



# LUDO

## SMART CONTRACT AUDIT Certification

### LUDO RANK NFT MINTER AND MANAGEMENT LOGIC FOR EVM

**><audits**

**SMART CONTRACT AUDITS**

Sep 13th, 2024 / v.0.1

Audited source code version:

352f996a71d1bf05e0265b68659284b07f5883f8

# Structure and Organization of the Document

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Some sections are more important than others. The most critical areas are at the top, and the less critical sections are at the bottom. The issues in these sections have been fixed or addressed and will show by the "Resolved" or "Unresolved" tags. Each case is written so you can understand how serious it is, with an explanation of whether it is a risk of exploitation or unexpected behavior.

## CRITICAL

These issues can have a dangerous effect on the ability of the contract to work correctly.

## HIGH

These issues significantly affect the ability of the contract to work correctly.

## MEDIUM

These issues affect the ability of the contract to operate correctly but do not hinder its behavior.

## LOW

These issues have a minimal impact on the contract's ability to operate.

## INFORMATIONAL

These issues do not impact the contract's ability to operate.

# Issues

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## 1. Rank Histories array could cause gas issues

Fixed / **LOW**

Description: After a large number of elements are stored in the “**rank\_histories**” array, the gas required to read or interact with the mapper may exceed the maximum gas limit allowed per transaction. This could result in the storage mapper becoming unusable, thus making all the functions that use this mapper unusable.

### ! Possible fix to research

As a general guideline, smart contract storage should not be used to save historical data; off-chain solutions are preferable for this purpose.

### ! Response

Fixed.

### ! Status

Accepted & Closed.

## 2. Entity NFTs array could cause gas issues

Not Applicable / **INFORMATIONAL**

Description: After a large number of elements are stored in the “**entity\_nfts**” array, the gas required to read or interact with the mapper may exceed the maximum gas limit allowed per transaction. This could result in the storage mapper becoming unusable, thus making all the functions that use this mapper unusable.

### ! Possible fix to research

It is important to consider the number of NFTs a user or entity could potentially hold. If a user/entity can possess a large number of NFTs, the execution of the “**\_isEntityNft**” function may fail due to the excessive gas required to iterate over all the stored NFTs.

### ! Response

Not Applicable.

### ! Status

Accepted & Closed.