



Security Assessment

PENGUIANA

Vital Block **Verified** on May 21st, 2024

 @Vital-Block

 @VB_Audit

 info@vitalblock.org

 www.vitalblock.org



PREPARED FOR:
PENGUIANA



TABLE OF CONTENTS

TABLE OF CONTENTS	3
DOCUMENT PROPERTIES	4
ABOUT VBS	5
SCOPE OF WORK	6
AUDIT METHODOLOGY	7
AUDIT CHECKLIST	9
EXECUTIVE SUMMARY	10
CENTRALIZED PRIVILEGES	11
RISK CATEGORIES	12
AUDIT SCOPE	13
AUTOMATED ANALYSIS	14
KEY FINDINGS	19
MANUAL REVIEW	20
VULNERABILITY SCAN	28
REPOSITORY	29
INHERITANCE GRAPH	30
PROJECT BASIC KNOWLEDGE	31
AUDIT RESULT	32
REFERENCES	37



INTRODUCTION

Auditing Firm	 VITAL BLOCK SECURITY
Client Firm	 PENGUIANA
Methodology	Automated Analysis, Manual Code Review
Language	Rust
Contract	PENG1vjKzWCuLZgKT4GXdasAyaibP5RQnGdyi6mfgw
Source Code Light	Verified
Token Standard	2
Centralization	Active ownership
Edition Nonce	253
Blockchain	 SOLANA
Website	http://penguiana.com
Telegram	https://t.me/penguiana
Twitter	https://twitter.com/penguianaonsol
Discord	https://discord.com/invite/y7M3yDFjUt
Prelim Report Date	May 20 th 2024
Final Report Date	May 21 st 2024

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



Document Properties

Client	PENGUANA
Title	Smart Contract Audit Report
Target	PENGUANA
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	May 21 st , 2024	James BK	Final Released
1.0-AP	May 21 st , 2024	Benny Matin	Release Candidate

Contact

For more information about this document and its contents, please contact Vital Block Security Inc.

Name	Akhmetshin Marat
Phone 	+44 7944 248057
Email	info@vitalblock.org

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

- <https://solscan.io/token/PENG1vjKzWCuLZgKT4GXdasAyaibP5RQnGdyi6mfgw> (PENU80761)
- <https://explorer.solana.com/address/PENG1vjKzWCuLZgKT4GXdasAyaibP5RQnGdyi6mfgw> (PENU825790)

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

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 **PENGUIANA** to conduct the smart contract audit of its. Rust source code. The audit scope of work is strictly limited to mentioned .Rust file only:

O.PENGUIANA.Rust

 **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 Address	
https://explorer.solana.com/address/PENG1vjKzWCuLZgKT4GXdasAylabP5RQnGdyi6mfgw	
Contract Name	PENGUIANA
Token Symbol	PENGU
Decimals	6
Total Supply	100,000,000



Table 1.0 The Full Audit Checklist

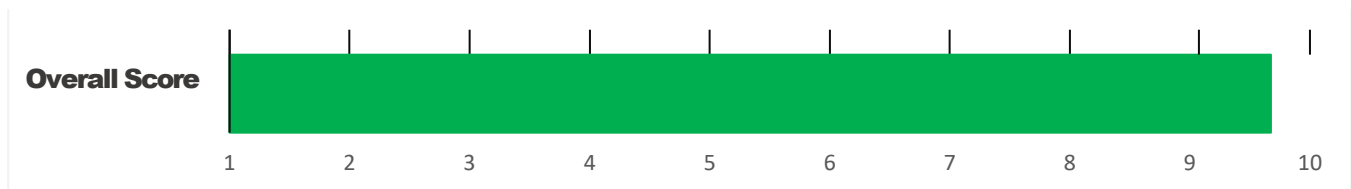
Category	Checklist Items
Basic Coding Bugs	Constructor Mismatch
	Ownership Takeover
	Redundant Fallback Function
	Overflows & Underflows
	Reentrancy
	Money-Giving Bug
	Blackhole
	Unauthorized Self-Destruct
	Revert DoS
	Unchecked External Call
	Gasless Send
	Send Instead Of Transfer
	Costly Loop
	(Unsafe) 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 **PENGUIANA** Rust 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	1	0	0
Acknowledged	0	0	1	1	0
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				

PENGUIANA Smart contract has achieved the following score: **89.0**



- 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

Security 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	○ 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.**

 **i 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 PENGUIANA Audit Findings

ID	Severity	Title	Category	Status
PEN-01	Informational	In updateForMinter, the following equation is used inside an unchecked block	Status 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...



AUTOMATED ANALYSIS

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

```

| **PENGUIANA** | 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 | Sol | External ! | |NO!|

| L | addLiquiditySOL | External ! | # |NO!|

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

| L | swapExactSOLorTokens | External ! | # |NO!|

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

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

|||||

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

| L | swapExactTokensForSOLSupportingFeeOnTransferTokens | External ! | " |NO!|

| L | swapExactSOLForTokensSupportingFeeOnTransferTokens | 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 | **PENGU** | 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! |
|||||
| **SOL** | Implementation | RUST |||
| L | <Constructor> | Public ! | # | NO! |
| L | transferOwner | External ! | " | onlyOwner |
| L | renounceOwnership | External ! | " | NO! |
| L | setOperator | Public ! | " | NO! |
| L | renounceOriginalDeployer | External ! | " | NO! |
| L | <Receive SOL> | 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 $ | " 🚫 🚫 ||
| 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 |

```



PEN-01 POSSIBLE OVERFLOW

Category	Severity ●	Location	Status
Status Mathematical Operations	Minor	Contract/code/PENGUIANA/	Acknowledged

Description

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

```
mint:
  "PENG1vjKzWCuLZgKT4GXdasAyaibP5RQnGdyi6mfgw"
data:{4 items
name:
  "Penguiana"
symbol:
  "PENGU"
uri:
  "https://arweave.net/6jil-CH7j3okc0xvvesP7M7HZ2yvyJbL3EcWp2AIEoc"
sellerFeeBasisPoints:
  0
}
```

Minter can not issue more **PENGUIANA** 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 **PENGU** 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 | PENGUIANA

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 

General Detectors

Missing Zero Address Validation

Some functions in this contract may not appropriately check for zero addresses being used.



Attention
Required

Public Functions Should be Declared External

Some functions in this contract should be declared as external in order to save gas.



Attention
Required

- ✓ No compiler version inconsistencies found
- ✓ No unchecked call responses found
- ✓ No vulnerable self-destruct functions found
- ✓ No assertion vulnerabilities found
- ✓ No old solidity code found
- ✓ No external delegated calls found
- ✓ No external call dependency found
- ✓ No vulnerable authentication calls found
- ✓ No invalid character typos found
- ✓ No RTL characters found
- ✓ No dead code found
- ✓ No risky data allocation found
- ✓ No uninitialized state variables found
- ✓ No uninitialized storage variables found
- ✓ No vulnerable initialization functions found
- ✓ No risky data handling found
- ✓ No number accuracy bug found
- ✓ No out-of-range number vulnerability found
- ✓ No map data deletion vulnerabilities found
- ✓ No tautologies or contradictions found
- ✓ No faulty true/false values found
- ✓ No inaccurate divisions found
- ✓ No redundant constructor calls found
- ✓ No vulnerable transfers found
- ✓ No vulnerable return values found
- ✓ No uninitialized local variables found
- ✓ No default function responses found
- ✓ No missing arithmetic events found
- ✓ No missing access control events found
- ✓ No redundant true/false comparisons found
- ✓ No state variables vulnerable through function calls found
- ✓ No buggy low-level calls found
- ✓ No expensive loops found
- ✓ No bad numeric notation practices found
- ✓ No missing constant declarations found
- ✓ No missing external function declarations found
- ✓ No vulnerable payable functions found
- ✓ No vulnerable message values found

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.

```
{4 items
name:"Penguiana"
symbol:"PENGU"
description:"100 Million PENGU SPL tokens roaming
freely on Solana"
image:"https://arweave.net/Msi8MAkpW2SSu7rGIV5q5cUV68
gIPGut3zbyFM-Yc34"
}
```

Scanning Line:



Contract Owner Address:

<https://solscan.io/account/PENGQ4JgdZEjWvdxvA2A3Rar4LvFCRTJcYvJgQi9Zku>

Audited Files

PENGUANA.RUST

Contracts:

Contract

CORTANA:PENG1vjKzWCuLZgKT4GXdasAyiaibP5RQnGdyi6mfgw



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).

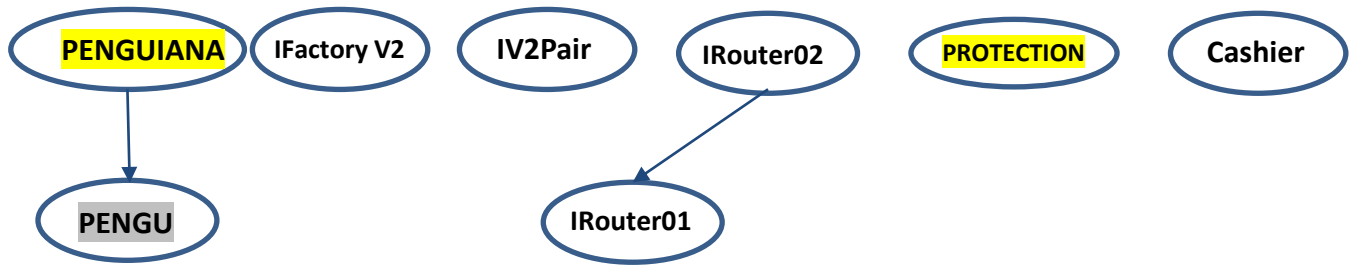
✔ No blacklist function

No blacklist function is included.

✔ No whitelist function

Whitelist function found

INHERITANCE GRAPH



Identifier	Definition	Severity
CEN-12	Centralization privileges of PENGUIANA	Medium # 🟡

Vulnerability 0 : No important security issue detected.
Threat level: Low

```

{ 8 items
  key : 4
  updateAuthority : "PENGQ4JgdZEjWvdxvA2A3Rar4LvFCRTJcYvJgQi9Zku"
  mint : "PENG1vjKzWCuLZgKT4GXdasAyaibP5RQnGdyi6mfgw"
  data : { 4 items
    name : "Penguiana"
    symbol : "PENGU"
    uri : "https://arweave.net/6jil-CH7j3okc0xvvesP7M7HZ2yvyJbL3EcWp2AIEoc"
    sellerFeeBasisPoints : 0
  }
  primarySaleHappened : 0
  isMutable : 0
  editionNonce : 253
  tokenStandard : 2
}
  
```

MANUAL REVIEW

PENGUIANA: The Penguiana Solana Meme Coin Community Believe In A Slow And Steady Race To The Top, Just Like How Penguins Waddle In Search Of Fish, Let's Eat The Solana.

Why Penguiana Stands Out:

Penguiana isn't just another meme coin; it's the foundation of an exciting play-to-earn game on the Solana blockchain. Players will use \$PENGU to mint playable penguin characters, engaging in various game modes to earn more \$PENGU. This gaming integration enhances the token's utility and fosters a robust, interactive community.

TOKEN NAME: PENGUIANA

Ticker: PENGU

Chain/Standard: Solana Network

LAUNGUGE: Rust



The PENGUIANA Platform Is Launching On the Solana 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.	Rust 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 sol 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 PENGUANA

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.

```
{  name: "Penguiana"
  symbol: "PENGU"
  description: "100 Million PENGU SPL tokens roaming freely on Solana"
  image: "https://arweave.net/Msi8MAkpW2SSu7rGIV5q5cUV68gIPGut3zbyFM-Yc34"
}
```

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 **PENGUANA 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.



CERTIFICATE BY VITAL BLOCK SECURITY



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.

CONFIDENTIALITY

This report is subject to the terms and conditions (including without limitations, description of services, confidentiality, disclaimer and limitation of liability) outlined in the scope of the audit provided to the client. This report should not be transmitted, disclosed, referred to, or relied upon by any individual for any purpose without InterFi Network's prior written consent.

NO FINANCIAL ADVICE

This audit report does not indicate the endorsement of any particular project or team, nor guarantees its security. No third party should rely on the reports in any way, including to make any decisions to buy or sell a product, service or any other asset. The information provided in this report does not constitute investment advice, financial advice, trading advice, or any other sort of advice and you should not treat any of the report's content as such. This audit report should not be used in any way



to make decisions around investment or involvement. This report in no way provides investment advice, nor should be leveraged as investment advice of any sort.

FOR AVOIDANCE OF DOUBT, SERVICES, INCLUDING ANY ASSOCIATED AUDIT REPORTS OR MATERIALS, SHALL NOT BE CONSIDERED OR RELIED UPON AS ANY FORM OF FINANCIAL, TAX, LEGAL, REGULATORY, OR OTHER ADVICE.

TECHNICAL DISCLAIMER

ALL SERVICES, AUDIT REPORTS, SMART CONTRACT AUDITS, OTHER MATERIALS, OR ANY PRODUCTS OR RESULTS OF THE USE THEREOF ARE PROVIDED “AS IS” AND “AS AVAILABLE” AND WITH ALL FAULTS AND DEFECTS WITHOUT WARRANTY OF ANY KIND. TO THE MAXIMUM EXTENT PERMITTED UNDER APPLICABLE LAW, VITAL BLOCK HEREBY DISCLAIMS ALL WARRANTIES, WHETHER EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO SERVICES, AUDIT REPORT, OR OTHER MATERIALS. WITHOUT LIMITING THE FOREGOING, VITAL BLOCK SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT, AND ALL WARRANTIES ARISING FROM THE COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

WITHOUT LIMITING THE FOREGOING, VITAL BLOCK MAKES NO WARRANTY OF ANY KIND THAT ALL SERVICES, AUDIT REPORTS, SMART CONTRACT AUDITS, OR OTHER MATERIALS, OR ANY PRODUCTS OR RESULTS OF THE USE THEREOF, WILL MEET THE CLIENT’S OR ANY OTHER INDIVIDUAL’S REQUIREMENTS, ACHIEVE ANY INTENDED RESULT, BE COMPATIBLE OR WORK WITH ANY SOFTWARE, SYSTEM, OR OTHER SERVICES, OR BE SECURE, ACCURATE, COMPLETE, FREE OF HARMFUL CODE, OR ERROR-FREE.

TIMELINESS OF CONTENT

The content contained in this audit report is subject to change without any prior notice. Vital Block does not guarantee or warrant the accuracy, timeliness, or completeness of any report you access using the internet or other means, and assumes no obligation to update any information following the publication.



LINKS TO OTHER WEBSITES

This audit report provides, through hypertext or other computer links, access to websites and social accounts operated by individuals other than Vital Block. Such hyperlinks are provided for your reference and convenience only and are the exclusive responsibility of such websites and social accounts owners. You agree that Vital block Security is not responsible for the content or operation of such websites and social accounts and that Vital Block shall have no liability to you or any other person or entity for the use of third-party websites and social accounts. You are solely responsible for determining the extent to which you may use any content at any other websites and social accounts to which you link from the report.



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.

Website: <https://Vitalblock.org>

Email: info@vitalblock.org

GitHub: <https://github.com/vital-block>

Telegram (Engineering): https://t.me/vital_block

Telegram (Onboarding): https://t.me/vitalblock_cmo





vital-block



info@vitalblock.org



www.Vitalblock.org



Vital Block Dedicated to securing Public and Private Blockchain Ecosystem