CRACKEN

Smart Contract Security Audit

Project: Beerus Cat

Aug 31, 2022

Contract Address

0x3a310e6EAf960F9EA208764e9D299ea62A0ea53d

Table of Contents

Disclaimer

The contents of this report reflect only the CRACKEN TECH audit team's understanding of the current progress and status of the security of the code audited, to verify the integrity of the code provided for the scope of this audit. You agree that your access and/or use, including but not limited to any associated services, products, protocols, platforms, content, and materials, will be at your sole risk. Given the size of the project, the findings detailed here are not to be considered exhaustive, and further testing and audit are recommended after the issues covered are fixed. We do not warrant, endorse, guarantee, or assume responsibility for any product or service advertised or offered by a third party through the product, any open source or third-party software, code, libraries, materials, or information linked to, called by, referenced by or accessible through the report, its content, and the related services and products, any hyperlinked websites, any websites or mobile applications appearing on any advertising, and we will not be a party to or in any way be responsible for monitoring any transaction between you and any third-party providers of products or services.

All information provided in this report does not constitute financial or investment advice, nor should it be used to signal that any persons reading this report should invest their funds without sufficient individual due diligence regardless of the findings presented in this report.

The review does not address the compiler layer, any other areas beyond the programming language, or other programming aspects that could present security risks. If the audited source files are smart contract files, risks or issues introduced by using data feeds from off-chain sources are not extended by this review either.

Audit Review

The source code of the Beerus Cat Token was audited in order to acquire a clear impression of how the project was implemented. The Cracken Tech audit team conducted in-depth research, analysis, and scrutiny, resulting in a series of observations. A detailed list of each issue found, and vulnerabilities in the source code will be included in the audit report. The problems and potential solutions are given in this report, we will identify common sources for such problems and comments for improvement.

The auditing process will follow a routine as special considerations by Cracken:

- Review of the specifications, sources, and instructions provided to Cracken to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Cracken describe.
- Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
- Symbolic execution is analyzing a program to determine what inputs cause each part of a program to execute.
- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

Project Review

Token Summary

Parameter	Result
Token Name	BeerusCat
Token Symbol	BCat
Token Decimal	9
Total Supply	100,000,000,000,000,000,000,000
Platform	BSC
Buy Tax Fee	8%
Sell Tax Fee	8%
Contract Creation Date	Aug 30, 2022
Liquidity Status	Not available
Liquidity Lockup Time	Not available
Compiler Version	v0.8.4+commit.c7e474f2
Optimization	Yes with 200 runs
Contract Address	0x3a310e6EAf960F9EA208764e9D299ea62A0ea53d
Deployer Address	0x5bac8ba4c1b5f07f4344875e9eed65631b0f12ce
Owner Address	0x5bac8ba4c1b5f07f4344875e9eed65631b0f12ce

Source Code

CRACKEN was commissioned by Beerus Cat Token to perform an audit based on the following smart contract:

https://bscscan.com/address/0x3a310e6EAf960F9EA208764e9D299ea62A0ea53d

Smart Contract Vulnerability Checks

Vulnerability	Auto-Scan	Manual-Scan	Result
Unencrypted Private Data On-Chain	Complete	Complete	Low / No Risk
Code With No Effects	Complete	Complete	Low / No Risk
Message call with hardcoded gas amount	Complete	Complete	Low / No Risk
Hash Collisions with Multiple Variable Length Arguments	Complete	Complete	Low / No Risk
Unexpected Ether balance	Complete	Complete	Low / No Risk
Presence of unused variables	Complete	Complete	Low / No Risk
Right-To-Left-Override control character (U+202E)	Complete	Complete	Low / No Risk
Typographical Error	Complete	Complete	Low / No Risk
DoS With Block Gas Limit	Complete	Complete	Low / No Risk
Arbitrary Jump with Function Type Variable	Complete	Complete	Low / No Risk
Insufficient Gas Grieving	Complete	Complete	Low / No Risk
Incorrect Inheritance Order	Complete	Complete	Low / No Risk
Write to Arbitrary Storage Location	Complete	Complete	Low / No Risk
Requirement Violation	Complete	Complete	Low / No Risk
Missing Protection against Signature Replay Attacks	Complete	Complete	Low / No Risk
Weak Sources of Randomness from Chain Attributes	Complete	Complete	Low / No Risk
Authorization through tx. origin	Complete	Complete	Low / No Risk
Delegate call to Untrusted Callee	Complete	Complete	Low / No Risk

Vulnerability	Auto-Scan	Manual-Scan	Result
Use of Deprecated Solidity Functions	Complete	Complete	Low / No Risk
Assert Violation	Complete	Complete	Low / No Risk
Reentrancy	Complete	Complete	Low / No Risk
Unprotected SELF-DESTRUCT Instruction	Complete	Complete	Low / No Risk
Unprotected Ether Withdrawal	Complete	Complete	Low / No Risk
Outdated Compiler Version	Complete	Complete	Low / No Risk
Integer Overflow and Underflow	Complete	Complete	Low / No Risk
Function Default Visibility	Complete	Complete	Low / No Risk

Manual Code Review

Classification of Issues

Severity	Description
High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
Informational	A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
High-Risk	0
Medium-Risk	1
Low-Risk	0
Informational	2
Total	3

🟠 **Medium-Risk: functions make cause a few bugs of the project. Should be fixed.**

The blacklist function is enabled

Description:

The owner can add blacklist users [MEDIUM RISK]

```
event BlacklistAddress(address indexed account, bool value);
    function blacklistAddress(address account, bool value) public onlyOwner{
        _isBlacklisted[account] = value;
        emit BlacklistAddress(account, value);
    }

    event BlacklistMultiAddresses(address[] accounts, bool value);
    function blacklistMultiAddresses(address[] calldata accounts, bool value) public
onlyOwner{
        for(uint256 i = 0; i < accounts.length; i++) {
            _isBlacklisted[accounts[i]] = value;
        }
        emit BlacklistMultiAddresses(accounts, value);
    }
```

Recommendation:

We recommend that the owner should disable the blacklist function.

🔵 **Informational: Implementation of certain corrective actions or accepting the risk.**

Set Buy / Sell Fees

Description:

Total fees can be changed up to 16%.

```
function setFee(uint256 redisFeeOnBuy, uint256 redisFeeOnSell, uint256 taxFeeOnBuy,
uint256 taxFeeOnSell) public onlyOwner {
        require(redisFeeOnBuy < 5, "Redis cannot be more than 5.");
        require(redisFeeOnSell < 5, "Redis cannot be more than 5.");
        require(taxFeeOnBuy < 11, "Tax cannot be more than 11.");
        require(taxFeeOnSell < 11, "Tax cannot be more than 11.");
            _redisFeeOnBuy = redisFeeOnBuy;
            _redisFeeOnSell = redisFeeOnSell;
            _taxFeeOnBuy = taxFeeOnBuy;
            _taxFeeOnSell = taxFeeOnSell;
    }
```

🔵 **Informational: Implementation of certain corrective actions or accepting the risk.**

The block killing function is enabled

Description:

The owner can kill the blocks

```
function setSnipeBlocks(uint8 _blocks) external onlyOwner {
        require(!liquidityLaunched);
        snipeBlocks = _blocks;
```

Recommendation:

We recommend that the owner should disable the block killing function.

Privileged Functions

onlyOwner

Function Name	Parameters	Visibility
blacklistAddress	address account, bool value	Public
blacklistMultiAddresses	address[] calldata accounts, bool value	Public
excludeFromFees	address account, bool excluded	Public
excludeMultipleAccountsFromFees	address[] calldata accounts,bool excluded	Public
renounceOwnership		Public
rescueForeignTokens	address _tokenAddr, address _to, uint _amount	Public
setFee	address	External
setNewAppAddress	address payable appaddr	Public
setNewBurnAddress	address payable burnaddr	Public
setNewBuybackAddress	address payable buybackaddr	Public
setNewMarketingAddress	address payable markt	Public
setPresaleContract	address payable wallet	External
setSnipeBlocks	uint8 _blocks	External
toggleSwap	bool _swapEnabled	Public
transfer	address recipient, uint256 amount	External
transferFrom	address sender, address recipient, uint256 amount	Public
transferOwnership	address newOwner	Public

Contract Ownership

The contract ownership of Beerus Cat Token is not currently being renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

The current owner is the address 0x5bac8ba4c1b5f07f4344875e9eed65631b0f12ce which can be viewed: HERE

The owner wallet has the power to call the functions displayed on the privileged functions list above, if the owner wallet is compromised these privileges could be exploited.

We recommend the team renounce ownership at the right timing if possible, or gradually migrate to a time lock with governing functionalities in respect of transparency and safety considerations.

Liquidity Overview

Liquidity Information

Parameter	Result
Pair Address	0x3656c77c9d844ba9f0337e13b6b09920caf125da
BCat Reserves	0.00 BCat
BNB Reserves	0.00 BNB
Liquidity Value	0.00 USD
Liquidity Ownership	The token does not have liquidity at the moment of the audit

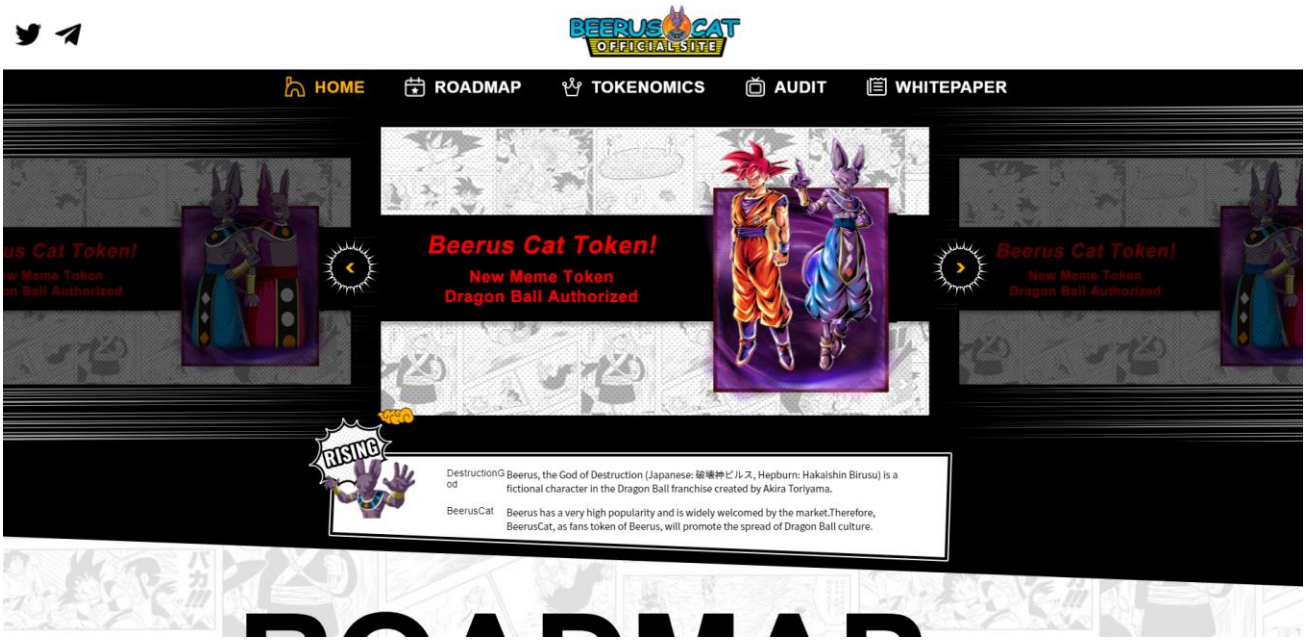
Tokenomics

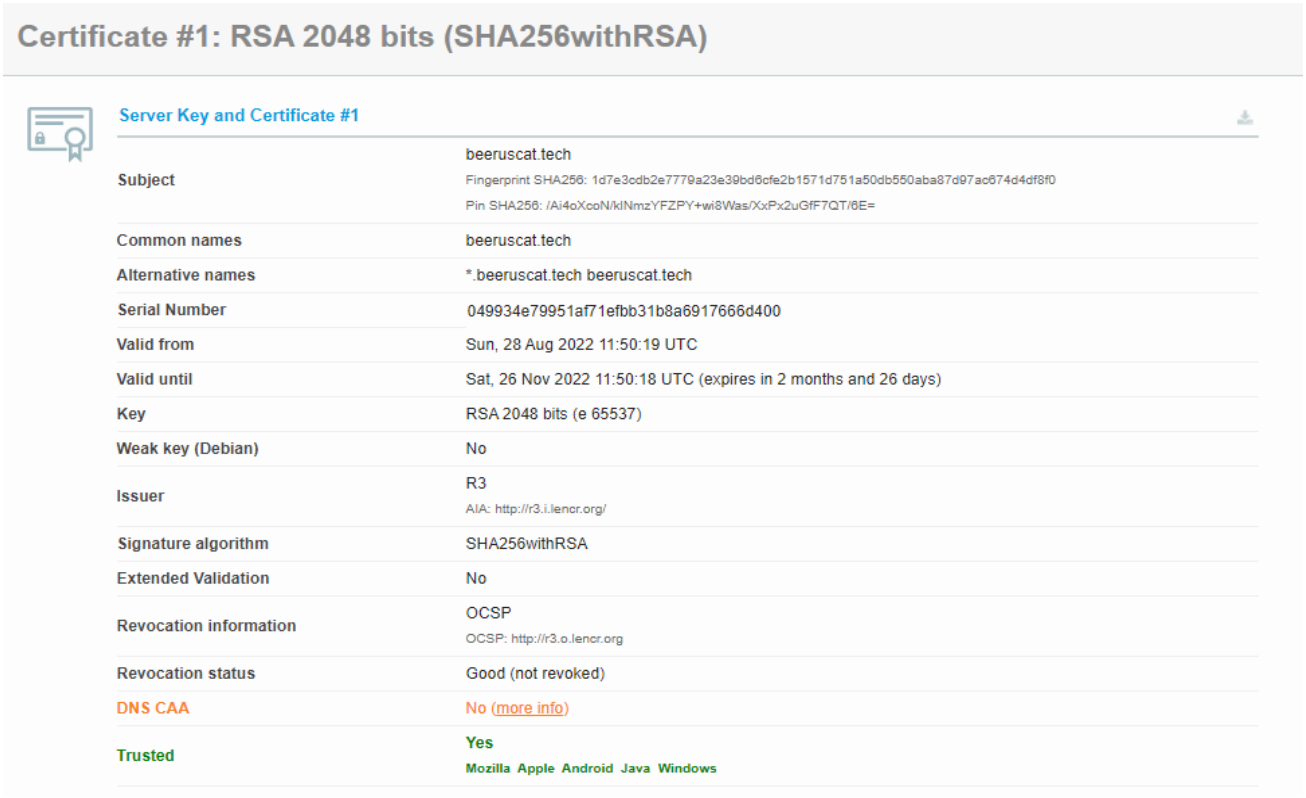
Rank	Address	Quantity (Token)	Percentage
1	0x5bac8ba4c1b5f07f4344875e9eed65631b0f12ce	100,000,000,000,000,000,000,000,000	100.0000%

Social Media Check

Social Media Type	Link	Result
Website	https://beeruscat.tech	Checked
Twitter	https://twitter.com/BeerusCatToken/	Checked
Telegram	https://t.me/BeerusCat/	Checked

Website Review





Certificate #1: RSA 2048 bits (SHA256withRSA)

Server Key and Certificate #1

Subject	beeruscat.tech Fingerprint SHA256: 1d7e3cdb2e7779a23e39bd6cfe2b1571d751a50db550aba87d97ac674d4df8f0 Pin SHA256: /Ai4oXcoN/klNmzYFZPY+wi8Was/XxPx2uGfF7QT/6E=
Common names	beeruscat.tech
Alternative names	*.beeruscat.tech beeruscat.tech
Serial Number	049934e79951af71efbb31b8a6917666d400
Valid from	Sun, 28 Aug 2022 11:50:19 UTC
Valid until	Sat, 26 Nov 2022 11:50:18 UTC (expires in 2 months and 26 days)
Key	RSA 2048 bits (e 65537)
Weak key (Debian)	No
Issuer	R3 AIA: http://r3.i.lencr.org/
Signature algorithm	SHA256withRSA
Extended Validation	No
Revocation information	OCSP OCSP: http://r3.o.lencr.org
Revocation status	Good (not revoked)
DNS CAA	No (more info)
Trusted	Yes Mozilla Apple Android Java Windows

- Mobile Friendly
- Contains no code errors
- SSL is secured
- No spelling errors

Audit Conclusion

- The owner cannot pause trading
- The owner cannot mint new tokens
- The owner cannot set the max transaction amount
- The owner can change the buy/sell fee up to 16%
- **The owner can blacklist users [Medium-Risk]**
- The owner can kill the blocks

  (All functions cannot be used if the ownership is renounced)

AUDIT IS PASSED