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AUDIT COMPANY

Smart Contract Security Audit

TechRate

December, 2021

Audit Details

Audited project

BEAST NFT TOKEN

Deployer address

0xca9eadf516ab91eb60a2b5dbd79827b8dcff9c82

Client contacts:

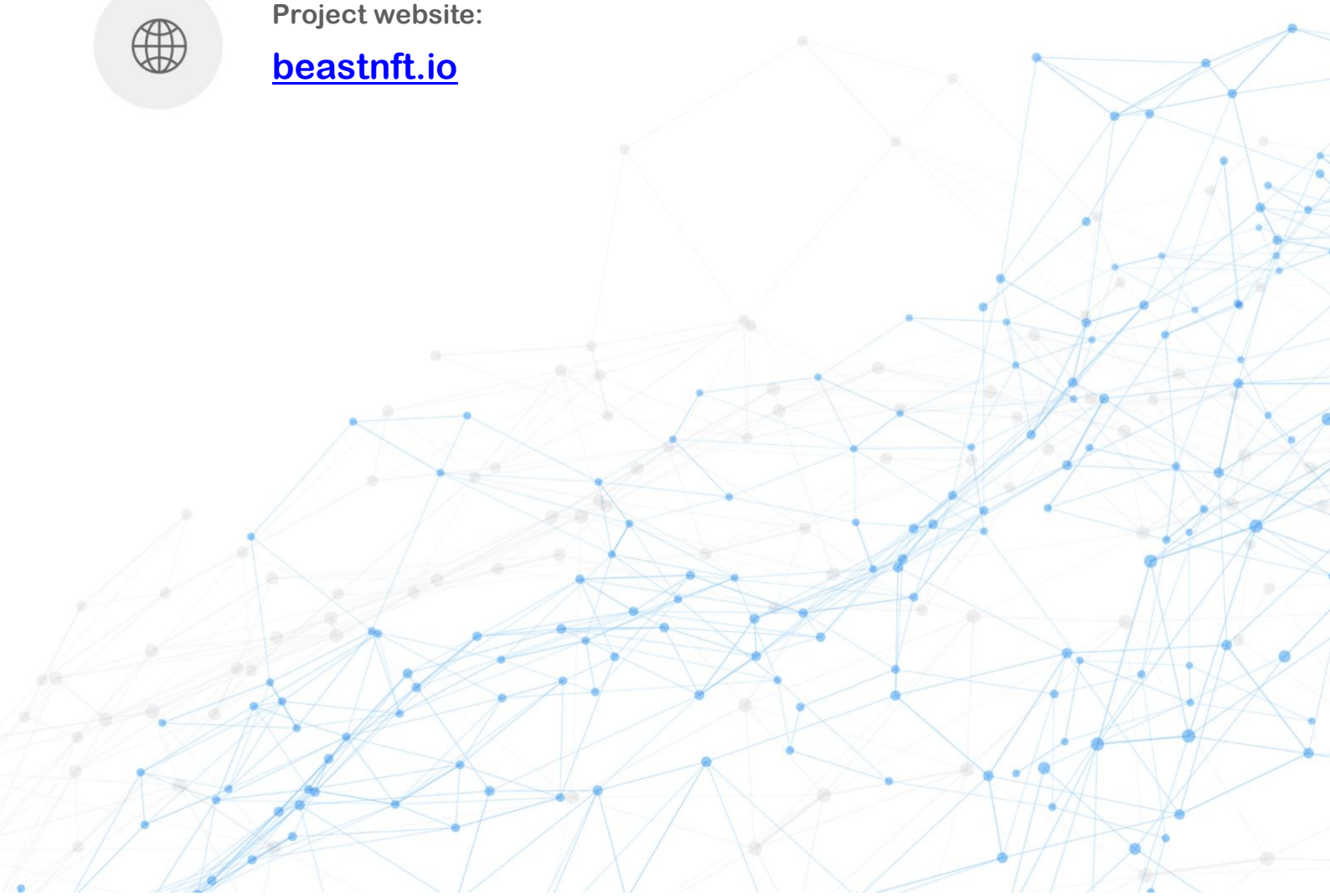
BEAST NFT TOKEN team

Blockchain

Binance Smart Chain

Project website:

beastnft.io



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 BEAST NFT TOKEN to perform an audit of smart contracts:

https://bscscan.com/address/0x8D7f08FfBE0506bAd571a731ECea67F7851107DA#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

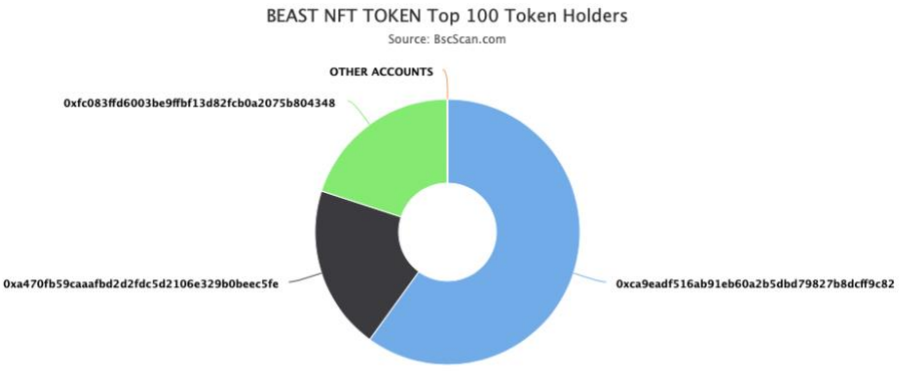
Token contract details for 31.12.2021

Contract name	BEAST NFT TOKEN
Contract address	0x8D7f08FfBE0506bAd571a731ECea67F7851107DA
Total supply	1,000,000,000
Token ticker	BNFT
Decimals	18
Token holders	3
Transactions count	3
Top 100 holders dominance	100.00%
Liquidity fee	3
Tax fee	3
Burn / marketing fee	2 / 2
Uniswap V2 pair	0x2db6efef29823739ecdd36732c1cf6a5af57feb5
Contract deployer address	0xca9eadf516ab91eb60a2b5dbd79827b8dcff9c82
Contract's current owner address	0xca9eadf516ab91eb60a2b5dbd79827b8dcff9c82

BEAST NFT TOKEN Token Distribution

The top 100 holders collectively own 100.00% (1,000,000,000.00 Tokens) of BEAST NFT TOKEN

Token Total Supply: 1,000,000,000.00 Token | Total Token Holders: 3



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

BEAST NFT TOKEN contract interaction details

Time Series: Token Contract Overview

Wed 22, Dec 2021 - Wed 22, Dec 2021

BEAST NFT TOKEN Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0xca9eadf516ab91eb60a2b5dbd79827b8dcff9c82	600,000,000	60.0000%
2	0xa470fb59caaafbd2d2fdc5d2106e329b0beec5fe	200,000,000	20.0000%
3	0xfc083ffd6003be9ffbf13d82fcb0a2075b804348	200,000,000	20.0000%

Contract functions details

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

+ ERC20 (Context, IERC20, IERC20Metadata)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Int] _transfer #
  - [Int] _mint #
  - [Int] _burn #
  - [Int] _approve #
  - [Int] _beforeTokenTransfer #
  - [Int] _afterTokenTransfer #

+ [Int] IERC20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ [Int] IERC20Metadata (IERC20)
  - [Ext] name
  - [Ext] symbol
  - [Ext] decimals

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

- [Int] functionDelegateCall #
- [Int] functionDelegateCall #
- [Int] verifyCallResult

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

+ [Lib] SafeMath
- [Int] tryAdd
- [Int] trySub
- [Int] tryMul
- [Int] tryDiv
- [Int] tryMod
- [Int] add
- [Int] sub
- [Int] mul
- [Int] div
- [Int] mod
- [Int] sub
- [Int] div
- [Int] mod

+ [Int] IUniswapV2Factory
- [Ext] feeTo
- [Ext] feeToSetter
- [Ext] getPair
- [Ext] allPairs
- [Ext] allPairsLength
- [Ext] createPair #
- [Ext] setFeeTo #
- [Ext] setFeeToSetter #

+ [Int] IUniswapV2Pair
- [Ext] name
- [Ext] symbol
- [Ext] decimals
- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] allowance
- [Ext] approve #
- [Ext] transfer #
- [Ext] transferFrom #
- [Ext] DOMAIN_SEPARATOR
- [Ext] PERMIT_TYPEHASH
- [Ext] nonces
- [Ext] permit #
- [Ext] MINIMUM_LIQUIDITY
- [Ext] factory
- [Ext] token0
- [Ext] token1
- [Ext] getReserves
- [Ext] price0CumulativeLast
- [Ext] price1CumulativeLast
- [Ext] kLast

  - [Ext] mint #
  - [Ext] burn #
  - [Ext] swap #
  - [Ext] skim #
  - [Ext] sync #
  - [Ext] initialize #
+ [Int] IUniswapV2Router01
  - [Ext] factory
  - [Ext] WETH
  - [Ext] addLiquidity #
  - [Ext] addLiquidityETH ($)
  - [Ext] removeLiquidity #
  - [Ext] removeLiquidityETH #
  - [Ext] removeLiquidityWithPermit #
  - [Ext] removeLiquidityETHWithPermit #
  - [Ext] swapExactTokensForTokens #
  - [Ext] swapTokensForExactTokens #
  - [Ext] swapExactETHForTokens ($)
  - [Ext] swapTokensForExactETH #
  - [Ext] swapExactTokensForETH #
  - [Ext] swapETHForExactTokens ($)
  - [Ext] quote
  - [Ext] getAmountOut
  - [Ext] getAmountIn
  - [Ext] getAmountsOut
  - [Ext] getAmountsIn
+ [Int] IUniswapV2Router02 (IUniswapV2Router01)
  - [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
  - [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
  - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
  - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens ($)
  - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
+ BEASTNFTTOKEN (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] isExcludedFromReward
  - [Pub] totalFees
  - [Pub] totalBurn
  - [Pub] deliver #
  - [Pub] reflectionFromToken
  - [Pub] tokenFromReflection
  - [Pub] excludeFromReward #
    - modifiers: onlyOwner
  - [Ext] includeInReward #
    - modifiers: onlyOwner

- [Ext] <Fallback> ($)
- [Prv] _distributeFee #
- [Prv] _getValues
- [Prv] _getTValues
- [Prv] _getRValues
- [Prv] _getRate
- [Prv] _getCurrentSupply
- [Prv] _takeLiquidity #
- [Prv] calculateTaxFee
- [Prv] calculateBurnFee
- [Prv] calculateMarketingFee
- [Prv] calculateLiquidityFee
- [Prv] removeAllFee #
- [Prv] restoreAllFee #
- [Pub] isExcludedFromFee
- [Prv] _approve #
- [Prv] _transfer #
- [Prv] swapAndLiquify #
  - modifiers: lockTheSwap
- [Prv] swapTokensForEth #
- [Prv] addLiquidity #
- [Prv] _tokenTransfer #
- [Prv] _transferStandard #
- [Prv] _transferToExcluded #
- [Prv] _transferFromExcluded #
- [Prv] _transferBothExcluded #
- [Pub] excludeFromFee #
  - modifiers: onlyOwner
- [Pub] includeInFee #
  - modifiers: onlyOwner
- [Ext] enableAllFees #
  - modifiers: onlyOwner
- [Ext] disableAllFees #
  - modifiers: onlyOwner
- [Ext] setMarketingWallet #
  - modifiers: onlyOwner
- [Ext] setMaxTxPercent #
  - modifiers: onlyOwner
- [Ext] setNumTokensSellToAddToLiquidity #
  - modifiers: onlyOwner
- [Pub] setSwapAndLiquifyEnabled #
  - modifiers: onlyOwner
- [Ext] setTaxFee #
  - modifiers: onlyOwner
- [Ext] setBurnFee #
  - modifiers: onlyOwner
- [Ext] setLiquidityFee #
  - modifiers: onlyOwner
- [Ext] setMarketFee #
  - modifiers: onlyOwner

($) = 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 change the tax, burn, market and liquidity fee.

```
function setTaxFee(uint256 taxFee) external onlyOwner {
    _taxFee = taxFee;
}

ftrace | funcSig
function setBurnFee(uint256 burnFee) external onlyOwner {
    _burnFee = burnFee;
}

ftrace | funcSig
function setLiquidityFee(uint256 liquidityFee) external onlyOwner {
    _liquidityFee = liquidityFee;
}

ftrace | funcSig
function setMarketFee(uint256 marketFee) external onlyOwner {
    _marketFee = marketFee;
}
```

- Owner can change the maximum transaction amount.

```
function setMaxTxPercent(uint256 maxTxAmount) external onlyOwner {
    _maxTxAmount = maxTxAmount;
}
```

- Owner can enable/disable fees.

```
ftrace | funcSig
function enableAllFees() external onlyOwner {
    restoreAllFee();
    _previousTaxFee = _taxFee;
    _previousBurnFee = _taxFee;
    _previousMarketFee = _marketFee;
    _previousLiquidityFee = _liquidityFee;
    setSwapAndLiquifyEnabled(true);
}

ftrace | funcSig
function disableAllFees() external onlyOwner {
    removeAllFee();
    setSwapAndLiquifyEnabled(false);
}
```

- Owner can change _numTokensSellToAddToLiquidity.

```
function setNumTokensSellToAddToLiquidity(
    uint256 numTokensSellToAddToLiquidity⬆
) external onlyOwner {
    _numTokensSellToAddToLiquidity = numTokensSellToAddToLiquidity⬆;
}
```

- Owner can change marketing wallet.

```
function setMarketingWallet(address newWallet⬆) external onlyOwner {
    marketingWallet = newWallet⬆;
}
```

- Owner can exclude from the fee.

```
    function excludeFromFee(address account⬆) public onlyOwner {
        _isExcludedFromFee[account⬆] = true;
    }
```

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 are NOT provided by the team.

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.