CFG NINJA AUDITS

Security Assessment

CopyFi Token

March 1, 2023

Audit Status: Pass

Audit Edition: Pink

CopyFi

POWERED BY BLADE POOL

Table of Contents

Assessment Summary

This report has been prepared for CopyFi 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	0xc14Ea128DEcEEcb9144b06fE453AB5b03e801094
Name	CopyFi
Token Tracker	CopyFi ($CFI)
Decimals	18
Supply	100,000,000
Platform	Binance Smart Chain
compiler	v0.8.0+commit.c7dfd78e
Contract Name	CopyFi
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://bscscan.com/address/0xc14Ea128DEcEEcb9144b06fE453AB5b03e801094#code
Payment Tx	Corporate

Project Overview

Risk Analysis Summary

Parameter	Result
Buy Tax	0%
Sale Tax	0%
Is honeypot?	Clean
Can edit tax?	Yes
Is anti whale?	No
Is blacklisted?	No
Is whitelisted?	Yes
Holders	0
Confidence Level	Low

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.

Project Overview

Simulation Summary

Parameter	Result
Transfer From Owner	Pass
Transfer From Holder	Pass
Add Liquidity	Pass
Buy from Owner	Pass
Buy from Holder	Pass
Remove Liquidity	Pass
SwapAndLiquify	Pass
RemoveLiquidity	Pass
LaunchPad	PinkSale

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.

Main Contract Assessed
Contract Name

Name	Contract	Live
CopyFi	0xc14Ea128DEcEEcb9144b06fE453AB5b03e801094	Yes

TestNet Contract Assessed
Contract Name

Name	Contract	Live
CopyFi	0x8e1721D20B523320f7C0FA4202d14fcb04f6b3B0	Yes

Solidity Code Provided

SolID	File Sha-1	FileName
CopyFi	accc40ccf8f94b06c2bb0d159ba53e3cf426a6fc	2-24-2023 CopyFi.sol
CopyFi		
CopyFi		

Mint Check

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

The Project has a Total Supply of 100,000,000 and cannot mint any more than the Max Supply.

Mint Notes:

Auditor Notes:

Project Owner Notes:

Owner can't mint new coins

Fees Check

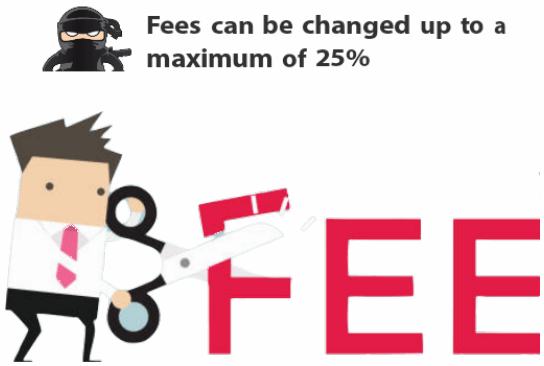
The project owners of CopyFi do not have the ability to set fees higher than 25% .

The team May have fees defined; however, they can't set those fees higher than 25% or may not be able to configure the same.

Tax Fee Notes:

Auditor Notes: The contract currently has 5% buy and 5% sale taxes, and it cannot be set higher than 5%

Project Owner Notes:



Blacklist Check

The project owners of CopyFi 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: undefined

MaxTx Check

The Project Owners of CopyFi 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:

Project Owner Notes:

Pause Trade Check

The Project Owners of CopyFi 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: There is an enable trade function.

Project Owner Notes:

Contract Ownership

The contract ownership of CopyFi 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 0xb4af383ae6809a8b878c0b7d842b760cc823c52a 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

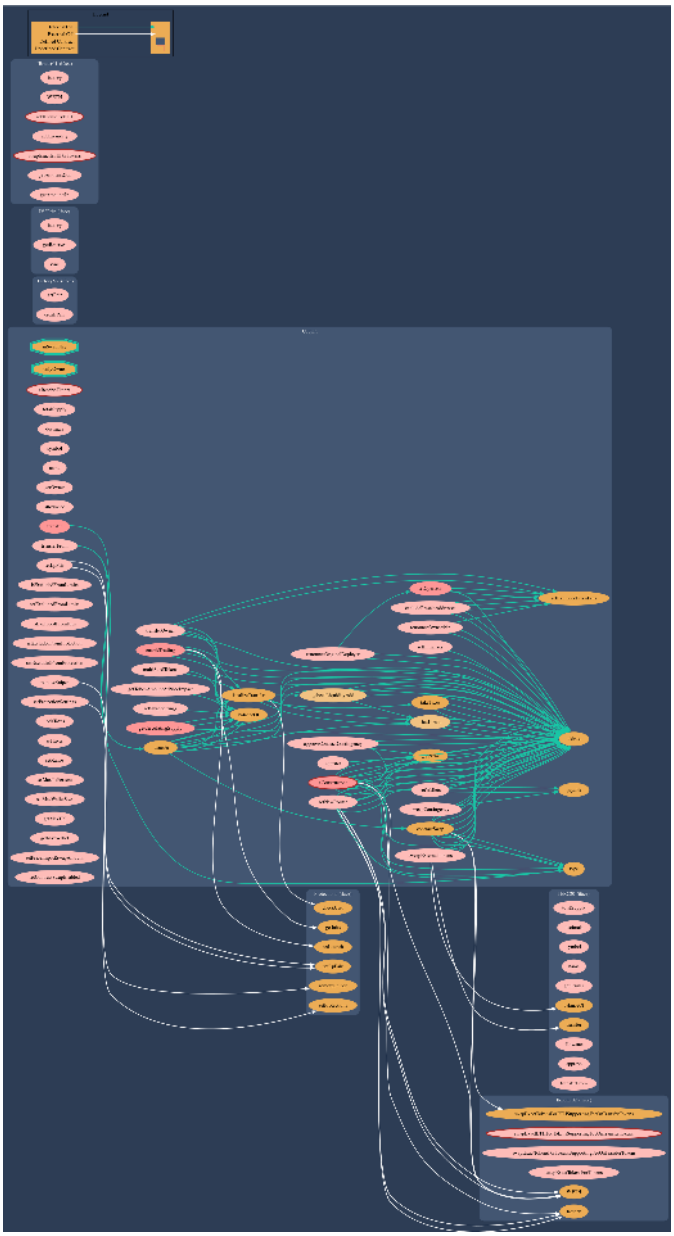
The token does not have liquidity at the moment of the audit, block

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

Call Graph

The contract for CopyFi has the following call graph structure.



KYC Information

The Project Owners of CopyFi have provided KYC Documentation.

KYC Certificated can be found on the Following:
KYC Data

KYC Information Notes:

Auditor Notes:

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	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-103	Low	A floating pragma is set.	2-24-2023 CopyFi.sol	L: 2 C: 0
SWC-104	Pass	Unchecked Call Return Value.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-107	Pass	Read of persistent state following external call.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-108	Low	State variable visibility is not set..	2-24-2023 CopyFi.sol	L: 102 C: 30
SWC-109	Pass	Uninitialized Storage Pointer.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	2-24-2023 CopyFi.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-111	Pass	Use of Deprecated Solidity Functions.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-114	Pass	Transaction Order Dependence.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-115	Low	Authorization through tx.origin.	2-24-2023 CopyFi.sol	L: 501 C: 15
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-120	Pass	Potential use of block.number as source of randonmness.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	2-24-2023 CopyFi.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-125	Pass	Incorrect Inheritance Order.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-126	Pass	Insufficient Gas Griefing.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-129	Pass	Typographical Error.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U +202E).	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-131	Pass	Presence of unused variables.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/Dead Code).	2-24-2023 CopyFi.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	2-24-2023 CopyFi.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-115 - Authorization through tx.origin

CWE-477: Use of Obsolete Function

Description:

tx.origin is a global variable in Solidity which returns the address of the account that sent the transaction. Using the variable for authorization could make a contract vulnerable if an authorized account calls into a malicious contract. A call could be made to the vulnerable contract that passes the authorization check since tx.origin returns the original sender of the transaction which in this case is the authorized account.

Remediation:

tx.origin should not be used for authorization. Use msg.sender instead.

References:

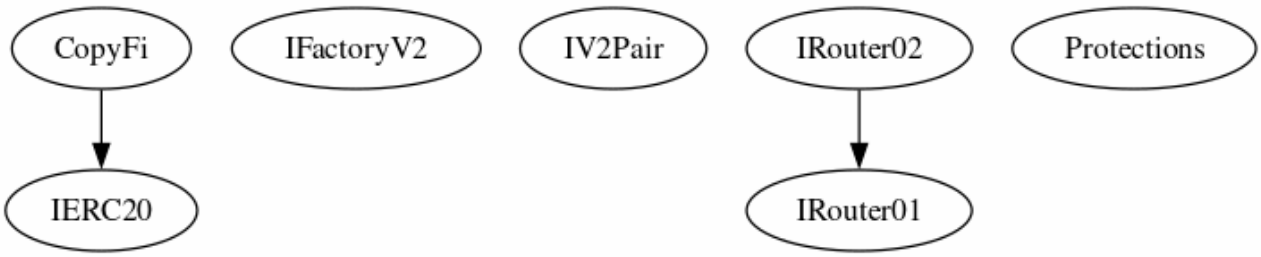
Solidity Documentation - tx.origin

Ethereum Smart Contract Best Practices - Avoid using tx.origin

SigmaPrime - Visibility.

Inheritance

The contract for CopyFi 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	newOwner (address)	public
multiSendTokens	address[] memory accounts, uint256[] memory amounts	external
sweepContingency		external
enableTrading		external
setSwapSettings	uint256 thresholdPercent, uint256 thresholdDivisor, uint256 amountPercent, uint256 amountDivisor	external
setMaxWalletSize	uint256 percent, uint256 divisor	external
setMaxTxPercent	uint256 percent, uint256 divisor	external

Function Name	Parameters	Visibility
setWallets	address payable marketing, address payable development	external
setRatios	uint16 development, uint16 liquidity, uint16 marketing	external
setTaxes	uint16 buyFee, uint16 sellFee, uint16 transferFee	external
lockTaxes		external
removeSniper	address account	external
setExcludedFromFees	address account, bool enabled	external
setInitializer	address initializer	external
setLpPair	address pair, bool enabled	external
setNewRouter	address newRouter	external

Smart Contract Advance Checks

ID	Severity	Name	Result	Status
$CFI-01	Minor	Potential Sandwich Attacks.	Pass	Not-Found
$CFI-02	Minor	Function Visibility Optimization	Pass	Resolved
$CFI-03	Minor	Lack of Input Validation.	Pass	Resolved
$CFI-04	Major	Centralized Risk In addLiquidity.	Pass	Resolved
$CFI-05	Major	Missing Event Emission.	Pass	Resolved
$CFI-06	Minor	Conformance with Solidity Naming Conventions.	Pass	Not-Found
$CFI-07	Minor	State Variables could be Declared Constant.	Pass	Not-Found
$CFI-08	Major	Dead Code Elimination.	Pass	Not-Found
$CFI-09	Major	Third Party Dependencies.	Pass	Not Found
$CFI-10	Major	Initial Token Distribution.	Pass	Resolved
$CFI-11	Critical	The use of setHoldTime can lead to a pause trade or honeyPot State	Pass	Not-found
$CFI-12	Major	Centralization Risks In The X Role	Pass	Not Found
$CFI-13	Informational	Extra Gas Cost For User..	Pass	Not-Found
$CFI-14	Medium	Unnecessary Use Of SafeMath	Pass	Not-Found

ID	Severity	Name	Result	Status
$CFI-15	Medium	Symbol Length Limitation due to Solidity Naming Standards.	Pass	Not-Found
$CFI-16	Medium	Invalid collection of Taxes during Transfer.	Pass	Not-Found

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.
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	0	0	0
Informational	0	0	0
Total	0	0	5

Social Media Checks

Social Media	URL	Result
Twitter	http://Twitter.com/fi_copy	Pass
Other		Fail
Website	http://copyfi.finance	Pass
Telegram	https://t.me/copyfiglobal	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	92/100
Auditor Score	85/100
Review by Section	**Score**
Manual Scan Score	42/50
SWC Scan Score	34 /37
Advance Check Score	16 /16

The Following Score System Has been Added to this page to help understand the value of the audit, the maximun score is 100, however to attain that value the project most 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 Passed

Assessment Results

Important Notes:

- No Vulnerabilities or issues were found.
- Always DYOR.

Auditor Score =85
Audit Passed

Appendix

Finding Categories

Centralization / Privilege

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

Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimalEVM 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 howblock.timestamp works.

Control Flow

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

Volatile Code

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

Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to makethe 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 setterfunction.

Coding Best Practices

ERC 20 Conding Standards are a set of rules that each developer should follow to ensure the code meet a set of creterias 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 advocation 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 deprecation of technologies.

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