



Cyberscope

Audit Report

HospoWise

March 2022

Type ERC20

Network ETH

Address 0xf15ead6acb8ab52a1e335671a48f3a99e991614c

Audited by © cyberscope

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Contract Review

| | |
|-------------------------|---|
| Contract Name | Hospo |
| Compiler Version | v0.8.12+commit.f00d7308 |
| Optimization | Yes with 200 runs |
| Licence | MIT |
| Explorer | https://etherscan.io/address/0xf15ead6acb8ab52a1e335671a48f3a99e991614c |
| Symbol | HOSPO |
| Decimals | 18 |
| Total Supply | 22,000,000,000,001 |
| Domain | hospowise.com |

Source Files

| | |
|---------------------|--|
| Filename | SHA256 |
| contract.sol | 96b15d7e5d4d85b06183ba4b4f7199ad006c7cc80b27bd1e09a88e7503719a24 |

Audit Updates

| | |
|----------------------|-----------------|
| Initial Audit | 27th March 2022 |
| Corrected | |

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

Criticality

minor

Location

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 |
| | | | | |
| 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 | ✓ | - |

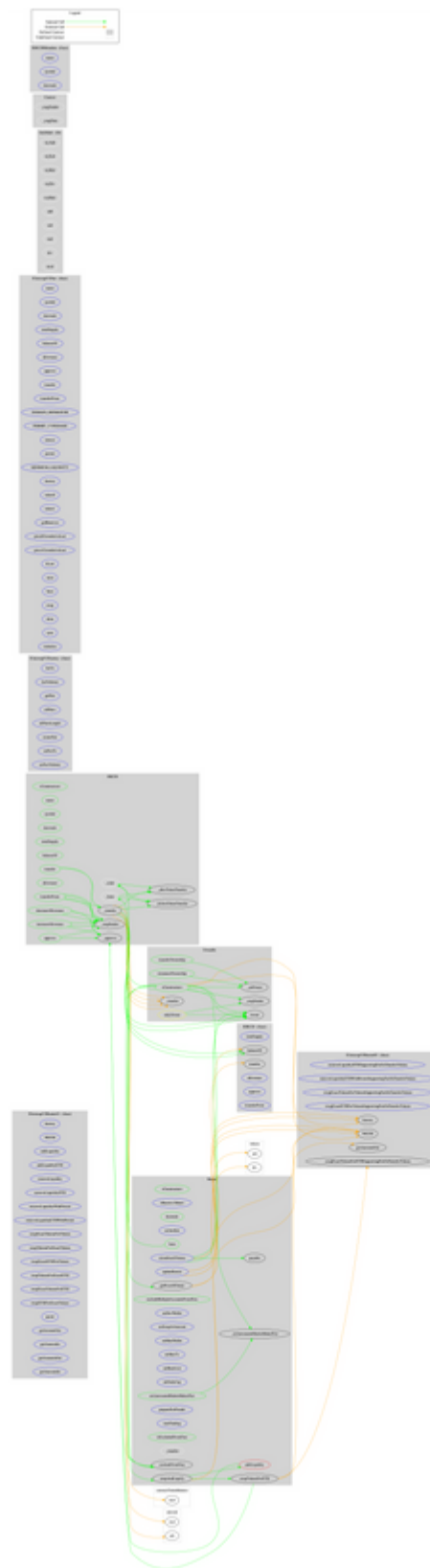
| | | | | |
|--------------------------|--|----------|---------|---|
| | swapExactETHForTokensSupportingFeeOnTransferTokens | External | Payable | - |
| | swapExactTokensForETHSupportingFeeOnTransferTokens | External | ✓ | - |
| | | | | |
| IUniswapV2Factory | Interface | | | |
| | feeTo | External | | - |
| | 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 | | - |
| | mint | External | ✓ | - |
| | burn | External | ✓ | - |
| | swap | External | ✓ | - |
| | skim | External | ✓ | - |
| | sync | External | ✓ | - |
| | initialize | External | ✓ | - |
| | | | | |
| SafeMath | 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 | | |
| | | | | |
| Context | Implementation | | | |
| | _msgSender | Internal | | |
| | _msgData | Internal | | |
| | | | | |
| Ownable | Implementation | Context | | |
| | <Constructor> | Public | ✓ | - |
| | owner | Public | | - |
| | renounceOwnership | Public | ✓ | onlyOwner |
| | transferOwnership | Public | ✓ | onlyOwner |
| | _setOwner | Private | ✓ | |
| | | | | |

| | | | | |
|-----------------------|----------------------|---|---|---|
| IERC20 | Interface | | | |
| | totalSupply | External | | - |
| | balanceOf | External | | - |
| | transfer | External | ✓ | - |
| | allowance | External | | - |
| | approve | External | ✓ | - |
| | transferFrom | External | ✓ | - |
| | | | | |
| IERC20Metadata | Interface | IERC20 | | |
| | name | External | | - |
| | symbol | External | | - |
| | decimals | External | | - |
| | | | | |
| ERC20 | 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

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

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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>