

# HEGANINJA AUDITS



Security Assessment

Lunar Crystals NFT

May 3, 2022

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# Audit Summary

This report has been prepared for Lunar Crystals NFT on the Binance Smart Chain network. CFGNINJA provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.



# Project Overview

## Token Summary

Parameter	Result
Address	0x6A63bbe00270395ADfEeFD7Cf81EaF34574a550a
Name	Lunar Crystals
Token Tracker	Lunar Crystals (LunarNFT)
Decimals	0
Supply	
Platform	Binance Smart Chain
compiler	v0.8.13+commit.abaa5c0e
Contract Name	LunarNFT
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	<a href="https://bscscan.com/address/0x6A63bbe00270395ADfEeFD7Cf81EaF34574a550a#code">https://bscscan.com/address/0x6A63bbe00270395ADfEeFD7Cf81EaF34574a550a#code</a>
Url	<a href="https://lunar.io/">https://lunar.io/</a>



## Main Contract Assessed

### Contract Name

Name	Contract	Live
Lunar Crystals	0x6A63bbe00270395ADfEeFD7Cf81EaF34574a550a	Yes

## TestNet Contract Assessed

### Contract Name

Name	Contract	Live
Lunar Crystals	0x5C9432a5f911Eb7d544B02d5bAd863b3b5422Bcb	Yes

## Solidity Code Provided

SolID	FileName SHA-1	FileName
lunarnft	85b5ac3ade1e306c1eca1bd0851cc90f5e97627e	lunarnft.sol



# Smart Contract Vulnerability Checks

Vulnerability	Automatic 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
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 Griefing	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



# Mint Check

The Project owner's of Lunar Crystals has the ability to Mint New NFTs as part of the project.

Since this is a NFT Contract is expected to have a mint function associated with it.



# Contract Ownership

The contract ownership of Lunar Crystals is not currently 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 which can be viewed from:

[HERE](#)

The owner wallet has the power to call the functions displayed on the privileged functions chart below, if the owner wallet is compromised this privileges could be exploited.

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

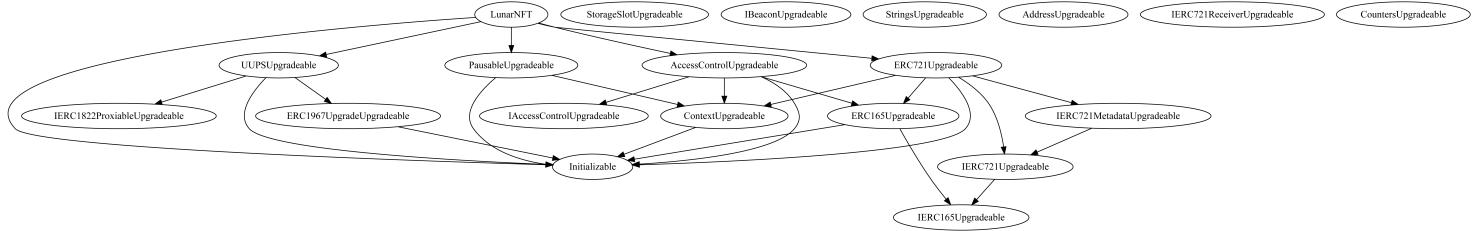
We recommend the team to use a Multisignature Wallet if contract is not going to be renounced, this will give the ability to the team to have more control over the contract.



# Inheritance

The contract for Lunar Crystals has the following call graph structure

The Project has a Total Supply of and has the following inheritance



# KYC Information

The Project Owners of Lunar Crystals has provided KYC Documentation.

KYC Certification can be found on the Following:

[KYC Data](#)

KYC Information Notes:

**Auditor Notes:** Auditor asked project owner if there was any plans to KYC.

**Project Owner Notes:** Customer is KYC/Doxxed by Dessert Finance



# Mythx Security Summary Checks

ID	Severity	Name	File	location
SWC-100	Pass	Function .	lunarnft.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	lunarnft.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	lunarnft.sol	L: 0 C: 0
SWC-103	Low	A floating pragma is set.	lunarnft.sol	L: 2 C: 1
SWC-104	Pass	Unchecked Call Return Value.	lunarnft.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	lunarnft.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	lunarnft.sol	L: 0 C: 0
SWC-107	PASS	Read of persistent state following external call.	lunarnft.sol	L: 0 C: 0
SWC-108	Pass	State variable visibility is not set..	lunarnft.sol	L: 114 C: 30
SWC-108	Pass	State variable visibility is not set.	lunarnft.sol	L: 185 C: 9
SWC-108	Pass	State variable visibility is not set.	lunarnft.sol	L: 195 C: 14



ID	Severity	Name	File	location
SWC-109	Pass	Uninitialized Storage Pointer.	lunarnft.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	lunarnft.sol	L: 0 C: 0
SWC-111	Pass	Use of Deprecated Solidity Functions.	lunarnft.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	lunarnft.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	lunarnft.sol	L: 1180 C: 8
SWC-114	Pass	Transaction Order Dependence.	lunarnft.sol	L: 0 C: 0
SWC-115	Pass	Authorization through tx.origin.	lunarnft.sol	L: 25 C: 4127
SWC-116	Low	A control flow decision is made based on The block.timestamp environment variable.	lunarnft.sol	L: 1205 C: 8
SWC-117	Pass	Signature Malleability.	lunarnft.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	lunarnft.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	lunarnft.sol	L: 0 C: 0



ID	Severity	Name	File	location
SWC-120	Pass	Potential use of block.number as source of randomness.	lunarnft.sol	L: 608 C: 47
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	lunarnft.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	lunarnft.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	lunarnft.sol	L: 0 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	lunarnft.sol	L: 0 C: 0
SWC-125	Pass	Incorrect Inheritance Order.	lunarnft.sol	L: 0 C: 0
SWC-126	Pass	Insufficient Gas Griefing.	lunarnft.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	lunarnft.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	lunarnft.sol	L: 0 C: 0
SWC-129	Pass	Typographical Error.	lunarnft.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U+202E).	lunarnft.sol	L: 0 C: 0



ID	Severity	Name	File	location
SWC-131	Pass	Presence of unused variables.	lunarnft.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	lunarnft.sol	L: 0 C: 0
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	lunarnft.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	lunarnft.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/ Dead Code).	lunarnft.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	lunarnft.sol	L: 0 C: 0

We scan the contract for additional security issues using MYTHX and industry standard security scanning tool



## Privileged Functions (onlyOwner)

Function Name	Parameters	Visibility
_authorizeUpgrade	newImplementation address	external
withdrawFunds	account address	external
pause		external
unpause		external



## Important Notes To The Users:

- The team has been confirmed with KYC and CFG Ninja is has noted them as safe
- Since this is an ERC 721 contract that can mint, this is needed to generate new NFT. However it has been hardcoded not to go over 10,000 NFTs and the Current Supply is 2,871.
- This is an upgradable contract and this is the proxy:
- [https://bscscan.com/  
address/0x59eFfb5a8caB87f2411EffDD40646B335274AF5E#code](https://bscscan.com/address/0x59eFfb5a8caB87f2411EffDD40646B335274AF5E#code)
- No high-risk Exploits/Vulnerabilities Were Found in the Source Code.

## Audit Passed



# Social Media Checks

Social Media	URL	Result
Twitter	<a href="https://twitter.com/lnrdefi">https://twitter.com/lnrdefi</a>	Pass
Instagram	<a href="https://www.instagram.com/lnrdefi/">https://www.instagram.com/lnrdefi/</a>	Pass
Website	<a href="https://lunar.io/">https://lunar.io/</a>	Pass
Telegram	<a href="https://t.me/lnrDefi">https://t.me/lnrDefi</a>	Pass

We recommend to have 3 or more social media sources including a completed working websites.

**Social Media Information Notes:**

**Auditor Notes:** undefined

**Project Owner Notes:**



# Disclaimer

CFGNINJA has conducted an independent audit to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the codes that were provided for the scope of this audit. This audit report does not constitute agreement, acceptance or advocacy for the Project that was audited, and users relying on this audit report should not consider this as having any merit for financial advice in any shape, form or nature. The contracts audited do not account for any economic developments that may be pursued by the Project in question, and that the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are completely free of exploits, bugs, vulnerabilities or depreciation of technologies.

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