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Audit Report for B9Labs - April 16, 2021

Summary

Audit Report prepared by Solidified covering the MyNx token smart contracts.

Process and Delivery

Three (3) independent Solidified experts performed an unbiased and isolated audit of the code below. The final debrief took place on April 16, 2021, and the results are presented here.

Audited Files

The source code has been supplied in a private source code repository:

https://git.b9lab.com/client-projects/nx-project/nx-ethereum/tree/v1.0

Commit number: `f92f538e362196db0f2b1a58d3fc4f1b0eba5db1`

Intended Behavior

The smart contracts implement non-fungible tokens in accordance with the ERC-721 standard and the following specification:

- A single token that closely follows the ERC-721 smart contract standard.
- The smart contract will permit transfers of the token only with the approval of the [contract owner].
- Only the token holder may initiate transfers of the token.
- The [contract owner] needs to approve a token recipient for a token transfer to go through.
- The [contract owner] will also have the power to deactivate the smart contract permanently.

Findings

Smart contract audits are an important step to improve the security of smart contracts and can find many issues. However, auditing complex codebases has its limits and a remaining risk is present (see disclaimer).

Users of a smart contract system should exercise caution. In order to help with the evaluation of the remaining risk, we provide a measure of the following key indicators: **code complexity**, **code readability**, **level of documentation**, and **test coverage**.

Note, that high complexity or lower test coverage does not necessarily equate to a higher risk, although certain bugs are more easily detected in unit testing than a security audit and vice versa.

Criteria	Status	Comment
Code complexity	Low	-
Code readability and clarity	High	-
Level of Documentation	High	-
Test Coverage	High	-

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Issues Found

Solidified found that the MyNX token contract contains no critical issue, no major issue, no minor issues, and no informational issues. One end-user warning has been noted.

Issue #	Description	Severity	Status
1	Admin-managed token design	Warning	Acknowledged
2	Old Compiler and Library Versions	Note	-

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Critical Issues

No critical issues have been found.

Major Issues

No major issues have been found.

Minor Issues

No minor issues have been found.

Warnings

1. Admin-managed token design

The token owner has a privileged role in the current design, which extends as far as having to approve all transfers and the right to pause and terminate the token smart contract.
This is acknowledged by the team, in accordance with the specification and an intentional design decision.

Recommendation
Inform users of these design choices.

Informational Notes

2. Old Compiler and Library Versions

Both, the compiler version used and the OpenZeppelin library contracts used are relatively old versions.

Recommendation
Consider upgrading the libraries and the compiler to more recent versions. Should the team prefer to stay within Solidity 0.5, there is a subsequent maintenance release (0.5.17).

Disclaimer

Solidified audit is not a security warranty, investment advice, or an endorsement of B9Labs or its products. This audit does not provide a security or correctness guarantee of the audited smart contract. Securing smart contracts is a multistep process, therefore running a bug bounty program as a complement to this audit is strongly recommended.

The individual audit reports are anonymized and combined during a debrief process, in order to provide an unbiased delivery and protect the auditors of Solidified platform from legal and financial liability.

Solidified Technologies Inc.