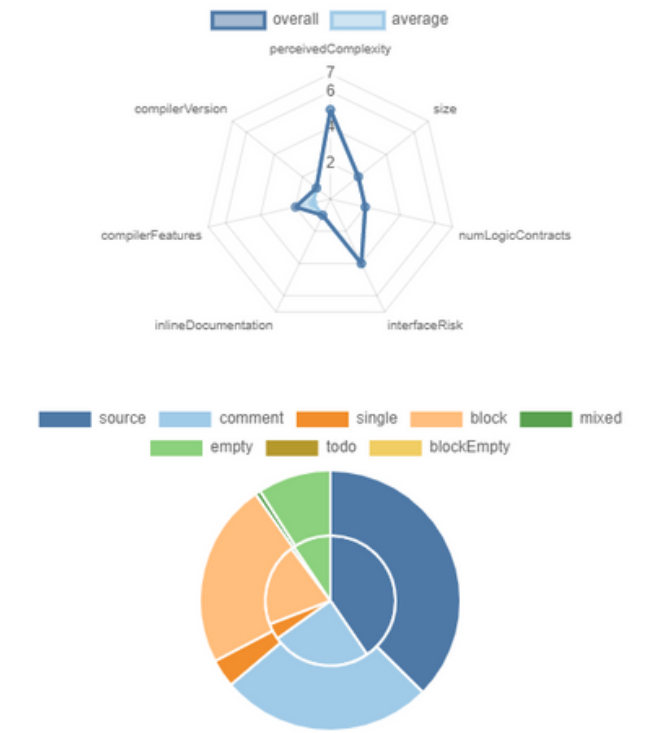
Automated Analysis

L	getPriorVotes	External ❗		NO❗
L	_delegate	Internal 🔒	🛑	
L	_moveDelegates	Internal 🔒	🛑	
L	_writeCheckpoint	Internal 🔒	🛑	
L	safe32	Internal 🔒		
L	getChainId	Internal 🔒		
L	ExcludedFromFee	Public ❗	🛑	onlyOwner
L	IncludeFromFee	Public ❗	🛑	onlyOwner
L	setReflectionFee	Public ❗	🛑	onlyOwner
L	setLiquidityFee	Public ❗	🛑	onlyOwner
L	setMarketingFee	Public ❗	🛑	onlyOwner
L	setBurnPercent	Public ❗	🛑	onlyOwner
L	setMarketingAddress	Public ❗	🛑	onlyOwner
L	setLiquidityAddress	Public ❗	🛑	onlyOwner
L		External ❗	💸	NO❗

Inheritance Graph







Contract Summary

Logic Contracts	Interfaces	Lines	nLines	nSLOC	Comment Lines	Complex. Score	Capabilities
5	2	1077	961	527	394	410	
5	**2**	**1077**	**961**	**527**	**394**	**410**	

Components

Contracts	Libraries	Interfaces	Abstract
2	2	2	1

Exposed Functions

This section lists functions that are explicitly declared public or payable. Please note that getter methods for public stateVars are not included.

Public	Payable
45	1

External	Internal	Private	Pure	View
15	62	5	9	22

StateVariables

Total	Public
32	17

Capabilities

Solidity Versions observed	Experimental Features	Can Receive Funds	Uses Assembly	Has Destroyable Contracts
0.8.3		yes	yes (3 asm blocks)	

Transfers ETH	Low-Level Calls	DelegateCall	Uses Hash Functions	ECRecover	New/Create/Create2
			yes	yes	

TryCatch	Σ Unchecked

Manual Review

The owner can pause trading

```
771         if(!isExcludedFromFee[sender] && !isExcludedFromFee[recipient]){
772             transferAmount = collectFee(sender,amount,rate);
773         }
```

```
801     function collectFee(address account, uint256 amount, uint256 rate) private returns (uint256) {
802
803         uint256 transferAmount = amount;
804
805         uint256 marketingFee = amount.mul(_marketingFee).div(10000);
806         uint256 liquidityFee = amount.mul(_liquidityFee).div(10000);
807         uint256 taxFee = amount.mul(_taxFee).div(10000);
808         uint256 BurnFee = amount.mul(_BurnFee).div(10000);
809         //@dev for holders distribution
810         if (taxFee > 0) {
811             transferAmount = transferAmount.sub(taxFee);
812             _reflectionTotal = _reflectionTotal.sub(taxFee.mul(rate));
813             _taxFeeTotal = _taxFeeTotal.add(taxFee);
814             emit RewardsDistributed(taxFee);
815         }
816
817         //@dev Marketing fee
818         if(marketingFee > 0){
819             transferAmount = transferAmount.sub(marketingFee);
820             _reflectionBalance[marketingAddress] = _reflectionBalance[marketingAddress].add(marketingFee.mul(rate));
821             _marketingFeeTotal = _marketingFeeTotal.add(marketingFee);
822             emit Transfer(account,marketingAddress,marketingFee);
823         }
824         //@dev Burn fee
825         if(BurnFee > 0){
826             transferAmount = transferAmount.sub(BurnFee);
827             _reflectionBalance[BurnAddress] = _reflectionBalance[BurnAddress].add(BurnFee.mul(rate));
828             _BurnFeeTotal = _BurnFeeTotal.add(BurnFee);
829             emit Transfer(account,BurnAddress,BurnFee);
830         }
831
832         //@dev Liquidity fee
833         if(liquidityFee > 0){
834             transferAmount = transferAmount.sub(liquidityFee);
835             _reflectionBalance[liquidityAddress] = _reflectionBalance[liquidityAddress].add(liquidityFee.mul(rate));
836             _liquidityFeeTotal = _liquidityFeeTotal.add(liquidityFee);
837             emit Transfer(account,liquidityAddress,liquidityFee);
838         }
839
840         return transferAmount;
841     }
```

Recommendation

Privileged roles can be granted the stop transactions. The owner may take advantage of by setting the fees to high percantage value. The contract could check not allowing setting fees high percantage values put **require** and set reasonable amount.

Manual Review

The owner can set fees up to 100%

```
1049    function setReflectionFee(uint256 fee) public onlyOwner {
1050        _taxFee = fee;
1051    }
1052
1053    function setLiquidityFee(uint256 fee) public onlyOwner {
1054        _liquidityFee = fee;
1055    }
1056
1057    function setMarketingFee(uint256 fee) public onlyOwner {
1058        _marketingFee = fee;
1059    }
1060        function setBurnPercent(uint256 fee) public onlyOwner {
1061        _BurnFee = fee;
1062    }
```

Recommendation

These functions should be provided arbitrary limits, e.g., put a **require** check that allows maximum limit etc.

Auto liquidity is going to an externally owned account

```
832        //@dev Liquidity fee
833        if(liquidityFee > 0){
834            transferAmount = transferAmount.sub(liquidityFee);
835            _reflectionBalance[liquidityAddress] = _reflectionBalance[liquidityAddress].add(liquidityFee.mul(rate));
836            _liquidityFeeTotal = _liquidityFeeTotal.add(liquidityFee);
837            emit Transfer(account,liquidityAddress,liquidityFee);
838        }
```

```
1070    function setLiquidityAddress(address _Address) public onlyOwner {
1071        require(_Address != liquidityAddress);
1072
1073        liquidityAddress = _Address;
1074    }
```

Recommendation

Authorizing privileged roles to externally-owned-account (EOA) is dangerous.
Send LP tokens to dead address or unreachable address.

Manual Review

The owner can set a blacklist any account.

```
638     function blacklist(address _account) public onlyBlacklister {
639         blacklisted[_account] = true;
640         emit Blacklisted(_account);
641     }
```

```
652     function updateBlacklister(address _newBlacklister) public onlyOwner {
653         require(_newBlacklister != address(0));
654         blacklister = _newBlacklister;
655         emit BlacklisterChanged(blacklister);
656     }
```

Recommendation

Authorizing privileged roles to add an account to black list and pause trade for account. These cause can affect decentralization. Remove blacklist function

The owner can exclude accounts from fees

```
729     function excludeAccount(address account) external onlyOwner() {
730         require(account != 0x10ED43C718714eb63d5aA57B78B54704E256024E,"CHAR: Uniswap router cannot be excluded."
731         require(account != address(this), 'RISE: The contract it self cannot be excluded');
732         require(!_isExcluded[account], "RISE: Account is already excluded");
733         if (_reflectionBalance[account] > 0) {
734             _tokenBalance[account] = tokenFromReflection(
735                 _reflectionBalance[account]
736             );
737         }
738         _isExcluded[account] = true;
739         _excluded.push(account);
740     }
```

```
1070    function setLiquidityAddress(address _Address) public onlyOwner
1071        require(_Address != liquidityAddress);
1072
1073        liquidityAddress = _Address;
1074    }
```

Recommendation

Authorizing privileged roles to exclude accounts from fees. These cause can affect decentralization. If owner change the liqudity address by by calling the setLiquidityAddress excludeAccount function is different from initial value of the liqudityAddress. Should expect logic and carefully check again address.

Manual Review

Public Function could be Declared External

`setLiquidityAddress`
`setMarketingAddress`
`setBurnPercent`
`setMarketingFee`
`setLiquidityFee`
`setReflectionFee`
`IncludeFromFee`
`ExcludedFromFee`
`_burn`

Recommendation

Public functions that are never called by the contract should be declared external to save gas. Use external attribute for functions never called from the contract.

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