LunaFi

Smart Contract Audit Report

SYSFIXED

29 Jul 2022

TABLE OF CONTENTS

AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
LunaFi	LFI	Polygon Matic

Addresses

Contract address	0x77D97db5615dFE8a2D16b38EAa3f8f34524a0a74
Contract deployer address	0xA2E31d79E65bF200a9681A38BA18cd9C5Fbe4Df5

Project Website

https://lunafi.io/

Codebase

https://polygonscan.com/address/0x77D97db5615dFE8a2D16b38EAa3f8f34524a0a74#contracts

SUMMARY

LunaFi is the world's first peerless and community-owned DeFi betting platform. We have decentralized peerless betting. We innovate by enabling bets to be placed on the blockchain without a counterparty. Autonomous and Transparent Odds are calculated transparently and fairly, using on-chain prediction markets Community owned via the LunaFi DAO Owned and governed by a community of liquidity providers and LFI token holders. The $LFI Token A trustless and non-custodial DeFi betting platform powered by the LFI token.

Contract Summary

Documentation Quality

LunaFi provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by LunaFi with the discovery of several low issues.

Test Coverage

Test coverage of the project is 100% (Through Codebase)

Audit Findings Summary

- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 12, 98, 128, 156, 541, 648, 740, 819, 847, 877, 1126, 1189, 1422, 1527 and 1573.

CONCLUSION

We have audited the LunaFi project released on July 2022 to discover issues and identify potential security vulnerabilities in LunaFi Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides satisfactory results with low-risk issues.

The issues found in the LunaFi smart contract code do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are some floating pragma is set. Specifying a fixed compiler version is recommended to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	PASS
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	PASS
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE FOUND
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	PASS
Uninitialized Storage Pointer	SWC-109	Uninitialized local storage variables can point to unexpected storage locations in the contract.	PASS
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a failing assert statement.	PASS
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS

DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	PASS
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS
Insufficient Gas Griefing	SWC-126	Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	PASS
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS

Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	PASS
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	PASS
Hash Collisions Variable	SWC-133	Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.	PASS
Hardcoded gas amount	SWC-134	The transfer() and send() functions forward a fixed amount of 2300 gas.	PASS
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	PASS

SMART CONTRACT ANALYSIS

Started	Thursday Jul 28 2022 15:11:00 GMT+0000 (Coordinated Universal Time)
Finished	Friday Jul 29 2022 18:39:21 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	LFIToken.sol

Detected Issues

ID	Title	Severity	Status
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
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SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 12

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
11
12   pragma solidity ^0.8.0;
13
14   /**
15   * @dev Interface of the ERC20 standard as defined in the EIP.
16
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 98

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
97
98   pragma solidity ^0.8.0;
99
100   /**
101   * @dev Interface for the optional metadata functions from the ERC20 standard.
102
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 128

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
127
128   pragma solidity ^0.8.0;
129
130   /**
131   * @dev Provides information about the current execution context, including the
132
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 156

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
155
156   pragma solidity ^0.8.0;
157
158
159
160
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 541

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
540
541   pragma solidity ^0.8.0;
542
543   /**
544   * @dev Contract module which allows children to implement an emergency stop
545
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 648

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
647
648   pragma solidity ^0.8.0;
649
650   /**
651   * @dev External interface of AccessControl declared to support ERC165 detection.
652
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 740

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
739
740   pragma solidity ^0.8.0;
741
742   /**
743   * @dev String operations.
744
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 819

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
818
819   pragma solidity ^0.8.0;
820
821   /**
822   * @dev Interface of the ERC165 standard, as defined in the
823
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 847

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
846
847   pragma solidity ^0.8.0;
848
849   /**
850   * @dev Implementation of the {IERC165} interface.
851
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 877

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
876
877   pragma solidity ^0.8.0;
878
879
880
881
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 1126

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
1125
1126   pragma solidity ^0.8.0;
1127
1128   /**
1129   * @dev Interface of the ERC20 Permit extension allowing approvals to be made via signatures, as defined in
1130
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 1189

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
1188
1189   pragma solidity ^0.8.0;
1190
1191   /**
1192   * @dev Elliptic Curve Digital Signature Algorithm (ECDSA) operations.
1193
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 1422

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
1421
1422   pragma solidity ^0.8.0;
1423
1424   /**
1425   * @dev https://eips.ethereum.org/EIPS/eip-712[EIP 712] is a standard for hashing
and signing of typed structured data.
1426
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 1527

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
1526
1527    pragma solidity ^0.8.0;
1528
1529    /**
1530    * @title Counters
1531
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 1573

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- LFIToken.sol

Locations

```
1572
1573   pragma solidity ^0.8.0;
1574
1575
1576
1577
```

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This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view 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 below disclaimer below – please make sure to read it in full.

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