



Security Assessment



Loozr

Verified On Oct 30th, 2024



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PREPARED FOR:
Loozr






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INTRODUCTION

Auditing Firm	 VITAL BLOCK SECURITY
Client Firm	 Loozr
Methodology	Automated Analysis, Manual Code Review
Contract Code	TOKEN.MO
Token Name	Loozr
Network	 ICP
Centralization	Active ownership
Website	https://loozr.io/
Docs	https://docs.loozr.io/
Twitter	https://twitter.com/officialloozr
Telegram	https://t.me/officialloozr
Loozr Telegram Mini DApp	https://t.me/loozr_bot
Discord	https://discord.gg/loozr-926008789226905630
GitHub	https://github.com/Loozr-Protocol
Prelim Report Date	Oct 24 th , 2024
Final Report Date	Oct 30 th 2024



Verify the authenticity of this report on our GitHub Repo: <https://www.github.com/vital-block>



Document Properties


Client	LOOZR
Title	Smart Contract Audit Report
Target	LOOZR
Audit Version	1.0
Author	Akhmetshin Marat
Auditors	Akhmetshin Marat, James BK, Benny Matin
Reviewed by	Dima Meru
Approved by	Prince Mitchell
Classification	Public

Version Info

Version	Date	Author(s)	Description
1.0	October 24 th , 2024	James BK	Final Released
1.0-AP	October 30 th , 2024	Benny Matin	Release Candidate

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In the following, we show the specific pull request and the commit hash value used in this audit.

- https://github.com/Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend (LOR-79661)
- https://github.com/Loozr-Protocol/lzr-dfinity-point-coin/blob/main/src/lzr_point_coin_backend/Token.mo (LOZU544210)

About Vital Block Security

Vital Block Security provides professional, thorough, fast, and easy-to-understand smart contract security audit. We do in-depth and penetrative static, manual, automated, and intelligent analysis of the smart contract. Some of our automated scans include tools like ConsenSys MythX, Mythril, Slither, Surya. We can audit custom smart contracts, DApps, Rust, NFTs, etc (including the service of smart contract auditing). We are reachable at Telegram (https://t.me/vital_block), Twitter (http://twitter.com/Vb_Audit), or Email (info@vitalblock.org).

Table 1.2: Vulnerability Severity Classification

Impact	High	Critical	High	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low
		High	Medium	Low
		Likelihood		

Methodology (1)

To standardize the evaluation, we define the following terminology based on the OWASP Risk Rating Methodology [4]:

- Likelihood represents how likely a particular vulnerability is to be uncovered and exploited in the wild;
- Impact measures the technical loss and business damage of a successful attack;
- Severity demonstrates the overall criticality of the risk.

SCOPE OF WORK

Vital Block was consulted by **LOOZR** to conduct the smart contract audit of its. Move source code.
The audit scope of work is strictly limited to mentioned .mo file only:

TOKEN.MO

 External contracts and/or interfaces dependencies are not checked due to being out of scope.

Verify audited contract's contract address and deployed link below:


Public Contract Code Scanned / Audited	
Token.mo	
Main.mo	
Account.mo	
Transfer.mo	
Types.mo	
Utilis.mo	
Libs.smo	
Project Name:	 Loozr

Table 1.0 The Full Audit Checklist

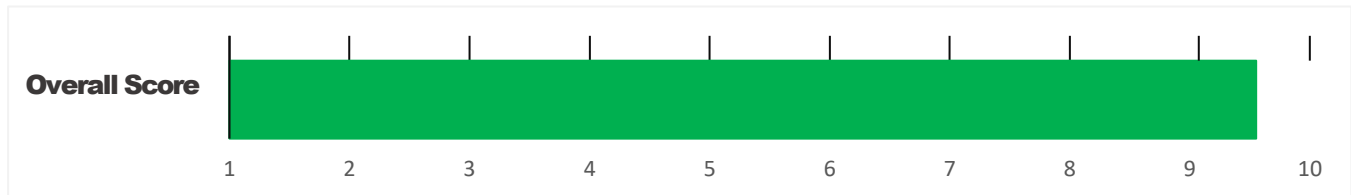
Category	Checklist Items
Basic Coding Bugs	Constructor Mismatch
	Ownership Takeover
	Redundant Fallback Function
	Overflows & Underflows
	Reentrancy
	Money-Giving Bug
	Blackhole
	Unauthorized Self-Destruct
	Revert DoS
	Unchecked External Call
	Gasless Send
	Send Instead Of Transfer
	Costly Loop
	(Unsafe) Use Of Untrusted Libraries
	(Unsafe) Use Of Predictable Variables
	Transaction Ordering Dependence
	Deprecated Uses
Semantic Consistency Checks	Semantic Consistency Checks
Advanced DeFi Scrutiny	Business Logics Review
	Functionality Checks
	Authentication Management
	Access Control & Authorization
	Oracle Security
	Digital Asset Escrow
	Kill-Switch Mechanism
	Operation Trails & Event Generation
	ERC20 Idiosyncrasies Handling
	Frontend-Contract Integration
	Deployment Consistency
	Holistic Risk Management
Additional Recommendations	Avoiding Use of Variadic Byte Array
	Using Fixed Compiler Version
	Making Visibility Level Explicit
	Making Type Inference Explicit
	Adhering To Function Declaration Strictly
	Following Other Best Practices

EXECUTIVE SUMMARY

Vital Block Security has performed the automated and manual analysis of the **LOOZR .Mo** code. The code was reviewed for common contract vulnerabilities and centralized exploits. Here's a quick audit summary:

Status	Critical 🚫	Major 🚨	Medium 🟡	Minor 🟢	Unknown 🟡 %
Open	0	0	0	2	0
Acknowledged	0	0	2	3	1
Resolved	0	0	0	0	0
Noteworthy OnlyOwner Privileges					
Set Taxes and Ratios, Airdrop, Set Protection Settings, Set Reward Properties, Set Reflector Settings, Set Swap Settings, Set Pair and Router					

FUTURE FINANCE Smart contract has achieved the following score: **%94.5**



i Please note that smart contracts deployed on blockchains aren't resistant to exploits, vulnerabilities and/or hacks. Blockchain and cryptography assets utilize new and emerging technologies. These technologies present a high level of ongoing risks. For a detailed understanding of risk severity, source code vulnerability, and audit limitations, kindly review the audit report thoroughly.

i Please note that centralization privileges regardless of their inherited risk status - constitute an elevated impact on smart contract safety and security.



AUDIT METHODOLOGY

Smart contract audits are conducted using a set of standards and procedures. Mutual collaboration is essential to performing an effective smart contract audit. Here's a brief overview of Vital Block auditing process and methodology:

CONNECT

- The onboarding team gathers source codes, and specifications to make sure we understand the size, and scope of the smart contract audit.

AUDIT

- Automated analysis is performed to identify common contract vulnerabilities. We may use the following third-party frameworks and dependencies to perform the automated analysis:
 - Remix IDE Developer Tool
 - Open Zeppelin Code Analyzer
 - SWC Vulnerabilities Registry
 - DEX Dependencies, e.g., Pancakeswap, Uniswap
- Simulations are performed to identify centralized exploits causing contract and/or trade locks.
- A manual line-by-line analysis is performed to identify contract issues and centralized privileges.

We may inspect below mentioned common contract vulnerabilities, and centralized exploits:

Centralized Exploits	<ul style="list-style-type: none">○ Token Supply Manipulation○ Access Control and Authorization○ Assets Manipulation○ Ownership Control○ Liquidity Access○ Stop and Pause Trading○ Ownable Library Verification
----------------------	---

Common Contract Vulnerabilities

- Integer Overflow
- Lack of Arbitrary limits
- Incorrect Inheritance Order
- Typographical Errors
- Requirement Violation
- Gas Optimization
- Coding Style Violations
- Re-entrancy
- Third-Party Dependencies
- Potential Sandwich Attacks
- Irrelevant Codes
- Divide before multiply
- Conformance to Solidity Naming Guides
- Compiler Specific Warnings
- Language Specific Warnings

REPORT

- The auditing team provides a preliminary report specifying all the checks which have been performed and the findings thereof.
- The client's development team reviews the report and makes amendments to the codes.
- The auditing team provides the final comprehensive report with open and unresolved issues.

PUBLISH

- The client may use the audit report internally or disclose it publicly.

 It is important to note that there is no pass or fail in the audit, it is recommended to view the audit as an unbiased assessment of the safety of solidity codes.



RISK CATEGORIES

Smart contracts are generally designed to hold, approve, and transfer tokens. This makes them very tempting attack targets. A successful external attack may allow the external attacker to directly exploit. A successful centralization-related exploit may allow the privileged role to directly exploit. All risks which are identified in the audit report are categorized here for the reader to review:

Risk Type	Definition
Critical 🚨	These risks could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
Major 🟡	These risks are hard to exploit but very important to fix, they carry an elevated risk of smart contract manipulation, which can lead to high-risk severity.
Medium 🟠	These risks should be fixed, as they carry an inherent risk of future exploits, and hacks which may or may not impact the smart contract execution. Low-risk re-entrancy-related vulnerabilities should be fixed to deter exploits.
Minor 🟢	These risks do not pose a considerable risk to the contract or those who interact with it. They are code-style violations and deviations from standard practices. They should be highlighted and fixed nonetheless.
Unknown 🟤	These risks pose uncertain severity to the contract or those who interact with it. They should be fixed immediately to mitigate the risk uncertainty.

All statuses which are identified in the audit report are categorized here for the reader to review:

Status Type	Definition
Open	Risks are open.
Acknowledged	Risks are acknowledged, but not fixed.
Resolved	Risks are acknowledged and fixed.



CENTRALIZED PRIVILEGES

Centralization risk is the most common cause of cryptography asset loss. When a smart contract has a privileged role, the risk related to centralization is elevated.

There are some well-intended reasons have privileged roles, such as:

- **Privileged roles can be granted the power to `pause()` the contract in case of an external attack.**
- **Privileged roles can use functions like, `include()`, and `exclude()` to add or remove wallets from fees, swap checks, and transaction limits. This is useful to run a presale and to list on an exchange.**

Authorizing privileged roles to externally-owned-account (EOA) is dangerous. Lately, centralization-related losses are increasing in frequency and magnitude.

- **The client can lower centralization-related risks by implementing below mentioned practices:**
- **Privileged role's private key must be carefully secured to avoid any potential hack.**
- **Privileged role should be shared by multi-signature (multi-sig) wallets.**
- **Authorized privilege can be locked in a contract, user voting, or community DAO can be introduced to unlock the privilege.**
- **Renouncing the contract ownership, and privileged roles.**
- **Remove functions with elevated centralization risk.**

 Understand the project's initial asset distribution. Assets in the liquidity pair should be locked.

Assets outside the liquidity pair should be locked with a release schedule.



Key Findings

Overall, these contracts are well-designed and engineered, though the implementation can be improved by resolving the identified issues (shown in Table [2.1](#)), 0 medium-severity vulnerabilities, 3 low-severity vulnerabilities, and 1 informational recommendations.

Table 2.1: Key **LOOZR** Audit Findings

ID	Severity	Title	Category	Status
LZR-01	low	In UncheckedForTransfer , the following equation is used inside an unchecked block	Business Logic	Acknowledged
LZR-02	Informational	In updateForMinter , the following equation is used inside an unchecked block	Mathematical Operations	Acknowledged

Beside the identified issues, we emphasize that for any user-facing applications and services, it is always important to develop necessary risk-control mechanisms and make contingency plans, which may need to be exercised before the mainnet deployment. The risk-control mechanisms should kick in at the very moment when the contracts are being deployed on mainnet. Please refer to page [10](#) for details.






AUDIT SCOPE

LOOZR

ID	Repo	Comment	File	SHM211 Checksum
LZR	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	Cc51d21	Token.mo	3426670yube0fd50f8632d8433cccc9db6f4b39f9e566d1fa78de54b84baddr54
LZR	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D32	Token.mo	8oippkjjk96be0fd50f8632d8433cccc9db6f4b39f9e566d1yhhg8765fffckuiybb
LZR	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D42	Token.mo	4311280uj908766362fvyga98jdkl88648yhfbqt37409owehbgwhuyyyg223738
LZR	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D44	Token.mo	75uuyriy399787390uhbiuhghhdg7guu30oi7799u9359ydfgdgygeigi3ioueyy78
TTR	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D46	Account.mo	450efgywqutfeuh87872t15378837983639293763hhegetgjfwjk89336668862
TOP	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D48	Account.mo	16363ttebnve88329973mvvdsggct478153ytdgfdxy792635fgdjgi1900990908
TDP	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D49	Account.mo	32156990327huddbinnjnr6729dchjld0993ytyy3vq63235727879889073
TWY	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D53	Transfer.mo	bff08692343d1cc36eaf196046d7a528d153abd55ba20e82f1d57c22fcd92675
TKB	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D62	Transfer.mo	8448b3af42497f5f74e53424ee3e6c551f51356945108d22a893d608a7990542
TXY	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D63	Transfer.mo	5c86aa1dd3889db5fcd17a80214b226fc784f268ab9db82df97c1d2459467831
TCB	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D63	Types.mo	b8244da33db171e5533d77bef4a35703df1de2cebea5f35cb38ce6a26c778cf1
TWO	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D67	Types.mo	3d408b8f2cc56f9699a402b5151de90671de089c3007afc9e4fc867c04152e7c
TGT	Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend/ICRC1	cC51D68	Utils.mo	9d751621c3501102e4b50005ca3314ec6e04e6ff8bbb30852d1c7edfff3f8cef



AUTOMATED ANALYSIS

Symbol	Definition
	Function modifies state
	Function is payable
	Function is internal
	Function is private
	Function is important

```

| **LOOZR** | Interface | |||
| L | totalSupply | External ! | ! | NO ! |
| L | decimals | External ! | ! | NO ! |
| L | symbol | External ! | ! | NO ! |
| L | name | External ! | ! | NO ! |
| L | getOwner | External ! | | NO ! |
| L | balanceOf | External ! | ! | NO ! |
| L | transfer | External ! | " ! ! | NO ! |
| L | allowance | External ! | ! | NO ! |
| L | approve | External ! | " ! ! | NO ! |
| L | transferFrom | External ! | " | NO ! |
|||||
| **IFactoryV2** | Interface | |||
| L | getPair | External ! | | NO ! |
| L | createPair | External ! | " | NO ! |
|||||
| **IV2Pair** | Interface | |||
| L | factory | External ! | | NO ! |
| L | getReserves | External ! | | NO ! |
| L | sync | External ! | " | NO ! |

```



|||||

| ****IRouter01**** | Interface | |||

| L | factory | External ! | |NO!|

| L | ICP | External ! | |NO!|

| L | addLiquidityICP | External ! | # |NO!|

| L | addLiquidity | External ! | " |NO!|

| L | swapExacICPForTokens | External ! | # |NO!|

| L | getAmountsOut | External ! | |NO!|

| L | getAmountsIn | External ! | |NO!|

|||||

| ****IRouter02**** | Interface | IRouter01 |||

| L | swapExactTokensForICPSupportingFeeOnTransferTokens | External ! | " |NO!|

| L | swapExactICPForTokensSupportingFeeOnTransferTokens | External ! | # |NO!|

| L | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ! | " ! |NO!|

| L | swapExactTokensForTokens | External ! | " |NO!|

|||||

| ****Protections**** | Interface | |||

| L | checkUser | External ! | " ! |NO!|

| L | setLaunch | External ! | " |NO!|

| L | setLpPair | External ! | " |NO!|

| L | **LZR** | External ! | " |NO!|

| L | removeSniper | External ! | " |NO!|

|||||

| ****Cashier**** | Interface | |||

| L | setRewardsProperties | External ! | " |NO!|

| L | tally | External ! | " |NO!|

| L | load | External ! | # |NO!|

| L | cashout | External ! | " |NO!|

| L | giveMeWelfarePlease | External ! | " |NO!|

| L | getTotalDistributed | External ! | |NO!|

| L | getUserInfo | External ! | |NO!|

| L | getUserRealizedRewards | External ! | |NO!|




```

| L | getPendingRewards | External ! | | | NO ! |
| L | initialize | External ! | " | | NO ! |
| L | getCurrentReward | External ! | | | NO ! |
|||||
| **LZR** | Implementation | ICRC1 |||
| L | <Constructor> | Public ! | # | NO ! |
| L | transferOwner | External ! | " | | onlyOwner |
| L | renounceOwnership | External ! | " | | NO ! |
| L | setOperator | Public ! | " | | NO ! |
| L | renounceOriginalDeployer | External ! | " | | NO ! |
| L | <Receive ETH> | External ! | # | NO ! |
| L | totalSupply | External ! | | | NO ! |
| L | decimals | External ! | | | NO ! |
| L | symbol | External ! | | | NO ! |
| L | name | External ! | | | NO ! |
| L | getOwner | External ! | ! | NO ! |
| L | balanceOf | Public ! | ! | NO ! |
| L | allowance | External ! | ! | NO ! |
| L | approve | External ! | " ! | NO ! |
| L | _approve | Internal $ | " | NO ! |
| L | approveContractContingency | Public ! | " ! | onlyOwner |
| L | transfer | External ! | " | NO ! |
| L | transferFrom | External ! | " | NO ! |
| L | setNewRouter | External ! | " | onlyOwner |
| L | setLpPair | External ! | " | onlyOwner |
| L | setInitializers | External ! | " | onlyOwner |
| L | isExcludedFromFees | External ! | | NO ! |
| L | isExcludedFromDividends | External ! | | NO ! |
| L | isExcludedFromProtection | External ! | | NO ! |
| L | setDividendExcluded | Public ! | " | onlyOwner |
| L | setExcludedFromFees | Public ! | " | onlyOwner |

```



Lzr-01 Key Findings

Category	Severity ●	Location	Status
Business Logic	Low	Contract/Transfer.mo 37-42	Informational

Description

In **UncheckedForTransfer**, the following equation is used inside an unchecked() block

```
public func is_too_old(token : T.TokenData, created_at_time : Nat64) : Bool {
  let { permitted_drift; transaction_window } = token;

  let lower_bound = Time.now() - transaction_window - permitted_drift;
  Nat64.toNat(created_at_time) < lower_bound;
};
```

Note that as of the date of publishing, the above review reflects the current understanding of known security patterns as they relate to the **Loozr** contract.

Recommendation

Incorporate the following verification within process approve account to confirm that the contract account's associated transfer aligns with the mint for which the confidential transfer approval is sought.



Lzr-02 POSSIBLE OVERFLOW

Category	Severity ●	Location	Status
Mathematical Operations	Informational	Contract/code/Main.mo/	Acknowledged

Description

In `updateForMinter`, the following equation is used inside an unchecked block

```
stable let token = ICRC1.init({
  token_args with minting_account = Option.get(
    token_args.minting_account,
    minting_account,
  );
});
```






Minter can not issue more **Loozr** tokens indefinitely.

Note that as of the date of publishing, the above review reflects the current understanding of known security patterns as they relate to the **Loozr** contract.

Recommendation

We recommend either checking for overflow in this case, or ensuring that the `PairsIn` is close enough it will never cause an overflow.

OPTIMIZATIONS | Loozr

ID	Title	Category	Status
FTV	Logarithm Refinement Optimization	Gas Optimization	Acknowledged 
FOP	Checks Can Be Performed Earlier	Gas Optimization	Acknowledged 
FDP	Unnecessary Use Of SafeMath	Gas Optimization	Acknowledged 
FWY	Struct Optimization	Gas Optimization	Acknowledged 
FGT	Unused State Variable	Gas Optimization	Acknowledged 

Vulnerability Scan

REENTRANCY

✓ No reentrancy risk found

Severity

Minor

Confidence Parameter

Certain

Vulnerability Description

✗ **Not Mintable**: A large amount of this token can not be minted by a private wallet or contract.

Scanning Line:

```
let token_args : ICRC1.TokenInitArgs = {
    advanced_settings = null;
    decimals = 18;
    fee = 1_000;
    initial_balances = [(
        {
            owner = _owner;
            subaccount = null;
        },
        0,
    )];
    min_burn_amount = 0;
    minting_account = null;
    name = name;
    symbol = symbol;
};

stable let token = ICRC1.init({
    token_args with minting_account = Option.get(
        token_args.minting_account,
        minting_account,
    );
});

/// Functions for the ICRC1 token standard
public shared query func icrc1_name() : async Text {
    ICRC1.name(token);
};
```



Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor 

```
public shared ({ caller }) func mint(account : Principal, amount :  
ICRC1.Balance) : async ICRC1.TransferResult {  
    let to_account : ICRC1.Account = {  
        owner = account;  
        subaccount = null;  
    };  
    let args = {  
        to = to_account;  
        amount = amount;  
        memo = null;  
        created_at_time = null;  
    };  
};
```

Description:

Floating point calculations can vary across different architectures.

Alleviation:

This exhibit was acknowledged and ultimately discarded by the **Loozr** team due to low severity. We consider the exhibit fully attended to as it doesn't impose any meaningful security concerns.

RECOMMENDATION

Project stakeholders should be consulted during the initial asset distribution process.



Repository:

https://github.com/Loozr-Protocol/lzr-dfinity-point-coin/tree/main/src/lzr_point_coin_backend

Scanned Code Files

Token.mo

Main.mo

Account.mo

Transfer.mo

Types.mo

Utilis.mo

Libs.smo

Contract Deployed

Contract:
Token.Mo



Vulnerability Run check

Risk Analysis

✔ Contract source code verified

This token contract is open source. You can check the contract code for details. Unsourced token contracts are likely to have malicious functions to defraud their users of their assets.

✔ No Proxy

There is no proxy in the contract. The proxy contract means contract owner can modify the function of the token and possibly effect the price.

✔ No mint function

Mint function is transparent or non-existent. Hidden mint functions may increase the amount of tokens in circulation and effect the price of the token.

✔ No function to retrieve ownership

If this function exists, it is possible for the project owner to regain ownership even after relinquishing it.

✔ Owner cant change balance

The contract owner does not have the authority to modify the balance of tokens at other addresses.



Honeypot Risk

✔ This does not appear to be a honeypot

We are not aware of any code that prevents the sale of tokens.

✔ No trading cooldown

The token contract has no trading cooldown function. If there is a trading cooldown function, the user will not be able to sell the token within a certain time or block after buying.

✔ No Anti Whale

There is no limit to the number of token transactions. The number of scam token transactions may be limited (honeypot risk).

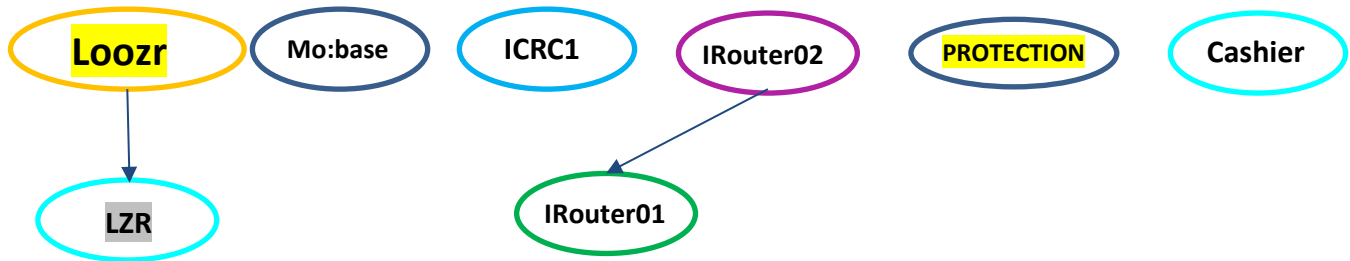
✔ No blacklist function

No blacklist function is included.

✔ No whitelist function

Whitelist function found

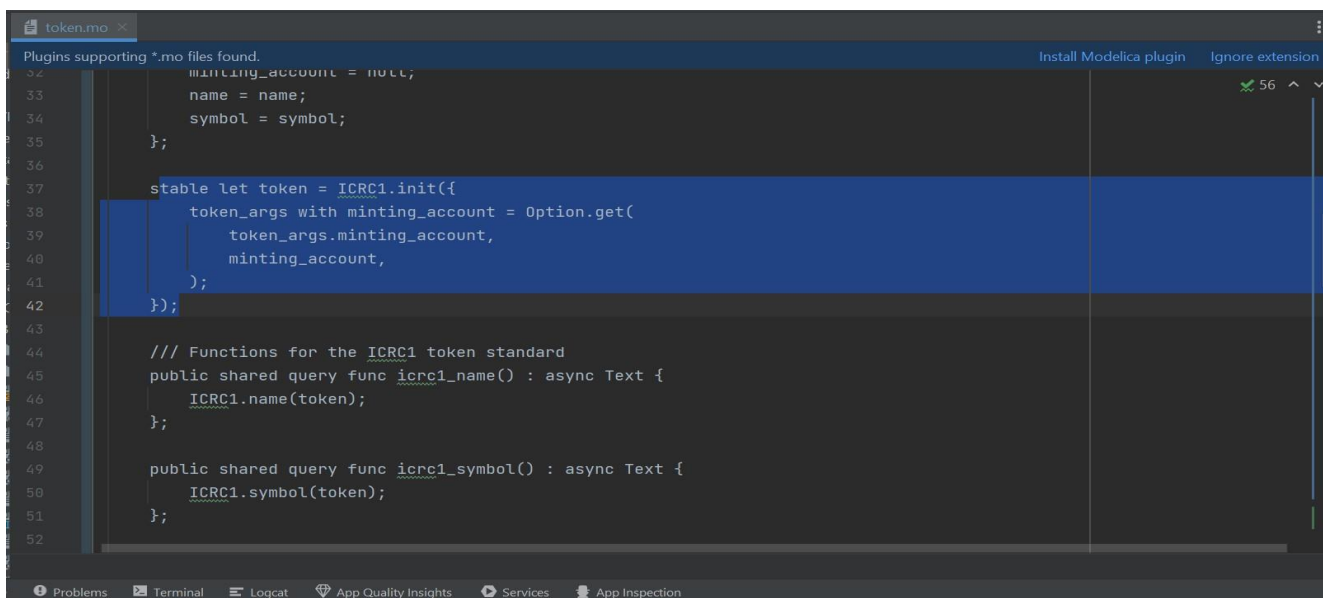
INHERITANCE GRAPH



Identifier	Definition	TIVEL FINANCE
CEN-12	Centralization privileges of LOOZR	Medium # 🟡

Vulnerability 0 : No important security issue detected.

Threat level: **Low**



```

token.mo
Plugins supporting *.mo files found.
32 minting_account = null;
33 name = name;
34 symbol = symbol;
35 };
36
37 stable let token = ICRC1.init({
38   token_args with minting_account = Option.get(
39     token_args.minting_account,
40     minting_account,
41   );
42 });
43
44 /// Functions for the ICRC1 token standard
45 public shared query func icrc1_name() : async Text {
46   ICRC1.name(token);
47 };
48
49 public shared query func icrc1_symbol() : async Text {
50   ICRC1.symbol(token);
51 };
52
  
```

MANUAL REVIEW

LOOZR introduces an exciting music game on Telegram, where participants mine community GENRE tokens and partake in multiple EPOCH rewards, paving the way for the platform's Music-SocialFi and crowd-investment launch in Q1 2025.

This groundbreaking initiative combines gamification, music culture, community-centric approach, and decentralized finance (DeFi), offering a dynamic platform where music culture thrives, and fans and artists collaborate in an interactive ecosystem..

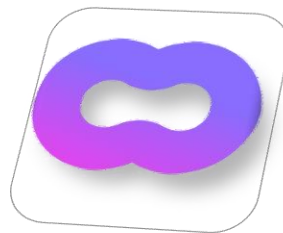
TOKEN NAME: LOOZR

Ticker: LZR

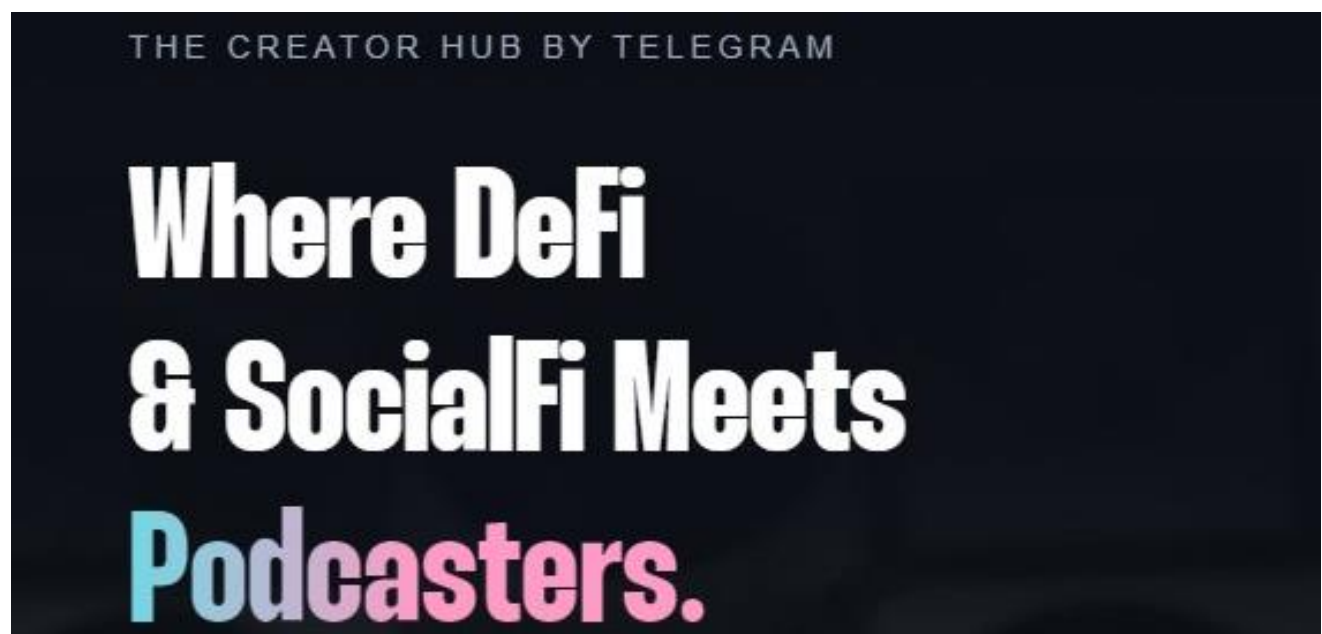
Network: ICP

Token Type: Utility

Total Supply: . 160,000,000



The LOOZR Platform Is Launching On ICP Network





ISSUES CHECKING STATUS

Issue Description

Checking Status

1.	Compiler errors	PASSED
2.	Race Conditions and reentrancy. Cross-Function Race Conditions.	PASSED
3.	Possible Delay In Data Delivery.	PASSED
4.	Oracle calls.	PASSED
5.	Front Running.	PASSED
6.	Mo Dependency.	PASSED
7.	Integer Overflow And Underflow.	PASSED
8.	DoS with Revert.	PASSED
9.	Dos With Block Gas Limit.	PASSED
10.	Methods execution permissions.	PASSED
11.	Economy Model of the contract.	PASSED
12.	The Impact Of Exchange Rate On the Move Logic.	PASSED
13.	Private use data leaks.	PASSED
14.	Malicious Event log.	PASSED
15.	Scoping and Declarations.	PASSED
16.	Uninitialized storage pointers.	PASSED
17.	Arithmetic accuracy.	PASSED
18.	Design Logic.	PASSED
19.	Cross-Function race Conditions	PASSED
20.	Save Upon Move contract Implementation and Usage.	PASSED
21.	Fallback Function Security	PASSED



AUDIT RESULT

PASSED

SMART CONTRACT AUDIT OF LOOZR

Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor 

All of the initially minted assets are sent to the contract deployer when deploying the contract. This can be an issue as the deployer and/or contract owner can distribute tokens without consulting the community.

```
let token_args : ICRC1.TokenInitArgs = {  
    advanced_settings = null;  
    decimals = 18;  
    fee = 1_000;  
    initial_balances = [(  
        {  
            owner = _owner;  
            subaccount = null;  
        }  
    )];  
}
```

RECOMMENDATION

Project stakeholders should be consulted during the initial asset distribution process.

RECOMMENDATION

Deployer and/or contract owner private keys are secured carefully.

Please refer to PAGE-09 **CENTRALIZED PRIVILEGES** for a detailed understanding.

ALLEVIATION

The **LOOZR** project team understands the centralization risk. Some functions are provided privileged access to ensure a good runtime behavior in the project



Identifier	Definition	Severity
COD-10	Third Party Dependencies	Minor 

Smart contract is interacting with third party protocols e.g., Pancakeswap router, cashier contract, protections contract. The scope of the audit treats third party entities as black boxes and assumes their functional correctness. However, in the real world, third parties can be compromised, and exploited. Moreover, upgrades in third parties can create severe impacts, e.g., increased transactional fees, deprecation of previous routers, etc.

RECOMMENDATION

Inspect and validate third party dependencies regularly, and mitigate severe impacts whenever necessary.



DISCLAIMERS

Vital Block provides the easy-to-understand audit of Solidity, Move and Raw source codes (commonly known as smart contracts).

The smart contract for this particular audit was analyzed for common contract vulnerabilities, and centralization exploits. This audit report makes no statements or warranties on the security of the code. This audit report does not provide any warranty or guarantee regarding the absolute bug-free nature of the smart contract analyzed, nor do they provide any indication of the client's business, business model or legal compliance. This audit report does not extend to the compiler layer, any other areas beyond the programming language, or other programming aspects that could present security risks. Cryptographic tokens are emergent technologies, they carry high levels of technical risks and uncertainty. You agree that your access and/or use, including but not limited to any services, reports, and materials, will be at your sole risk on an as-is, where-is, and as-available basis. This audit report could include false positives, false negatives, and other unpredictable results.

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ABOUT VITAL BLOCK

Vital Block provides intelligent blockchain Security Solutions. We provide solidity and Raw Code Review, testing, and auditing services. We have Partnered with 15+ Crypto Launchpads, audited 50+ smart contracts, and analyzed 200,000+ code lines. We have worked on major public blockchains e.g., Ethereum, Binance, Cronos, Doge, Polygon, Avalanche, Metis, Fantom, Bitcoin Cash, Aptos, Oasis, etc.

Vital Block is Dedicated to Making Defi & Web3 A Safer Place. We are Powered by Security engineers, developers, UI experts, and blockchain enthusiasts. Our team currently consists of 5 core members, and 4+ casual contributors.

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