



# Cyberscope

## Audit Report

# HospoWise

March 2022

Type ERC20

Network ETH

SHA256 16113cf2e5306eeb94f846cc4f6107474d63eacc85e9154f451adccf41bbdbf8

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## Contract Review

<b>Domain</b>	hospowise.com
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## Source Files

<b>Filename</b>	<b>SHA256</b>
<b>contract.sol</b>	16113cf2e5306eeb94f846cc4f6107474d63eacc85e915 4f451adccf41bbdbf8

## Audit Updates

<b>Initial Audit</b>	24th March 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

## ULTW - Unlimited Liquidity to Team Wallet

Criticality	minor
Location	contract.sol#L1510

### Description

The contract states that it moves the liquidity percentage to the autogenerated liquidity pool and the devFee percentage to the dev's wallet. But according to the calculations, the contract sends ways more dividends to the dev's wallet

```
Liquidity = contractTokenBalance * 10 / 90  
Dev's wallet = contractTokenBalance * 80 / 90
```

```
uint256 swapTokens = contractTokenBalance  
    .mul(sellFee.liquidityFee)  
    .div(totalBuyFee + totalSellFee);  
if (swapTokens > 0) {  
    swapAndLiquify(swapTokens);  
}  
  
uint256 feeTokens = contractTokenBalance - swapTokens;  
if (feeTokens > 0) {  
    super._transfer(address(this), _devWallet, feeTokens);  
}
```

### Recommendation

The naming convenience should be improved to follow the actual business logic.

## BC - Blacklisted Contracts

Criticality	critical
Location	contract.sol#L1485

### Description

The contract owner has the authority to stop contracts from transactions. The owner may take advantage of it by calling the `setBlackList` function. Additionally, the contract is blacklisting all the addresses that bought in less than 100 blocks after the trading open.

```
require(  
    !_isBlackListed[from] && !_isBlackListed[to],  
    "Account is blacklisted"  
);
```

```
if (block.number < tradingStartBlock + BLOCKCOUNT) {  
    _isBlackListed[to] = true;  
}
```

### 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
●	L01	Public Function could be Declared External
●	L04	Conformance to Solidity Naming Conventions
●	L05	Unused State Variable
●	L07	Missing Events Arithmetic
●	L14	Uninitialized Variables in Local Scope



## L01 - Public Function could be Declared External

**Criticality**

minor

**Location**

contract.sol#L691,699,887,895,912,919,944,957,974,997 and 6 more

### Description

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

```
isExcludedFromFees  
setAutomatedMarketMakerPair  
excludeMultipleAccountsFromFees  
burn  
decreaseAllowance  
increaseAllowance  
transferFrom  
approve  
allowance  
...
```

### Recommendation

Use the external attribute for functions never called from the contract

## L04 - Conformance to Solidity Naming Conventions

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L11,289,291,322,1366,1260,1270,1272

### 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.

```
_isBlackListed  
_devWallet  
deadWallet  
_token  
MINIMUM_LIQUIDITY  
PERMIT_TYPEHASH  
DOMAIN_SEPARATOR  
WETH
```

### Recommendation

Follow the Solidity naming convention.

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

## L05 - Unused State Variable

**Criticality**

minor

**Location**

contract.sol#L1260

### Description

There are segments that contain unused state variables.

```
deadWallet
```

### Recommendation

Remove unused state variables.

## L07 - Missing Events Arithmetic

**Criticality**

minor

**Location**

contract.sol#L1402,1407,1415,1428

### 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.

```
dailyCap = value * 10 ** 18
maxTxAmount = value * 10 ** 18
maxWalletAmount = value * 10 ** 18
swapTokensAtAmount = value * 10 ** 18
```

### Recommendation

Emit an event for critical parameter changes.

## L14 - Uninitialized Variables in Local Scope

**Criticality**

minor

**Location**

contract.sol#L1547

### Description

There are variables that are defined in the local scope and are not initialized.

```
fees
```

### Recommendation

All the local scoped variables should be initialized.

# 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		-

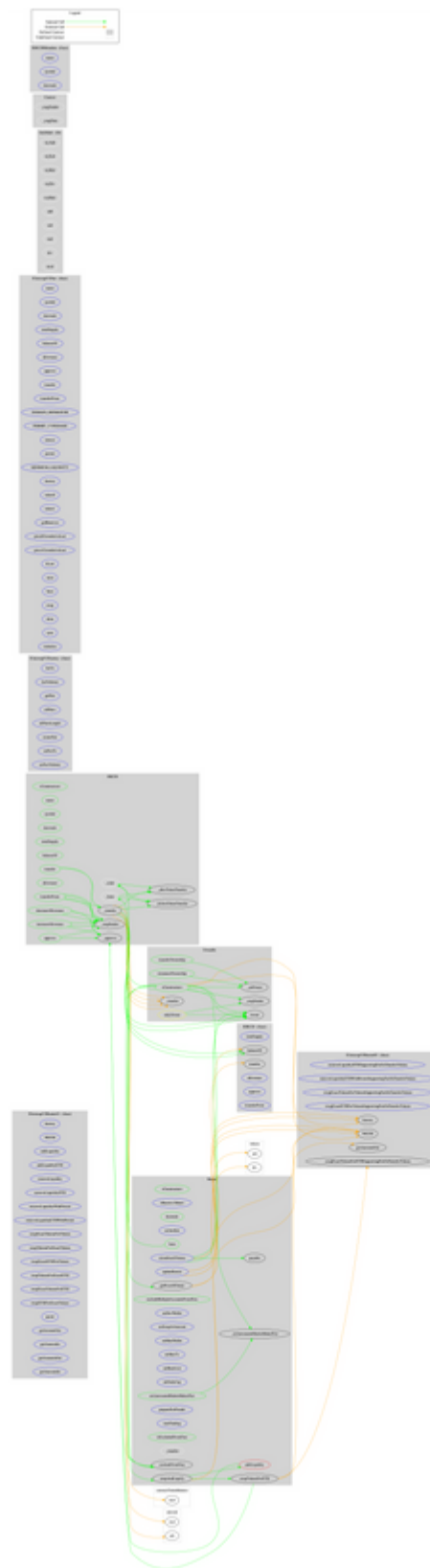
	price1CumulativeLast	External		-
	kLast	External		-
	mint	External	✓	-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
<b>SafeMath</b>	Library			
	tryAdd	Internal		
	trySub	Internal		
	tryMul	Internal		
	tryDiv	Internal		
	tryMod	Internal		
	add	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	mod	Internal		
	sub	Internal		
	div	Internal		
	mod	Internal		
<b>Context</b>	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
<b>Ownable</b>	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	_setOwner	Private	✓	



<b>IERC20</b>	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>IERC20Metadata</b>	Interface	IERC20		
	name	External		-
	symbol	External		-
	decimals	External		-
<b>ERC20</b>	Implementation	Context, IERC20, IERC20Meta data		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
	_afterTokenTransfer	Internal	✓	

Hospo	Implementation	ERC20, Ownable		
	<Constructor>	Public	✓	ERC20
	<Receive Ether>	External	Payable	-
	decimals	Public		-
	setAntibot	External	✓	onlyOwner
	burn	Public	✓	-
	updateRouter	External	✓	onlyOwner
	claimStuckTokens	External	✓	onlyOwner
	excludeFromFees	Public	✓	onlyOwner
	excludeMultipleAccountsFromFees	Public	✓	onlyOwner
	setDevWallet	External	✓	onlyOwner
	setSwapAtAmount	External	✓	onlyOwner
	setMaxWallet	External	✓	onlyOwner
	setMaxTx	External	✓	onlyOwner
	setBlackList	External	✓	onlyOwner
	setDailyCap	External	✓	onlyOwner
	setAutomatedMarketMakerPair	Public	✓	onlyOwner
	_setAutomatedMarketMakerPair	Private	✓	
	prepareForPresale	External	✓	onlyOwner
	startTrading	External	✓	onlyOwner
	isExcludedFromFees	Public		-
	_transfer	Internal	✓	
	addLiquidity	Private	✓	
	swapAndLiquify	Private	✓	
	swapTokensForETH	Private	✓	
	getPriceOfToken	Public		-

# Contract Flow



## Domain Info

<b>Domain Name</b>	hospowise.com
<b>Registry Domain ID</b>	2664654626_DOMAIN_COM-VRSN
<b>Creation Date</b>	2021-12-29T04:49:01Z
<b>Updated Date</b>	2021-12-29T04:49:02Z
<b>Registry Expiry Date</b>	2024-12-29T04:49:01Z
<b>Registrar WHOIS Server</b>	whois.wix.com
<b>Registrar URL</b>	<a href="http://www.wix.com">http://www.wix.com</a>
<b>Registrar</b>	Wix.com Ltd.
<b>Registrar IANA ID</b>	3817

The domain has been created 3 months before the creation of the audit. It will expire in almost 3 years.

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

## Summary

There are some functions that can be abused by the owner, blacklisting addresses. The contract contains some build-in mechanisms for automatically blacklisting during the trading open. The maximum fee percentage that can be set is 4.5% both for sales and buys. 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 contract contains also some trading limitations:

- Users cannot sell more than daily cap. The minimum daily cap value that can be configured is 10 ETH.
- The users cannot trade more than a max transaction amount. The minimum percentage that can be configured is 0.01% of the total supply.
- If anti-bot is enabled, the users cannot create more than one transaction every block number.
- Users cannot buy or transfer more than a max wallet amount. The minimum percentage that can be configured is 0.01% of the total supply.

## Disclaimer

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.

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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 provides all the essential tools to assist users draw their own conclusions.



The Cyberscope team

<https://www.cyberscope.io>