


SMART CONTRACT SECURITY AUDIT


Final report

Plan: Simple

Decentraland

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INTRODUCTION

RugDog has performed an audit of Decentraland smart contracts.

Decentraland is EVM-compatible software for Polygon Network, aimed at creating a shared virtual world.

Name	Decentraland
Audit date	2022-07-10 - 2022-07-12
Language	Solidity
Network	Polygon Network

CONTRACTS CHECKED

Name	Address
ERC721Bid.sol	0d58d3858ed194f4a3a33092a159c016c683e9def4782138bb9f4fd ae2b87e39
MarketplaceV2.sol	e1253eda9e0b5a8b69b99fe42af09c4b9c8dafc4a9681c70f1e34c4 0bb00b943
BidStorage.sol	1180603d7158931ea5fc310cda743172f1e507690a46aecb6b4282b5 e4ce6ae1
RoyaltiesManager.sol	562fbbfbfc2e66d2c6d7064aace740bfae8610a9b5ddb9b5b3e16c efacee18e4f

AUDIT PROCESS

The code was audited by the team according to the following order:

Automated analysis

- ◊ Scanning the project's smart contracts with several publicly available automated Solidity analysis tools
- ◊ Manual confirmation of all the issues found by the tools

Manual audit

- ◊ Thorough manual analysis of smart contracts for security vulnerabilities
- ◊ Smart contracts' logic check

♦ ATTACKS CHECKED

Title	Check result
Unencrypted Private Data On-Chain	✓ passed
Code With No Effects	✓ passed
Message call with hardcoded gas amount	✓ passed
Typographical Error	✓ passed
DoS With Block Gas Limit	✓ passed
Presence of unused variables	✓ passed
Incorrect Inheritance Order	✓ passed
Requirement Violation	✓ passed
Weak Sources of Randomness from Chain Attributes	✓ passed
Shadowing State Variables	✓ passed

Incorrect Constructor Name	✓ passed
Block values as a proxy for time	✓ passed
Authorization through tx.origin	✓ passed
DoS with Failed Call	✓ passed
Delegatecall to Untrusted Callee	✓ passed
Use of Deprecated Solidity Functions	✓ passed
Assert Violation	✓ passed
State Variable Default Visibility	✓ passed
Reentrancy	✓ passed
Unprotected SELFDESTRUCT Instruction	✓ passed
Unprotected Ether Withdrawal	✓ passed
Unchecked Call Return Value	✓ passed
Floating Pragma	✓ passed
Outdated Compiler Version	✓ passed
Integer Overflow and Underflow	✓ passed
Function Default Visibility	✓ passed

CLASSIFICATION OF ISSUES

High severity	Issues leading to assets theft, locking or any other loss of assets or leading to contract malfunctioning.
Medium severity	Issues that can trigger a contract failure of malfunctioning.
Low severity	Issues that do now affect contract functionality. For example, unoptimised gas usage, outdated or unused code, code style violations, etc.

ISSUES

High severity issues

1. Excessive owner power (ERC721Bid.sol)

The role `_owner` in the ERC721Bid contract has excessive power over a set of functions, affecting the variables within them:

`setFeesCollectorCutPerMillion` `setRoyaltiesCutPerMillion` `setFeesCollector` `setRoyaltiesManager`
`pause`

It's possible for eternal attackers as well as `_owner` to abuse these abilities.

Recommendation: We recommend taking security measures to avoid hacker attacks or involving a decentralized mechanism.

2. Excessive owner power (MarketplaceV2.sol)

The role `_owner` in the MarketplaceV2 contract has excessive power over a set of functions, affecting variables within them:

`setPublicationFee` `setFeesCollectorCutPerMillion` `setRoyaltiesCutPerMillion` `setFeesCollector`

setRoyaltiesManager

Recommendation: We recommend taking security measures to avoid hacker attacks or involving a decentralized mechanism.

Medium severity issues

No issues were found

Low severity issues

1. Unfixed Pragma (ERC721Bid.sol)

Pragma in the contract should be fixed to the version with which the contract will be deployed. Otherwise, issues may occur after the compilation at a specific version or above it.

2. Emit events missing (ERC721Bid.sol)

When it's called, the pause function has to emit appropriate events.

◆ CONCLUSION

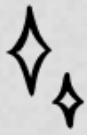
Decentraland ERC721Bid.sol, MarketplaceV2.sol, BidStorage.sol, RoyaltiesManager.sol contracts were audited. 2 high, 2 low severity issues were found.

◆ **DISCLAIMER**

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