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AUDIT COMPANY

Smart Contract Security Audit

TechRate

June, 2021

Audit Details

Audited project

FuzzyInu

Deployer address

0x12C4189c1d95A067AC94300E314A99eC9ae5faf9

Client contacts:

FuzzyInu team

Blockchain

Ethereum

Project website:

https://fuzzy.finance/

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 FuzzyInu to perform an audit of smart contracts:

https://etherscan.io/address/0x4bcddfcfa8cb923952bcf16644b36e5da5ca3184#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

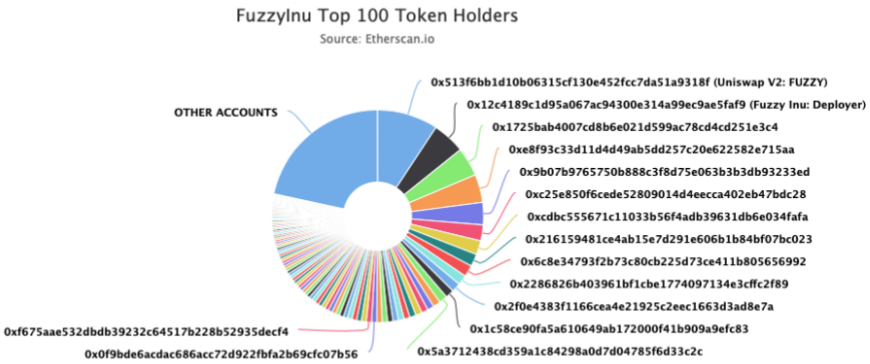
Token contract details for 06.06.2021

Contract name	FuzzyInu
Contract address	0x4bCDdFCFA8CB923952BcF16644b36e5dA5CA3184
Total supply	1,000,000,000,000
Token ticker	FUZZY
Decimals	12
Token holders	1,132
Transactions count	6,190
Top 100 holders dominance	78.40%
Tax fee	2
Total fees	22371018339443806671 1438
Contract deployer address	0x12C4189c1d95A067AC94300E314A99eC9ae5faf9
Contract's current owner address	0x0000000000000000000000000000000000000000

FuzzyInu Token Distribution

The top 100 holders collectively own 78.40% (783,961,737,750.47 Tokens) of FuzzyInu

Token Total Supply: 1,000,000,000,000.00 Token | Total Token Holders: 1,132

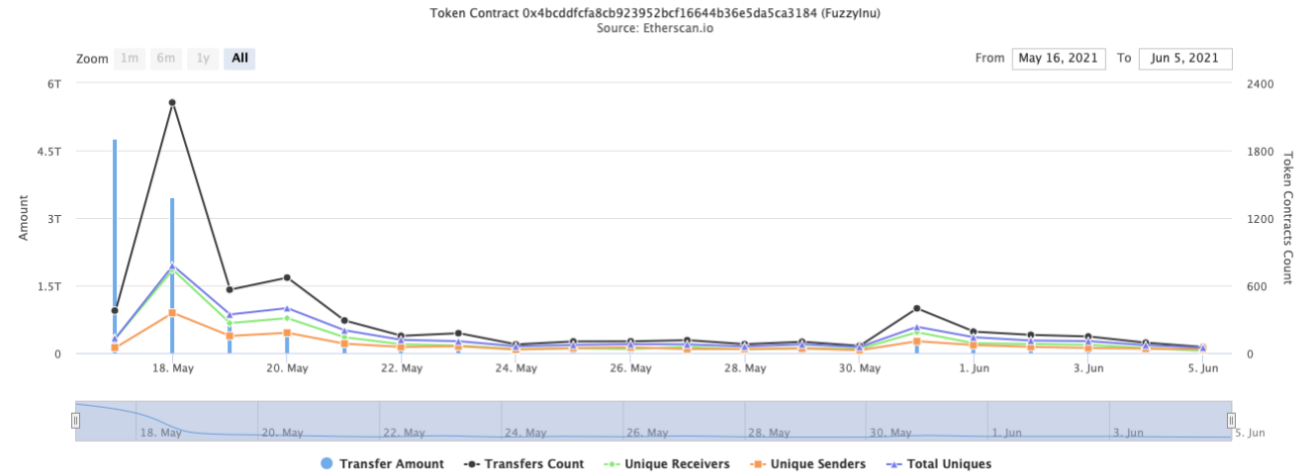


(A total of 783,961,737,750.47 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000.00 token)

FuzzyInu Contract Interaction Details

Time Series: Token Contract Overview

Mon 17, May 2021 - Sat 5, Jun 2021



FuzzyInu Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	Uniswap V2: FUZZY	92,866,823,205.252457248023	9.2867%
2	Fuzzy Inu: Deployer	49,782,788,594.477607239616	4.9783%
3	0x1725bab4007cd8b6e021d599ac78cd4cd251e3c4	43,921,723,361.310974082205	4.3922%
4	0xe8f93c33d11d4d49ab5dd257c20e622582e715aa	42,641,117,559.750239864097	4.2641%
5	0x9b07b9765750b888c3f8d75e063b3b3db93233ed	34,008,020,080.600768791739	3.4008%
6	0xc25e850f6cede52809014d4eecca402eb47bdc28	24,223,197,769.18943475719	2.4223%
7	0xcdbc555671c11033b56f4adb39631db6e034fafa	21,314,276,505.429466352414	2.1314%
8	0x216159481ce4ab15e7d291e606b1b84bf07bc023	18,906,394,560.85498732068	1.8906%
9	0x6c8e34793f2b73c80cb225d73ce411b805656992	17,650,541,512.061751393989	1.7651%
10	0x2286826b403961bf1cbe1774097134e3cffc2f89	15,083,274,421.783696710414	1.5083%

Contract functions details

+ Context
  - [Int] _msgSender
  - [Int] _msgData

+ [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

+ [Lib] Address
  - [Int] isContract
  - [Int] sendValue #
  - [Int] functionCall #
  - [Int] functionCall #
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Int] functionStaticCall
  - [Int] functionStaticCall
  - [Int] functionDelegateCall #
  - [Int] functionDelegateCall #
  - [Prv] _verifyCallResult

+ Ownable (Context)
  - [Pub] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner

+ FuzzyInu (Context, IERC20, Ownable)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #

- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Pub] isExcluded
- [Pub] totalFees
- [Ext] setMaxTxPercent #
  - modifiers: onlyOwner
- [Pub] reflect #
- [Pub] reflectionFromToken
- [Pub] tokenFromReflection
- [Ext] excludeAccount #
  - modifiers: onlyOwner
- [Ext] includeAccount #
  - modifiers: onlyOwner
- [Prv] _approve #
- [Prv] _transfer #
- [Prv] _transferStandard #
- [Prv] _transferToExcluded #
- [Prv] _transferFromExcluded #
- [Prv] _transferBothExcluded #
- [Prv] _reflectFee #
- [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.	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 `includeInReward()` uses the loop to find and remove addresses from the `_excluded` list. Function will be aborted with `OUT_OF_GAS` exception if there will be a long excluded addresses list.

```
function includeAccount(address account⬆) external onlyOwner() {
    require(_isExcluded[account⬆], "Account is not excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account⬆) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account⬆] = 0;
            _isExcluded[account⬆] = false;
            _excluded.pop();
            break;
        }
    }
}
```

- The function `_getCurrentSupply` also uses the loop for evaluating total supply. It also could be aborted with `OUT_OF_GAS` exception if there will be a long excluded addresses list.

```
function _getCurrentSupply() private view returns(uint256, uint256) {
    uint256 rSupply = _rTotal;
    uint256 tSupply = _tTotal;
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return (_rTotal, _tTotal);
        rSupply = rSupply.sub(_rOwned[_excluded[i]]);
        tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    }
    if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
    return (rSupply, tSupply);
}
```

Recommendation:

Check that the excluded array length is not too big.

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

- Owner can change maximum transaction amount.

```
function setMaxTxPercent(uint256 maxTxPercent) external onlyOwner() {
    _maxTxAmount = _tTotal.mul(maxTxPercent).div(
        10**2
    );
}
```

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://etherscan.io/tx/0xaf0f91da2e9a61960b2ecc68417248fd66f9e95b93a2483ac97bd3a9fb529de6

Ownership renounce details provided by the team:
https://etherscan.io/tx/0x21dc9d28114fc01d5e695cfe893db000d0a53efa0528987f2af15b11e8666984

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.