



**TechRate**  
AUDIT COMPANY

# Smart Contract Security Audit

TechRate

November, 2021

# Audit Details



Audited project

**UniCat Token**



Deployer address

**0x55b3189608dbd9e5ca27b145013e92485b4738d1**



Client contacts:

**UniCat Token team**



Blockchain

**Ethereum**



Project website:

**<https://unicattoken.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 UniCat Token to perform an audit of smart contracts:

<https://etherscan.io/address/0x87c0192b1b81b9550d495558aac9753972f6db0d#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 10.11.2021

Contract name	UniCat Token
Contract address	0x87c0192B1B81b9550d495558aAc9753972f6db0d
Total supply	1,000,000,000,000
Token ticker	UNICAT
Decimals	9
Token holders	210
Transactions count	635
Top 100 holders dominance	92.19%
This balance	533887040502175397
Amount in pool	89286291239109939310
Contract deployer address	0x55b3189608dbd9e5ca27b145013e92485b4738d1
Contract's current owner address	0x00

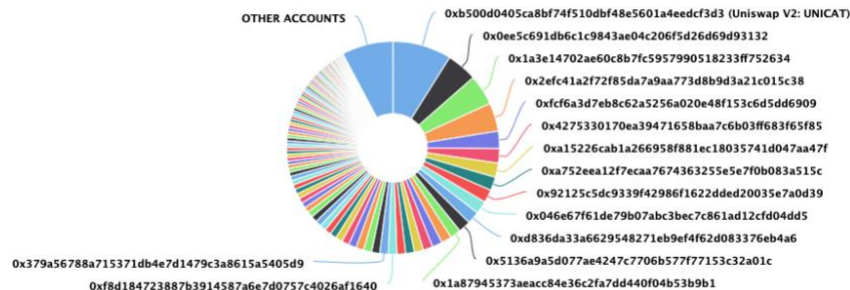
# UniCat Token Token Distribution

The top 100 holders collectively own 92.19% (921,913,629,551.96 Tokens) of UniCat Token

Token Total Supply: 1,000,000,000.00 Token | Total Token Holders: 210

UniCat Token Top 100 Token Holders

Source: Etherscan.io



(A total of 921,913,629,551.96 tokens held by the top 100 accounts from the total supply of 1,000,000,000.00 token)

## UniCat Token Contract Interaction Details

Time Series: Token Contract Overview


Fri 5, Nov 2021 - Tue 9, Nov 2021

Token Contract 0x87c0192b1b81b9550d495558aac9753972f6db0d (UniCat Token)  
Source: Etherscan.io





# UniCat Token Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	 Uniswap V2: UNICAT	89,286,291,239.10993931	8.9286%
2	0x0ee5c691db6c1c9843ae04c206f5d26d69d93132	46,253,210,335.767332564	4.6253%
3	0x1a3e14702ae60c8b7fc5957990518233ff752634	46,104,345,280.039739154	4.6104%
4	0x2efc41a2f72f85da7a9aa773d8b9d3a21c015c38	43,180,448,043.834520015	4.3180%
5	0xfc6a3d7eb8c62a5256a020e48f153c6d5dd6909	26,235,673,258.109472768	2.6236%
6	0x4275330170ea39471658baa7c6b03ff683f65f85	22,078,832,521.498275569	2.2079%
7	0xa15226cab1a266958f881ec18035741d047aa47f	21,611,748,788.738154816	2.1612%
8	0xa752eea12f7ecaa7674363255e5e7f0b083a515c	20,561,655,278.412384652	2.0562%
9	0x92125c5dc9339f42986f1622dded20035e7a0d39	19,685,398,293.232010212	1.9685%
10	0x046e67f61de79b07abc3bec7c861ad12cfd04dd5	19,630,994,777.421121276	1.9631%



# 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
  - [Int] mod
  - [Int] mod
- + Ownable (Context)
  - [Pub] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
- + [Int] IUniswapV2Factory
  - [Ext] createPair #
- + [Int] IUniswapV2Router02
  - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
  - [Ext] factory
  - [Ext] WETH
  - [Ext] addLiquidityETH (\$)
- + UNICAT (Context, IERC20, Ownable)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Prv] tokenFromReflection
  - [Prv] removeAllFee #
  - [Prv] restoreAllFee #
  - [Prv] \_approve #



- [Prv] \_transfer #
- [Prv] swapTokensForEth #
  - modifiers: lockTheSwap
- [Prv] sendETHToFee #
- [Prv] \_tokenTransfer #
- [Prv] \_transferStandard #
- [Prv] \_getValues
- [Prv] \_getTValues
- [Prv] \_getRate
- [Prv] \_getCurrentSupply
- [Prv] \_getRValues
- [Prv] \_takeTeam #
- [Prv] \_reflectFee #
- [Ext] <Fallback> (\$)
- [Ext] openTrading #
  - modifiers: onlyOwner
- [Ext] setMarketingWallet #
- [Ext] excludeFromFee #
- [Ext] includeToFee #
- [Ext] setNoTaxMode #
- [Ext] setTeamFee #
- [Ext] setTaxFee #
- [Pub] setBots #
  - modifiers: onlyOwner
- [Pub] delBot #
  - modifiers: onlyOwner
- [Pub] isBot
- [Ext] manualswap #
- [Ext] manualsend #
- [Pub] thisBalance
- [Pub] amountInPool

(\$ ) = 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.	Low issues
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

### 1. Out of gas

Issue:

- The function `setBots()` uses the loop to add bots from list. Function will be aborted with `OUT_OF_GAS` exception if there will be a long addresses list.

```
function setBots(address[] memory bots_↑) public onlyOwner {
    for (uint i = 0; i < bots_↑.length; i++) {
        if (bots_↑[i] != uniswapV2Pair && bots_↑[i] != address(uniswapV2Router)) {
            _bots[bots_↑[i]] = true;
        }
    }
}
```

Recommendation:

Check that the array length is not too big.

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

- Owner can open 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);
    IERC20(uniswapV2Pair).approve(address(uniswapV2Router), type(uint).max);
    tradingOpen = true;
    walletLimitDuration = block.timestamp + (60 minutes);
}
```

- Owner can remove bots.

```
function delBot(address notbot↑) public onlyOwner {
    _bots[notbot↑] = false;
}
```

# Conclusion

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

Liquidity locking details provided by the team:

<https://app.unicrypt.network/amm/uni-v2/pair/0xb500d0405ca8bf74f510dbf48e5601a4eedcf3d3>

Renounced ownership:

<https://etherscan.io/tx/0x8a393e403df12201d146c1da044cae8493bad08061fb1e824e5209f0325c182f>

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*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.*