Cyberscope

Audit Report

Jiyu

November 2022

Type	BEP20
Network	BSC
Address	0x2F4719403C58937DA8474862f29503B80019F36f
Audited by	© cyberscope

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Contract Review

Contract Name	JiyuToken
Compiler Version	v0.8.15+commit.e14f2714
Optimization	200 runs
Licence	MIT
Explorer	https://bscscan.com/token/0x2F4719403C58937DA8474862f29503B80019F36f
Symbol	JIYU
Decimals	18
Total Supply	1,000,000,000
Domain	jiyu.me

Source Files

Filename	SHA256
contract.sol	7e88a43f7cce0bc4e2f912490b7f1e2fe81a44dea94b88862982e858935f4981

Audit Updates

Initial Audit	9th November 2022 https://github.com/cyberscope-io/audits/blob/main/jiyu/v1/audit.pdf
Corrected	14th November 2022

Contract Analysis

● Critical ● Medium ● Minor / Informative ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OCTD	Transfers Contract's Tokens	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	ULTW	Transfers Liquidity to Team Wallet	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

Contract Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
●	FSA	Fixed Swap Address	Unresolved
●	L01	Public Function could be Declared External	Unresolved
●	L02	State Variables could be Declared Constant	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L07	Missing Events Arithmetic	Unresolved
●	L09	Dead Code Elimination	Unresolved
●	L13	Divide before Multiply Operation	Unresolved

FSA - Fixed Swap Address

Criticality	minor / informative
Location	contract.sol#L502
Status	Unresolved

Description

The swap address is assigned once in the constructor and it can not be changed. The decentralized swaps sometimes create a new swap version or abandon the current. A contract that cannot change the swap address may not be able to catch-up the upgrade.

```
IUniswapV2Router02 _uniswapV2Router =
IUniswapV2Router02(0x10ED43C718714eb63d5aA57B78B54704E256024E);
uniswapV2Pair = IUniswapV2Factory(_uniswapV2Router.factory())
.createPair(address(this), _uniswapV2Router.WETH());
uniswapV2Router = _uniswapV2Router;
```

Recommendation

It could be better to allow the swap address mutation in case of future swap updates.

L01 - Public Function could be Declared External

Criticality	minor / informative
Location	contract.sol#L159,164,170,174,178,185,518,522,526,530,539,544,548,553,559,564,569,574,579,592,882,896,964,969
Status	Unresolved

Description

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

```
renounceOwnership
transferOwnership
getUnlockTime
getTime
lock
unlock
name
symbol
decimals
...
```

Recommendation

Use the external attribute for functions never called from the contract.

L02 - State Variables could be Declared Constant

Criticality	minor / informative
Location	contract.sol#L451,449,459,460,450,447,445
Status	Unresolved

Description

Constant state variables should be declared constant to save gas.

```
_decimals
_name
_saleLiquidityFee
_saleMarketingFee
_symbol
_tFeeTotal
_tTotal
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor / informative
Location	contract.sol#L229,230,246,267,422,579,806,859,909,916,922,928,964,969,453,456,459,460,463,937
Status	Unresolved

Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
DOMAIN_SEPARATOR
PERMIT_TYPEHASH
MINIMUM_LIQUIDITY
WETH
_users
_minimumTokensBeforeSwapAmount
_value
_amount
__minimumTokensBeforeSwap
...
```

Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions.

L07 - Missing Events Arithmetic

Criticality	minor / informative
Location	contract.sol#L909,916,969
Status	Unresolved

Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
_maxTxAmount = _amount
_minimumTokensBeforeSwap = __minimumTokensBeforeSwap
_walletHoldingMaxLimit = _amount
```

Recommendation

Emit an event for critical parameter changes.

L09 - Dead Code Elimination

Criticality	minor / informative
Location	contract.sol#L117,100,104,108,112,80,91
Status	Unresolved

Description

Functions that are not used in the contract, and make the code's size bigger.

```
_functionCallWithValue
functionCall
functionCallWithValue
isContract
sendValue
```

Recommendation

Remove unused functions.

L13 - Divide before Multiply Operation

Criticality	minor / informative
Location	contract.sol#L429
Status	Unresolved

Description

Performing divisions before multiplications may cause lose of prediction.

```
_maxTxAmount = _tTotal.div(100).mul(1)
_walletHoldingMaxLimit = _tTotal.div(100).mul(2)
```

Recommendation

The multiplications should be prior to the divisions.

Contract Functions

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
IBEP20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
Address	Library			
	isContract	Internal		
	sendValue	Internal	✓	
	functionCall	Internal	✓	
	functionCall	Internal	✓	
	functionCallWithValue	Internal	✓	

	functionCallWithValue	Internal	✓	
	_functionCallWithValue	Private	✓	
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	getUnlockTime	Public		-
	getTime	Public		-
	lock	Public	✓	onlyOwner
	unlock	Public	✓	-
IUniswapV2Factory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IUniswapV2Pair	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-

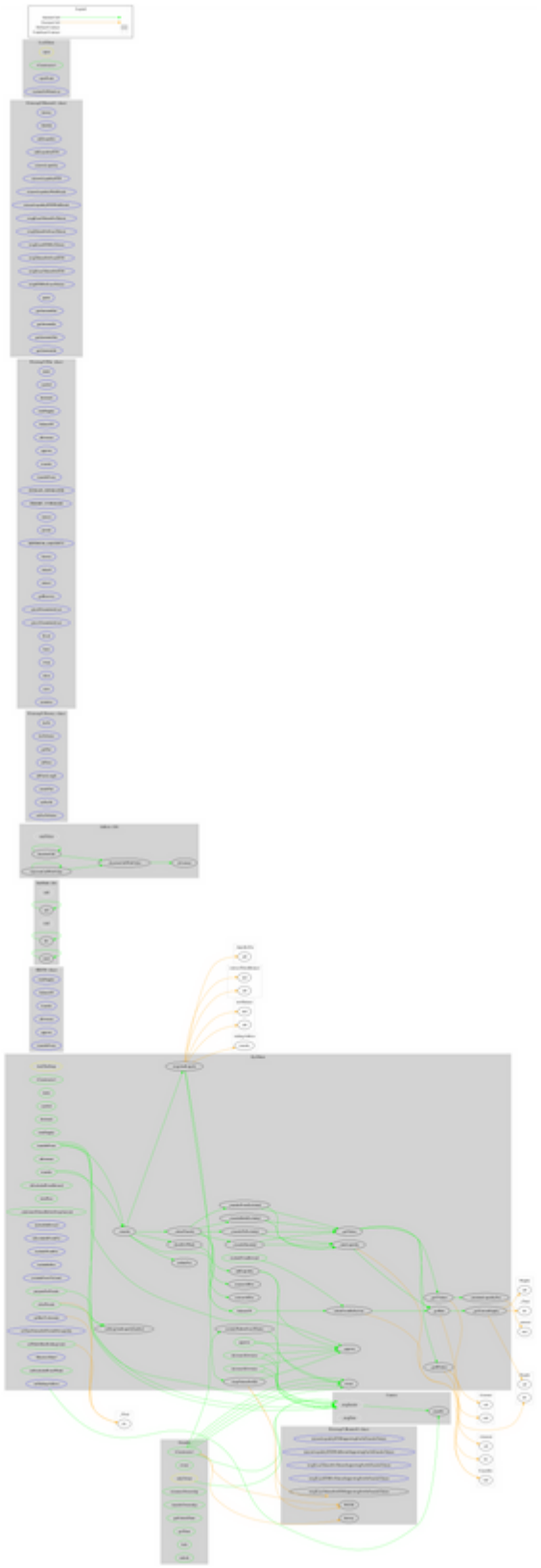
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
IUniswapV2Router01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-

	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
IUniswapV2Router02	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
LockToken	Implementation	Ownable		
	<Constructor>	Public	✓	-
	openTrade	External	✓	onlyOwner
	includeToWhiteList	External	✓	onlyOwner
JiyuToken	Implementation	Context, IBEP20, LockToken		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-

	isExcludedFromReward	Public		-
	totalFees	Public		-
	_minimumTokensBeforeSwapAmount	Public		-
	tokenFromReflection	Public		-
	excludeFromReward	Public	✓	onlyOwner
	includeInReward	External	✓	onlyOwner
	isExcludedFromFee	External		-
	excludeFromFee	External	✓	onlyOwner
	includeInFee	External	✓	onlyOwner
	_approve	Private	✓	
	_transfer	Private	✓	open
	swapAndLiquify	Private	✓	lockTheSwap
	swapTokensForEth	Private	✓	
	addLiquidity	Private	✓	
	_tokenTransfer	Private	✓	
	_transferStandard	Private	✓	
	_transferToExcluded	Private	✓	
	_transferFromExcluded	Private	✓	
	_transferBothExcluded	Private	✓	
	excludeFromTxLimit	External	✓	onlyOwner
	_getValues	Private		
	_getTValues	Private		
	_getRValues	Private		
	_getRate	Private		
	_getCurrentSupply	Private		
	_takeLiquidity	Private	✓	
	calculateLiquidityFee	Private		
	removeAllFee	Private	✓	
	restoreAllFee	Private	✓	
	setSaleFee	Private	✓	
	prepareForPresale	Public	✓	onlyOwner
	afterPresale	Public	✓	onlyOwner
	setMaxTxAmount	External	✓	onlyOwner
	setNumTokensSellToAddToLiquidity	External	✓	onlyOwner

	setStakingAddress	External	✓	onlyOwner
	setSwapAndLiquifyEnabled	Public	✓	onlyOwner
	<Receive Ether>	External	Payable	-
	excludeWalletsFromWhales	Private	✓	
	checkForWhale	Private		
	setExcludedFromWhale	Public	✓	onlyOwner
	setWalletMaxHoldingLimit	Public	✓	onlyOwner

Contract Flow



Domain Info

Domain Name	jiyu.me
Registry Domain ID	D425500000340087012-AGRS
Creation Date	2022-09-25T11:39:10Z
Updated Date	2022-09-25T11:39:12Z
Registry Expiry Date	2023-09-25T11:39:10Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	www.namecheap.com
Registrar	NameCheap, Inc.
Registrar IANA ID	1068

The domain was created about 1 month before the creation of the audit. It will expire in 11 months.

There is no public billing information, the creator is protected by the privacy settings.

Summary

Jiyu is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. There is also a limit of max 8% fees.

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Coinscope audit and K.Y.C. service has been rebranded to Cyberscope.

Coinscope is the leading early coin listing, voting and auditing authority firm. The audit process is analyzing and monitoring many aspects of the project. That way, it gives the community a good sense of security using an informative report and a generic score.

Cyberscope and Coinscope are aiming to make crypto discoverable and efficient globally. They provide all the essential tools to assist users draw their own conclusions.

The Cyberscope team

https://www.cyberscope.io