



TechRate

AUDIT COMPANY

Smart Contract Security Audit

Audit Details



Audited project

Helsing Inu



Deployer address

0xff6f869886053009b51651523eed33843ed49f39



Client contacts:

Helsing Inu team



Blockchain

Ethereum



Project website:

helsinginu.com

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by Hellsing Inu to perform an audit of smart contracts:

<https://etherscan.io/address/0xB087C2180e3134Db396977065817aed91FEa6EAD#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Contracts Details

Token contract details for 13.11.2021

Contract name	Hellsing Inu
Contract address	0xB087C2180e3134Db396977065817aed91FEa6EAD
Total supply	1,000,000,000,000,000,000
Token ticker	HELLSING
Decimals	9
Token holders	1,887
Transactions count	4,490
Top 100 holders dominance	69.18%
Contract deployer address	0xff6f869886053009b51651523eed33843ed49f39
Contract's current owner address	0x00

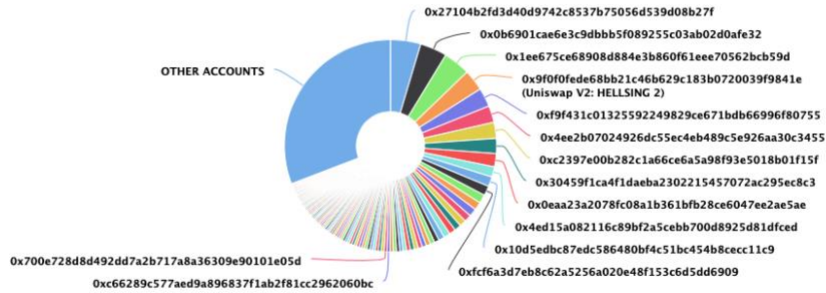
Helsing Inu Token Distribution

The top 100 holders collectively own 69.18% (691,818,586,651,874,000.00 Tokens) of Helsing Inu

Token Total Supply: 1,000,000,000,000,000.00 Token | Total Token Holders: 1,887

Helsing Inu Top 100 Token Holders

Source: Etherscan.io



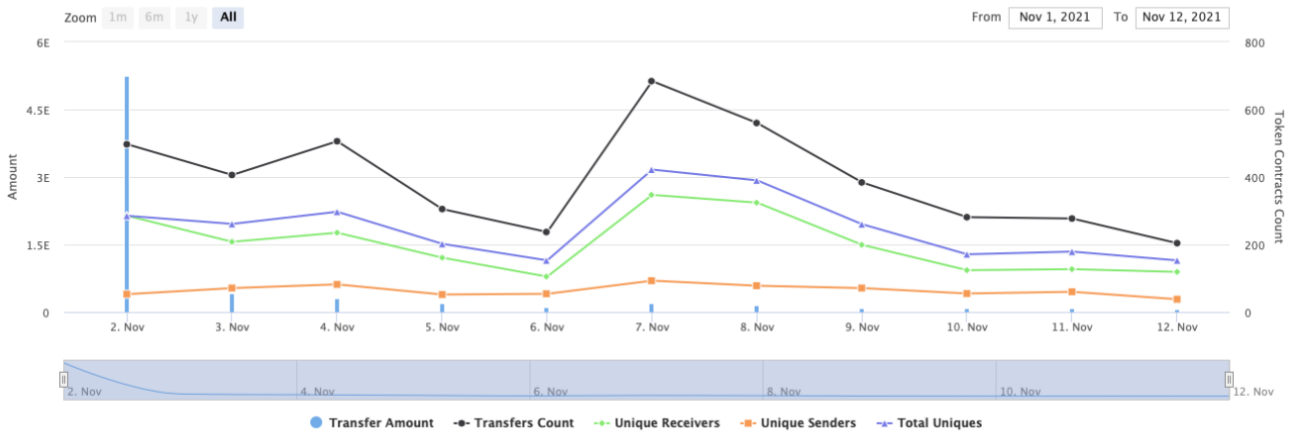
(A total of 691,818,586,651,874,000.00 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000,000.00 token)

Helsing Inu Contract Interaction Details


Time Series: Token Contract Overview

Tue 2, Nov 2021 - Fri 12, Nov 2021

Token Contract 0xB087C2180e3134Db396977065817aed91FEa6EAD (Helsing Inu)
Source: Etherscan.io



Helsing Inu Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0x27104b2fd3d40d9742c8537b75056d539d08b27f	46,133,716,168,417,400.539664063	4.6134%
2	0x0b6901cae6e3c9d8bb5f089255c03ab02d0afe32	40,984,808,260,616,700.563149207	4.0985%
3	0x1ee675ce68908d884e3b860f61eee70562bc59d	40,925,084,042,126,200.884712173	4.0925%
4	 Uniswap V2: HELLSING 2	32,282,867,739,010,200.25042587	3.2283%
5	0xf9f431c01325592249829ce671bdb66996f80755	28,771,818,894,084,700.372822547	2.8772%
6	0x4ee2b07024926dc55ec4eb489c5e926aa30c3455	25,446,642,869,722,000.881694738	2.5447%
7	0xc2397e00b282c1a66ce6a5a98f93e5018b011f1f	24,546,112,252,224,100.893145978	2.4546%
8	0x30459f1ca4f1daeba2302215457072ac295ec8c3	22,911,784,804,609,800.780283372	2.2912%
9	0x0eaa23a2078fc08a1b361bfb28ce6047ee2ae5ae	20,135,756,828,451,400.677334965	2.0136%
10	0x4ed15a082116c89bf2a5cebb700d8925d81dfced	15,474,716,401,583,500.385574656	1.5475%



Contract functions details

+ Context

- [Int] _msgSender

+ [Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

+ [Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] sub
- [Int] mul
- [Int] div
- [Int] div

+ Ownable (Context)

- [Pub] <Constructor> #
- [Pub] owner
- [Pub] renounceOwnership #
 - modifiers: onlyOwner

+ [Int] IUniswapV2Factory

- [Ext] createPair #

+ [Int] IUniswapV2Router02

- [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
- [Ext] factory
- [Ext] WETH
- [Ext] addLiquidityETH (\$)

+ HellsingInu (Context, IERC20, Ownable)

- [Pub] <Constructor> #
- [Pub] name
- [Pub] symbol
- [Pub] decimals
- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Ext] setCooldownEnabled #
 - modifiers: onlyOwner
- [Prv] tokenFromReflection
- [Prv] _approve #
- [Prv] _transfer #
- [Prv] swapTokensForEth #

- modifiers: lockTheSwap
- [Prv] sendETHToFee #
- [Ext] openTrading #
 - modifiers: onlyOwner
- [Pub] setBots #
 - modifiers: onlyOwner
- [Pub] delBot #
 - modifiers: onlyOwner
- [Prv] _tokenTransfer #
- [Prv] _transferStandard #
- [Prv] _takeTeam #
- [Prv] _reflectFee #
- [Ext] <Fallback> (\$)
- [Ext] manualswap #
- [Ext] manualsend #
- [Prv] _getValues
- [Prv] _getTValues
- [Prv] _getRValues
- [Prv] _getRate
- [Prv] _getCurrentSupply

(\$) = payable function

= non-constant function

Issues Checking Status

Issue description	Checking status
1. Compiler errors.	Passed
2. Race conditions and Reentrancy. Cross-function race conditions.	Passed
3. Possible delays in data delivery.	Passed
4. Oracle calls.	Passed
5. Front running.	Passed
6. Timestamp dependence.	Passed
7. Integer Overflow and Underflow.	Passed
8. DoS with Revert.	Passed
9. DoS with block gas limit.	Passed
10. Methods execution permissions.	Passed
11. Economy model of the contract.	Passed
12. The impact of the exchange rate on the logic.	Passed
13. Private user data leaks.	Passed
14. Malicious Event log.	Passed
15. Scoping and Declarations.	Passed
16. Uninitialized storage pointers.	Passed
17. Arithmetic accuracy.	Passed
18. Design Logic.	Passed
19. Cross-function race conditions.	Passed
20. Safe Open Zeppelin contracts implementation and usage.	Passed
21. Fallback function security.	Passed

Security Issues

✓ High Severity Issues

No high severity issues found.

✓ Medium Severity Issues

No medium severity issues found.

✓ Low Severity Issues

No low severity issues found.

Owner privileges (In the period when the owner is not renounced)

- Owner can enable cooldown (user to user trading with time offset).

```
function setCooldownEnabled(bool onoff) external onlyOwner() {
    cooldownEnabled = onoff;
}
```

- Owner can open swap trading.

```
function openTrading() external onlyOwner() {
    require(!tradingOpen, "trading is already open");
    IUniswapV2Router02 _uniswapV2Router = IUniswapV2Router02(0x7a250d5630B4cF539739dF2C5dAcb4c659F2488D);
    uniswapV2Router = _uniswapV2Router;
    _approve(address(this), address(uniswapV2Router), _tTotal);
    uniswapV2Pair = IUniswapV2Factory(_uniswapV2Router.factory()).createPair(address(this), _uniswapV2Router.WETH());
    uniswapV2Router.addLiquidityETH(value: address(this).balance)(address(this), balanceOf(address(this)), 0, 0, owner(), block.timestamp);
    swapEnabled = true;
    cooldownEnabled = true;
    _maxTxAmount = 5000000000000000 * 10**9;
    tradingOpen = true;
    IERC20(uniswapV2Pair).approve(address(uniswapV2Router), type(uint).max);
}
```

- Owner can add and remove bots (no transferring between this addresses).

```
function setBots(address[] memory bots_) public onlyOwner {
    for (uint i = 0; i < bots_.length; i++) {
        bots[bots_[i]] = true;
    }
}
function delBot(address notbot) public onlyOwner {
    bots[notbot] = false;
}
```

Conclusion

Smart contracts do not contain high severity issues! Liquidity pair contract's security is not checked due to out of scope.

Liquidity locking details provided by the team:

<https://www.team.finance/view-coin/0xB087C2180e3134Db396977065817aed91FEa6EAD?name=Hellsing%20Inu&symbol=HELLSING>

Ownership renounce details provided by the team:

<https://etherscan.io/tx/0x91ae853e01c25f1ca12a1a2f71d07596fc6e1a31d3212ccabeb47c762957e37b>

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.



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