



Roseon Finance Smart Contract Audit Report

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Roseon Finance	Roseon Finance	Binance Smart Chain

Addresses

Contract address	0x651cd665bd558175a956fb3d72206ea08eb3df5b
Contract deployer address	0xD715D949FDA6022e2b361F7aB7c581D702465858

Project Website

<https://roseon.world/>

Codebase

<https://bscscan.com/address/0x651cd665bd558175a956fb3d72206ea08eb3df5b#code>

SUMMARY

Roseon Finance is a hybrid solution that bridges decentralized (DeFi) and centralized financial services (CeFi). Acting as the gateway to DeFi, Roseon Mobile is a crypto finance app currently available in iOS and Android. It was built to help onboard new users to DeFi with its customer-centric design. As the industry continues on its high growth trajectory, developing new and faster protocols, Roseon Finance has chosen a different approach to prioritize user experience and enterprise adoption. Below are the critical elements of the Roseon Finance ecosystem as proposed

Contract Summary

Documentation Quality

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

- The technical description is provided clearly and structured and also don't have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

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

Test Coverage

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

Audit Findings Summary

- SWC-100 SWC-108 | Explicitly define visibility for all state variables on lines 865.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 10, 37, 107, 191, 219, 328, 649 and 837.

CONCLUSION

We have audited the Roseon Finance project released on January 2023 to discover issues and identify potential security vulnerabilities in Roseon Finance 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 Roseon Finance 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 are that a floating pragma is set, and a state variable visibility is not set. The current pragma Solidity directive is `^0.8.0`. 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. It is best practice to set the visibility of state variables explicitly. The default visibility for `mappingAddressToLock` is internal. Other possible visibility settings are public and private.

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.	ISSUE FOUND
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 grieving 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	Sunday May 09 2021 08:23:45 GMT+0000 (Coordinated Universal Time)
Finished	Monday May 10 2021 04:17:36 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	RoseonToken.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.	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 10

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

- RoseonToken.sol

Locations

```
9
10  pragma solidity ^0.8.0;
11
12  /*
13   * @dev Provides information about the current execution context, including the
14
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 37

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

- RoseonToken.sol

Locations

```
36
37  pragma solidity ^0.8.0;
38
39  /**
40   * @dev Contract module which provides a basic access control mechanism, where
41
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 107

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

- RoseonToken.sol

Locations

```
106
107  pragma solidity ^0.8.0;
108
109  /**
110   * @dev Interface of the BEP20 standard as defined in the EIP.
111
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 191

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

- RoseonToken.sol

Locations

```
190
191  pragma solidity ^0.8.0;
192
193  /**
194   * @dev Interface for the optional metadata functions from the BEP20 standard.
195
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 219

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

- RoseonToken.sol

Locations

```
218
219  pragma solidity ^0.8.0;
220
221  /**
222   * @dev Contract module which allows children to implement an emergency stop
223
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 328

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

- RoseonToken.sol

Locations

```
327
328  pragma solidity ^0.8.0;
329
330
331
332
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 649

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

- RoseonToken.sol

Locations

```
648
649  pragma solidity ^0.8.0;
650
651  contract LGEWhitelisted is Context {
652      struct WhitelistRound {
653
```


SWC-103 | A FLOATING PRAGMA IS SET.

LINE 837

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

- RoseonToken.sol

Locations

```
836
837  pragma solidity ^0.8.0;
838
839
840  contract LockCoin is BEP20 {
841
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 865

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "mappingAddressToLock" is internal. Other possible visibility settings are public and private.

Source File

- RoseonToken.sol

Locations

```
864
865 mapping(address => TimeLockByAddress) mappingAddressToLock;
866
867 modifier onlyLocker() {
868     require(_locker == _msgSender(), "Caller is not the locker");
869 }
```

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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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