



Cyberscope

## Audit Report

# FREE WORLD SWAP

June 2022

Type      BEP20

Network    BSC

Address    0x89c48fe146aFf05571a7443F82b5471483671465

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## Contract Review

<b>Contract Name</b>	FWSToken
<b>Compiler Version</b>	v0.6.12+commit.27d51765
<b>Optimization</b>	200 runs
<b>Licence</b>	MIT
<b>Explorer</b>	<a href="https://bscscan.com/token/0x89c48fe146aFf05571a7443F82b5471483671465">https://bscscan.com/token/0x89c48fe146aFf05571a7443F82b5471483671465</a>
<b>Symbol</b>	FWS
<b>Decimals</b>	18
<b>Total Supply</b>	99,999
<b>Domain</b>	fwscoins.com

## Source Files

<b>Filename</b>	<b>SHA256</b>
<b>contract.sol</b>	f6af9c7096e978a12ca1932d4ecb66395df00fe59b3cc1f9fff64854754b485d

## Audit Updates

<b>Initial Audit</b>	9th June 2022
<b>Corrected</b>	

# Contract Analysis

● Critical   ● Medium   ● Minor   ● Pass

Severity	Code	Description
●	ST	Contract Owner is not able to stop or pause transactions
●	OCTD	Contract Owner is not able to transfer tokens from specific address
●	OTUT	Owner Transfer User's Tokens
●	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
●	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
●	MT	Contract Owner is not able to mint new tokens
●	BT	Contract Owner is not able to burn tokens from specific wallet
●	BC	Contract Owner is not able to blacklist wallets from selling

## ST - Stop Transactions

Criticality	minor
Location	contract.sol#L445

### Description

The contract owner has the authority to stop the purchases for all users. The owner may take advantage of it by setting the `isSwapAndLiquid` to false.

```
if(sender==uniswapV2Pair){  
    require(isSwapAndLiquid,"BEP20: sell is not allow");  
}
```

### Recommendation

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

# Contract Diagnostics

● Critical    ● Medium    ● Minor

Severity	Code	Description
●	MTS	Manipulate Total Supply
●	L01	Public Function could be Declared External
●	L02	State Variables could be Declared Constant
●	L04	Conformance to Solidity Naming Conventions
●	L09	Dead Code Elimination
●	L13	Divide before Multiply Operation

## MTS - Manipulate Total Supply

<b>Criticality</b>	medium
<b>Location</b>	contract.sol#L451,474

### Description

The contract adds the amount to the dead address and decreases the total supply counter. As a result the balances are diverse from the total supply. This change will have a direct impact on the token price and Market Cap.

```
_balances[address(0)] = _balances[address(0)].add(taxR);  
totalBurn = totalBurn.add(taxR);  
_totalSupply = _totalSupply.sub(taxR);
```

### Recommendation

The contract should always keep the balances and the total supply synchronised.



## L01 - Public Function could be Declared External

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L304,323,332,371,374,377,380,383,387,390,394,403,407,424,525,528,531,564

### Description

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

```
takeOutTokenInCase  
decimals  
symbol  
name  
burn  
decreaseAllowance  
increaseAllowance  
transferFrom  
approve  
...
```

### Recommendation

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

## L02 - State Variables could be Declared Constant

**Criticality**

minor

**Location**

contract.sol#L355,360,362,354

### Description

Constant state variables should be declared constant to save gas.

```
taxPer  
deadAddress  
busd  
burnLimit
```

### Recommendation

Add the constant attribute to state variables that never change.

## L04 - Conformance to Solidity Naming Conventions

**Criticality**

minor

**Location**

contract.sol#L16,183,184,201,344,345,353,552,555,558,564

### 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.

```
_to  
_amount  
_token  
_newAddress  
_uniswapV2Pair  
_totalSupply  
_allowances  
_balances  
MINIMUM_LIQUIDITY  
...
```

### Recommendation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions>

## L09 - Dead Code Elimination

**Criticality**

minor

**Location**

contract.sol#L279

### Description

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

```
isContract
```

### Recommendation

Remove unused functions.

## L13 - Divide before Multiply Operation

**Criticality**

minor

**Location**

contract.sol#L428

### Description

Performing divisions before multiplications may cause lose of prediction.

```
tax = amount.mul(taxPer).div(1000)
```

### Recommendation

The multiplications should be prior to the divisions.

# Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>IUniswapV2Router01</b>	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		-
<b>IUniswapV2Router02</b>	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-

	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
<b>IUniswapV2Factory</b>	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
<b>IUniswapV2Pair</b>	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		-
	mint	External	✓	-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
<b>IBEP20</b>	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>SafeMath</b>	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
<b>Context</b>	Implementation			
	_msgSender	Internal		
<b>Address</b>	Library			
	isContract	Internal		
<b>Ownable</b>	Implementation	Context		
	<Constructor>	Internal	✓	
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner



	transferOwnership	Public	✓	onlyOwner
<b>BEP20</b>	Implementation	Context, Ownable, IBEP20		
	totalSupply	Public		-
	totalBurned	Public		-
	taxPers	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	burn	Public	✓	-
	_transfer	Internal	✓	
	_approve	Internal	✓	
	_burn	Internal	✓	
<b>BEP20Detailed</b>	Implementation	BEP20		
	<Constructor>	Internal	✓	
	name	Public		-
	symbol	Public		-
	decimals	Public		-
<b>FWSToken</b>	Implementation	BEP20Detailed		
	<Constructor>	Public	✓	BEP20Detailed
	setSwapAddress	External	✓	onlyOwner
	setUniswapV2Pair	External	✓	onlyOwner
	setPreAddress	External	✓	onlyOwner
	setisLiquid	External	✓	onlyOwner
	takeOutTokenInCase	Public	✓	onlyOwner

# Contract Flow



## Domain Info

<b>Domain Name</b>	fwscoins.com
<b>Registry Domain ID</b>	2698828852_DOMAIN_COM-VRSN
<b>Creation Date</b>	2022-05-25T08:27:32Z
<b>Updated Date</b>	2022-05-25T10:27:36Z
<b>Registry Expiry Date</b>	2023-05-25T10:27:32Z
<b>Registrar WHOIS Server</b>	whois.gandi.net
<b>Registrar URL</b>	<a href="http://www.gandi.net">http://www.gandi.net</a>
<b>Registrar</b>	GANDI SAS
<b>Registrar IANA ID</b>	81

The domain has been created 15 days before the creation of the audit. It will expire in 12 months.

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

## Summary

The Smart Contract analysis reported two issues. The contract owner has the authority to stop transactions. Additionally, the contract diversifies the total supply from the balances. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats. The fees are fixed to 2%.

# Disclaimer

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The Cyberscope team disclaims any liability for the resulting losses.

## About Cyberscope

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>