



CFG NINJA AUDITS

Security Assessment
LK Token

November 5, 2023

Audit Status: Fail

Audit Edition: Advance



Risk Analysis

Classifications of Manual Risk Results

Classification	Description
🔴 Critical	Danger or Potential Problems.
🟠 Major	Be Careful or Fail test.
🟢 Minor	Pass, Not-Detected or Safe Item.
🟡 Informational	Function Detected

Manual Code Review Risk Results

Contract Priviledge	Description
🔴 Buy Tax	100%
🔴 Sale Tax	100%
🟢 Cannot Sale	Pass
🟢 Cannot Sale	Pass
🟢 Max Tax	100%
🟢 Modify Tax	Pass
🔴 Fee Check	Fail
🟢 Is Honeypot?	Not Detected
🟢 Trading Cooldown	Not Detected
🟢 Can Pause Trade?	Pass
🟢 Pause Transfer?	Not-Detected



Contract Priviledge	Description
🔴 Max Tx?	Fail
🟢 Is Anti Whale?	Not Detected
🟢 Is Anti Bot?	Not Detected
🟢 Is Blacklist?	Not Detected
🟢 Blacklist Check	Pass
🔴 is Whitelist?	Detected
🟢 Can Mint?	Not-Detected
🟢 Is Proxy?	Not Detected
🟢 Can Take Ownership?	Not Detected
🟢 Hidden Owner?	Not Detected
ℹ️ Owner	0x000
🟢 Self Destruct?	Not Detected
🟢 Other?	Not Detected
🟢 Other?	Not Detected
🟢 Holders	478
🔴 Auditor Confidence	High Risk

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.



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Assessment Summary

This report has been prepared for LK Token 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.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders
- Thorough line-by-line manual review of the entire codebase by industry experts.



Project Overview

Token Summary

Parameter	Result
Address	0x7980D84FFCB623f492273B4FBd9289aA32Dc62d2
Name	LK
Token Tracker	LK (LK)
Decimals	18
Supply	1,000,000
Platform	Binance Smart Chain
compiler	v0.8.18+commit.87f61d96
Contract Name	NextGenROI
Optimization	Yes with 200 runs
LicenseType	Unlicensed
Language	Solidity
Codebase	https://bscscan.com/address/0x7980D84FFCB623f492273B4FBd9289aA32Dc62d2#code
Payment Tx	Corporate





Main Contract Assessed

Contract Name

Name	Contract	Live
LK	0x7980D84FFCB623f492273B4FBd9289aA32Dc62d2	Yes

TestNet Contract Assessed

Contract Name

Name	Contract	Live
LK	0x4ff47b3821c22c4eaec5b363cc869e61af98d09e	Yes

Solidity Code Provided

Solid ID	File Sha-1	FileName
LK	9ab432e9c3d3709301af648f1f4bf9384599afee	LK.sol
LK		
LK		
LK		





Mint Check

The project owners of LK do not have a mint function in the contract, owner cannot mint tokens after initial deploy.

The Project has a Total Supply of 1,000,000 and cannot mint any more than the Max Supply.

Mint Notes:

Auditor Notes:

Project Owner Notes:





Fees Check

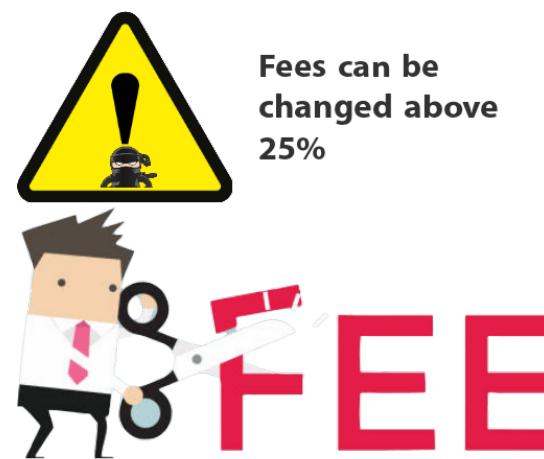
The project owners of LK have the ability to set up to 100%

We Recommend the team to review contract and set it with fees restrictions to avoid any problems, as alternative the team can use multi signature wallet to ensure the project is safe from a potential fee increase.

Tax Fee Notes:

Auditor Notes: Sala Tax is 100% and Buy Tax is 100%.

Project Owner Notes: Detected



Blacklist Check

The project owners of LK do not have a blacklist function their contract.

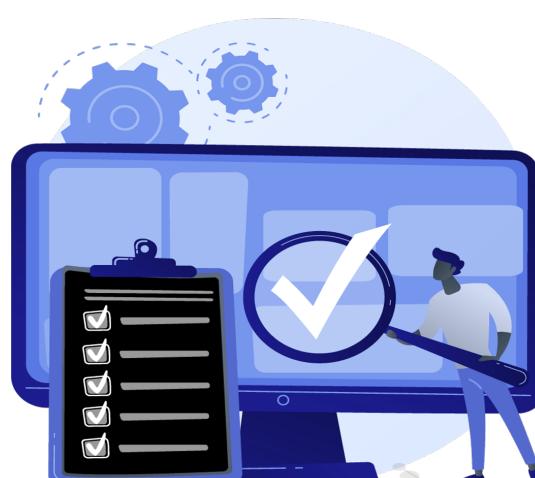
The Project allow owners to transfer their tokens without any restrictions.

Token owner cannot blacklist the contract: Malicious or compromised owners can trap contracts relying on tokens with a blacklist.

Blacklist Notes:

Auditor Notes: .

Project Owner Notes:





MaxTx Check

The Project Owners of LK can set max tx amount.

The ability to set MaxTx can be used as bad actor, this can limit the ability of investors to sale their tokens at any given time if is set too low..

We recommend the project to set MaxTx to Total Supply or simiar to avoid swap or transfer from failures

MaxTX Notes:

Auditor Notes: Max tax is 100%.

Project Owner Notes:



Pause Trade Check

The Project Owners of LK don't have the ability to stop or pause trading.

The Team has done a great job to avoid stop trading, and investors has the ability to trade at any given time without any problems

Pause Trade Notes:

Auditor Notes:

Project Owner Notes: .

Owner can't pause trading



Contract Ownership

The contract ownership of LK 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 0x00000000000000000000000000000000 which can be viewed:

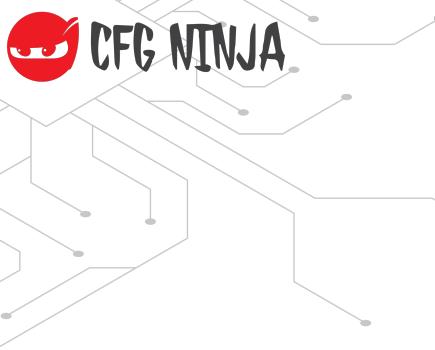
[HERE](#)

The owner wallet has the power to call the functions displayed on the privileged functions chart below, if the owner's wallet is compromised, they could exploit these privileges.

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

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





Liquidity Ownership

The token does not have liquidity at the moment of the audit, block 33161157

If liquidity is unlocked, then the token developers can do what is infamously known as 'rugpull'. Once investors start buying token from the exchange, the liquidity pool will accumulate more and more coins of established value (e.g., ETH or BNB or Tether). This is because investors are basically sending these tokens of value to the exchange, to get the new token. Developers can withdraw this liquidity from the exchange, cash in all the value and run off with it. Liquidity is locked by renouncing the ownership of liquidity pool (LP) tokens for a fixed time period, by sending them to a time-lock smart contract. Without ownership of LP tokens, developers cannot get liquidity pool funds back. This provides confidence to the investors that the token developers will not run away with the liquidity money. It is now a standard practice that all token developers follow, and this is what really differentiates a scam coin from a real one.

[Read More](#)



KYC Information

The Project Owners of LK is not KYC.

KYC Information Notes:

Auditor Notes: KYC to be completed by PinkSale, project will be a SAFU Project.

Project Owner Notes:



Smart Contract Vulnerability Checks

The Smart Contract Weakness Classification Registry (SWC Registry) is an implementation of the weakness classification scheme proposed in EIP-1470. It is loosely aligned to the terminologies and structure used in the Common Weakness Enumeration (CWE) while overlaying a wide range of weakness variants that are specific to smart contracts.

ID	Severity	Name	File	location
SWC-100	Pass	Function Default Visibility	LK.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	LK.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	LK.sol	L: 0 C: 0
SWC-103	Low	A floating pragma is set.	LK.sol	L: 6 C: 0
SWC-104	Pass	Unchecked Call Return Value.	LK.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	LK.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	LK.sol	L: 0 C: 0
SWC-107	Pass	Read of persistent state following external call.	LK.sol	L: 0 C: 0
SWC-108	Low	State variable visibility is not set..	LK.sol	L: 454 C: 32, L: 455 C: 29
SWC-109	Pass	Uninitialized Storage Pointer.	LK.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	LK.sol	L: 0 C: 0



ID	Severity	Name	File	location
SWC-111	Pass	Use of Deprecated Solidity Functions.	LK.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	LK.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	LK.sol	L: 0 C: 0
SWC-114	Pass	Transaction Order Dependence.	LK.sol	L: 0 C: 0
SWC-115	Pass	Authorization through tx.origin.	LK.sol	L: 0 C: 0
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	LK.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	LK.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	LK.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	LK.sol	L: 0 C: 0
SWC-120	Low	Potential use of block.number as source of randomness.	LK.sol	L: 419 C: 26, L: 428 C: 26, L: 487 C: 52, L: 530 C: 30
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	LK.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	LK.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	LK.sol	L: 0 C: 0



ID	Severity	Name	File	location
SWC-124	Pass	Write to Arbitrary Storage Location.	LK.sol	L: 0 C: 0
SWC-125	Pass	Incorrect Inheritance Order.	LK.sol	L: 0 C: 0
SWC-126	Pass	Insufficient Gas Griefing.	LK.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	LK.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	LK.sol	L: 0 C: 0
SWC-129	Pass	Typographical Error.	LK.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U+202E).	LK.sol	L: 0 C: 0
SWC-131	Pass	Presence of unused variables.	LK.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	LK.sol	L: 0 C: 0
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	LK.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	LK.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/Dead Code).	LK.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	LK.sol	L: 0 C: 0

We scan the contract for additional security issues using MYTHX and industry-standard security scanning tools.



Smart Contract Vulnerability Details

SWC-103 - Floating Pragma.

CWE-664: Improper Control of a Resource Through its Lifetime.

References:

Description:

Contracts should be deployed with the same compiler version and flags that they have been tested with thoroughly. Locking the pragma helps to ensure that contracts do not accidentally get deployed using, for example, an outdated compiler version that might introduce bugs that affect the contract system negatively.

Remediation:

Lock the pragma version and also consider known bugs (<https://github.com/ethereum/solidity/releases>) for the compiler version that is chosen.

Pragma statements can be allowed to float when a contract is intended for consumption by other developers, as in the case with contracts in a library or EthPM package. Otherwise, the developer would need to manually update the pragma in order to compile locally.

References:

Ethereum Smart Contract Best Practices - Lock pragmas to specific compiler version.



Smart Contract Vulnerability Details

SWC-108 - State Variable Default Visibility

CWE-710: Improper Adherence to Coding Standards

Description:

Labeling the visibility explicitly makes it easier to catch incorrect assumptions about who can access the variable.

Remediation:

Variables can be specified as being public, internal or private. Explicitly define visibility for all state variables.

References:

Ethereum Smart Contract Best Practices - Explicitly mark visibility in functions and state variables



Smart Contract Vulnerability Details

SWC-120 - Weak Sources of Randomness from Chain Attributes

CWE-330: Use of Insufficiently Random Values

Description:

Solidity allows for ambiguous naming of state variables when inheritance is used. Contract A with a variable x could inherit contract B that also has a state variable x defined. This would result in two separate versions of x, one of them being accessed from contract A and the other one from contract B. In more complex contract systems this condition could go unnoticed and subsequently lead to security issues.

Shadowing state variables can also occur within a single contract when there are multiple definitions on the contract and function level.

Remediation:

Using commitment scheme, e.g. RANDAO. Using external sources of randomness via oracles, e.g. Oraclize. Note that this approach requires trusting in oracle, thus it may be reasonable to use multiple oracles. Using Bitcoin block hashes, as they are more expensive to mine.

References:

How can I securely generate a random number in my smart contract?)

When can BLOCKHASH be safely used for a random number? When would it be unsafe?

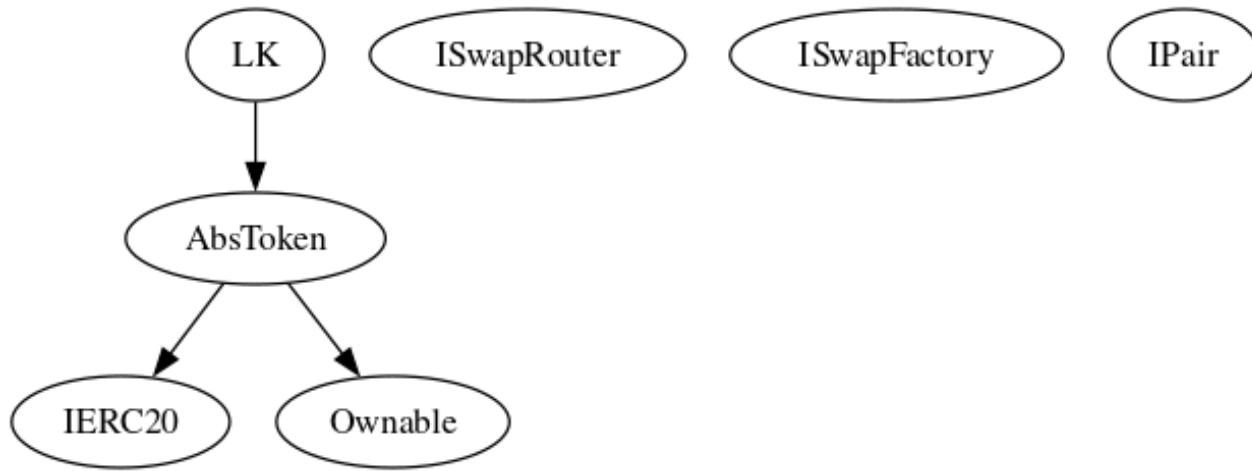
The Run smart contract.





Inheritance

The contract for LK has the following inheritance structure.



Privileged Functions (onlyOwner)

Please Note if the contract is Renounced none of this functions can be executed.

Function Name	Parameters	Visibility
renounceOwnership		Public
transferOwnership	address newOwner	Public
setFundAddress	address addr	External
setDividendFee	uint256 fee	External
setFundFee	uint256 fee	External
setInviteFee	uint256 fee	External
setDestroyFee	uint256 fee	External
startAddLP		External
closeAddLP		External
startTrade		External
closeTrade		External
setFeeWhitelist	address addr, bool enable	External
setSwapPairList	address addr, bool enabled	External



Function Name	Parameters	Visibility
setRewardWaitBlock	uint256 newValue	Public
resetRewardBlock	unit256 newValue	Public
setHolderRewardCondition	uint256	External
setExcludeHolder	address addr, bool enabled	External



Smart Contract Advance Checks

ID	Severity	Name	Result	Status
LK-01	Minor	Potential Sandwich Attacks.	Pass	Not-Found
LK-02	Major	Function Visibility Optimization	Fail	Pending
LK-03	Minor	Lack of Input Validation.	Fail	Pending
LK-04	Major	Centralized Risk In addLiquidity.	Pass	Pending
LK-05	Medium	Missing Event Emission.	Fail	Pending
LK-06	Minor	Conformance with Solidity Naming Conventions.	Pass	Not-Found
LK-07	Minor	State Variables could be Declared Constant.	Pass	Not-Found
LK-08	Minor	Dead Code Elimination.	Pass	Not-Found
LK-09	Major	Third Party Dependencies.	Pass	Not-Found
LK-10	Major	Initial Token Distribution.	Pass	Not-Found
LK-11	Major	setFeeWhitelist	Fail	Pending
LK-12	Major	Centralization Risks In The X Role	Pass	Not-Found
LK-13	Informational	Extra Gas Cost For User..	Pass	Pending
LK-14	Major	Unnecessary Use Of SafeMath	Pass	Pending
LK-15	Medium	Symbol Length Limitation due to Solidity Naming Standards.	Pass	Not-Found



ID	Severity	Name	Result	Status
LK-16	Medium	Invalid collection of Taxes during Transfer.	Pass	Pending
LK-17	Informational	Conformance to numeric notation best practice.	Pass	Not-Found
LK-18	Major	Enable Trade and Exclude Exist to create a whitelist.	Pass	Not-Found



LK-02 | Function Visibility Optimization.

Category	Severity	Location	Status
Gas Optimization	i Major	LK.sol: L: 478 C: 14, L: 482 C: 14	🕒 Pending

Description

The following functions are declared as public and are not invoked in any of the contracts contained within the projects scope:

Function Name	Parameters	Visibility
setRewardWaitBlock	uint256 newValue	Public
resetRewardBlock	unit256 newValue	Public

The functions that are never called internally within the contract should have external visibility

Remediation

We advise that the function's visibility specifiers are set to external, and the array-based arguments change their data location from memory to calldata, optimizing the gas cost of the function.

References:

external vs public best practices.



LK-03 | Lack of Input Validation.

Category	Severity	Location	Status
Volatile Code	● Minor	LK.sol: L: 396 C: 14, L: 401 C: 14, L: 405 C: 14, L: 409 C: 14, L: 413 C: 14, L: 422 C: 14, L: 431 C: L: 435 C: 14, L: 439 C: 14, L: 443 C: 14, L: 447 C: 14, L: 478 C: 14, L: 482 C: 14, L: 533 C: 14, L: 537 C: 14	🕒 Pending

Description

The given input is missing the check for the non-zero address.

The given input is missing the check for the .

Remediation

We advise the client to add the check for the passed-in values to prevent unexpected errors as below:

```
...
require(receiver != address(0), "Receiver is the zero address");
...
...
require(value X limitation, "Your not able to do this function");
...
```

We also recommend customer to review the following function that is missing a required validation. .



LK-05 | Missing Event Emission.

Category	Severity	Location	Status
Volatile Code	● Medium	LK.sol: L: 396 C: 14, L: 401 C: 14, L: 405 C: 14, L: 409 C: 14, L: 413 C: 14, L: 417 C: 14, L: 422 C: 14, L: 426 C: 14, L: 431 C: L: 435 C: 14, L: 439 C: 14, L: 443 C: 14, L: 447 C: 14, L: 478 C: 14, L: 482 C: 14, L: 533 C: 14, L: 537 C: 14	🕒 Pending

Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes. The linked code does not create an event for the transfer.

Remediation

Emit an event for critical parameter changes. It is recommended emitting events for the sensitive functions that are controlled by centralization roles.



LK-11 | setFeeWhitelist.

Category	Severity	Location	Status
	Major	LK.sol: L: 435 C: 14	Pending

Description

We do not recommend having a whitelist.

Remediation

Project Action



Technical Findings Summary

Classification of Risk

Severity	Description
🔴 Critical	Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks.
🟠 Major	Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project.
🟡 Medium	Risks may not pose a direct risk to users' funds, but they can affect the overall functioning of a platform
🟢 Minor	Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions.
ℹ️ Informational	Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code.

Findings

Severity	Found	Pending	Resolved
🔴 Critical	0	0	0
🟠 Major	0	0	0
🟡 Medium	0	0	0
🟢 Minor	3	0	0
ℹ️ Informational	1	0	0
Total	4	0	0



Social Media Checks

Social Media	URL	Result
Twitter	https://x.com/LKSUPER11	Pass
Other		Fail
Website	www.superlk.vip	Pass
Telegram	https://t.me/LKSUPER111	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:



Assessment Results

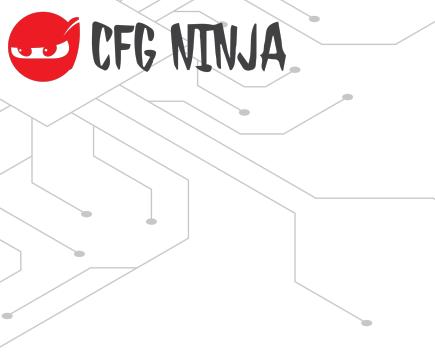
Score Results

Review	Score
Overall Score	76/100
Auditor Score	70/100
Review by Section	Score
Manual Scan Score	26/53
SWC Scan Score	34 /37
Advance Check Score	16 /19

The Following Score System Has been Added to this page to help understand the value of the audit, the maximum score is 100, however to attain that value the project must pass and provide all the data needed for the assessment. Our Passing Score has been changed to 80 Points, if a project does not attain 80% is an automatic failure. Read our notes and final assessment below.

Audit Fail





Assessment Results

Important Notes:

- Multiple vulnerabilities were found.
- Tax can be 100% and this is not recommended.
- Make sure to set limits for taxes.
- Contract by Dwen Marketing.

Auditor Score =70
Audit Fail



Appendix

Finding Categories

Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that act against the nature of decentralization, such as explicit ownership or specialized access roles in combination with a mechanism to relocate funds.

Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimal EVM opcodes resulting in a reduction on the total gas cost of a transaction.

Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on how `block.timestamp` works.

Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functions being invokeable by anyone under certain circumstances.

Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that may result in a vulnerability.

Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to make the codebase more legible and, as a result, easily maintainable.

Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code, such as a constructor assignment imposing different require statements on the input variables than a setter function.

Coding Best Practices

ERC 20 Coding Standards are a set of rules that each developer should follow to ensure the code meets a set of criteria and is readable by all the developers.





Disclaimer

CFGNINJA has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocacy for the Project, and users relying on this 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 the Project in question may pursue, and 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 entirely free of exploits, bugs, vulnerabilities or depreciation of technologies.

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