



Technology of **Nepal**

Nano Saitama Inu Security Audit Report

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 smart contract source code analysed, the details of which are set out in this report, (Source Code); and the Source Code compiling, deploying and performing the intended functions. In order to get a full view of our findings and the scope 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 disclaimer below please make sure to read it in full.

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Introduction

Technology of Nepal was commissioned by Nano Saitama Inu to conduct a smart contract audit. The audit was performed between 06 Nov 2021 and 10 Nov 2021, consuming a total of 4 resource days.

Summary

This report has been prepared for Nano Saitama Inu smart contracts, to discover issues and vulnerabilities in the source code of their Smart Contract as well as any contract dependencies that were not part of an officially recognized library. A comprehensive examination has been performed, utilizing Dynamic Analysis, Static Analysis, and Manual Review techniques.

The auditing process pays special attention to the following considerations

- Testing the smart contracts against both common and uncommon attack vectors.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Ensuring contract logic meets the specifications and intentions of the client.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders.
- Thorough line-by-line manual review of the entire codebase by industry experts.

The security assessment resulted in findings that ranged from critical to informational. We recommend addressing these findings to ensure a high level of security standards and industry practices. We suggest recommendations that could better serve the project from the security perspective:

Overview

Project Summary

Project Summary	Nano Saitaman Inu
Website	https://nanosaitamainu.finance/
Description	Nano Saitama Inu is static Reflection Auto-Generating Liquidity Protocol
Contract Address	0xa74a3cb7DB83bF38ecDcf1aB4A4Db52de2947614
Platform	Binance Smart Chain
Language	Solidity
Codebase	https://github.com/AlexBernard25/nanosaitamainu
Commits	bEaEb94EAF5B08BF5829aEC5De43F02177EFb845

Audit Summary

Delivery Date	Date 14. Nov 2021
Audit Methodology	Static Analysis, Manual review
Key Component	NanoSaitamaInuFinance.sol

Vulnerability Summary

This report is organized into the following sections.

1. Executive Summary
2. Audit Details
3. Contract Functions
4. Details Finding

The information in this report should be used to better understand the risk exposure of the smart contracts, and as a guide to improving the security posture of the smart contracts by remediating issues identified. The results of this audit are only a reflection of the source code reviewed at the time of the audit and of the source code that was determined to be in-scope.

The purpose of this audit was to achieve the following:

- Identify potential security flaws
- Ensure that the smart contracts functioned according to the documentation provided

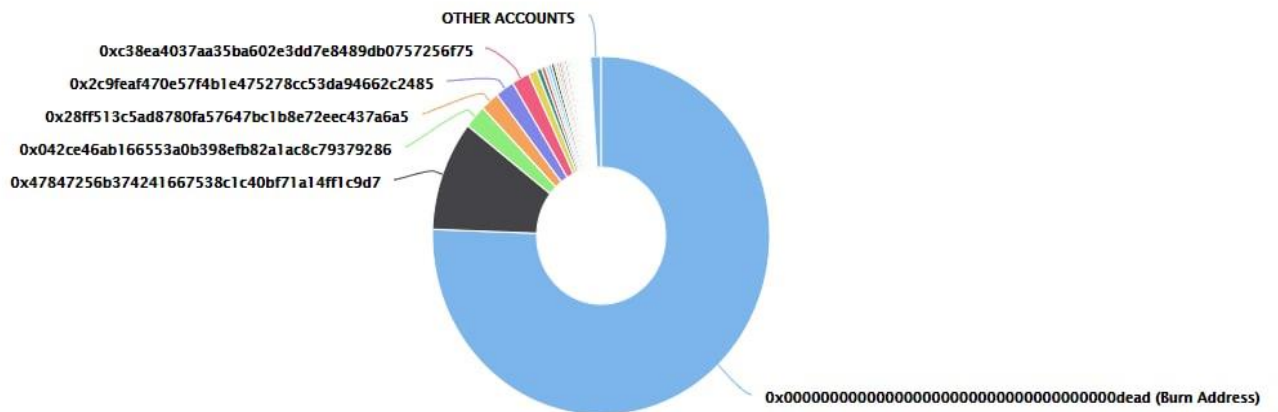
Assessing the off-chain functionality associated with the contracts, for example, backend web application code, was out of scope of this audit. Due to the unregulated nature and ease of transfer of cryptocurrencies, operations that store or interact with these assets are considered very high risk with regards to cyber-attacks. As such, the highest level of security should be observed when interacting with these assets. This requires a forward-thinking approach, which takes into account the new and experimental nature of blockchain technologies. Strategies that should be used to encourage secure code development include:

- Security should be integrated into the development lifecycle and the level of perceived security should not be limited to a single code audit.
- Defensive programming should be employed to account for unforeseen circumstances.
- Current best practices should be followed where possible

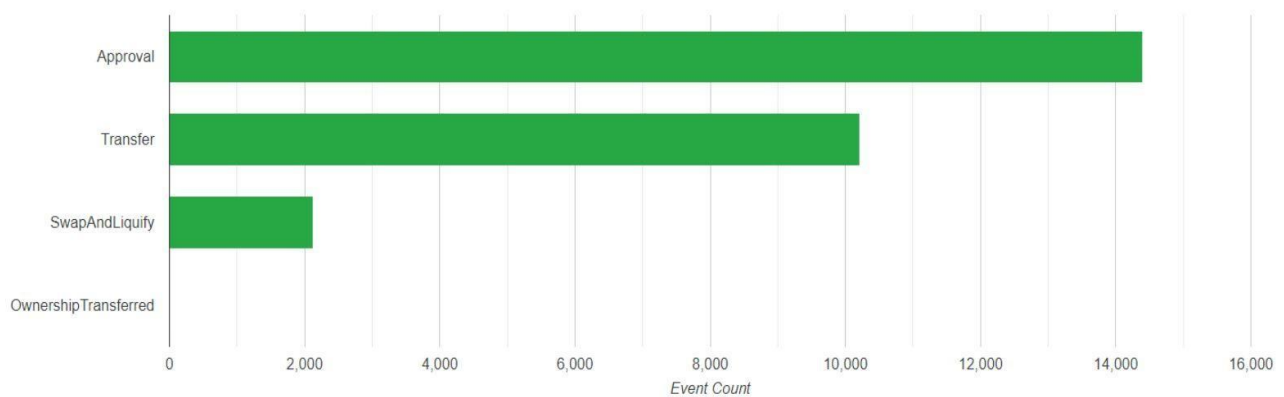
Nano Saitama Inu Distribution Count by Event

Nano Saitama Inu Top 100 Token Holders

Source: BscScan.com



Nano Saitama Inu Distribution Count By Volume



S.N	Issue description	Status
1	Compiler warnings.	✓
2	Race conditions and Reentrancy. Cross-function race conditions.	✓
3	Possible delays in data delivery.	✓
4	Oracle calls.	✓
5	Front running.	✓
6	Timestamp dependence.	✓
7	Integer Overflow and Underflow.	✓
8	DoS with Revert	✓
9	DoS with block gas limit.	✓
10	Methods execution permissions.	✓
11	Economy model. If application logic is based on an incorrect economic model, the application would not function correctly and participants would incur financial losses. This type of issue is most often found in bonus rewards systems, Staking and Farming contracts, Vault and Vesting contracts, etc.	✓
12	The impact of the exchange rate on the logic.	✓

13	Private user data leaks.	✓
14	Malicious Event log.	✓
15	Scoping and Declarations	✓
16	Uninitialized storage pointers.	✓
17	Arithmetic accuracy.	✓
18	Design Logic.	✓
19	Cross-function race conditions	✓
20	Safe Zeppelin module.	✓
21	Fallback function security.	✓

Executive Summary

This report presents the findings of an audit performed by Technology of Nepal on Nano Saitama Inu.

Security issues

High Severity issue

- No high severity issues found

Medium Severity issues

- No medium severity issues found

Low Severity Issues

- Out of gas Issue:

The function `includeAccount()` 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.

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.

Recommendations

Use `EnumerableSet` instead of array or do not use long arrays

Privileged Functions

The contract contains the following privileged functions that are restricted by the `onlyOwner` modifier. They are used to modify the contract configurations and address attributes. We grouped these functions below:

Account management functions for inclusion and exclusion in the fee and reward system:

```
excludeFromReward(address account)
```

```
includeInReward(address account)
```

```
includeInFee(address account)
```

```
excludeFromFee(address account)
```

Modification of liquidation, tax and max transaction percent of the system

```
function setTaxFeePercent(uint taxFee)
```

```
function setLiquidityFeePercent(uint liquidityFee)
```

```
function setMaxTxPercent(uint maxTxPercent) function
```

```
setSwapAndLiquifyEnabled(bool _enabled)
```

Here is a list of the transactions associated with the locked LPs:

<https://dxsale.app/app/v3/dxlplocksearch?id=1&add=0xa74a3cb7DB83bF38ecDcf1aB4A4Db52de2947614&type=lplock0&chain=BSC>

Conclusion

Smart contracts do not contain any high severity issues!

Technology of Nepal 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.