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Bring trust into your projects

**Blockchain Security | Smart Contract Audits | KYC**

MADE IN GERMANY

# YFiONE

# Audit

## Security Assessment

01.March,2024

**For**

SolidProof_io @solidproof_io

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| Version | Date | Description |
|---|---|---|
| 1.0 | 20. June,2023 | • Layout project<br>• Automated- /Manual-Security Testing<br>• Summary |
| 1.1 | 01. March, 2024 | • Reaudit |

Network
Binance smart chain (BSC)

Website
https://yfione.org/#/

Twitter
https://twitter.com/yfione

Telegram
https://t.me/YFI_ONE

## Description

YFiONE is committed to systematically producing new Defi products and will help develop, market and launch these Defi products to help develop its biosphere while providing ideal benefits to communities, projects and users. YFiONE can also be described as a decentralized venture capital (DVC), which empowers a decentralized interest-free financial ecosystem by building its community-invested Defi products, with the purpose of distributing revenue as a profit share (reward) To stakeholders.

## Project Engagement

During the 20th of June 2023, **YFiONE** team engaged Solidproof.io to audit the smart contracts that they created. The engagement was technical in nature and focused on identifying the security flaws in the design and implementation of the contracts. They provided Solidproof.io with access to their code repository and whitepaper.

## Logo

## Contract Links

v1.0

https://bscscan.com/token/0xB653e9Da791DD33e24CD687260C7C281928411Ba#code

# Vulnerability & Risk Level

Risk represents the probability that a certain source-threat will exploit vulnerability, and the impact of that event on the organization or system. Risk Level is computed based on CVSS version 3.0.

| Level | Value | Vulnerability | Risk (Required Action) |
|---|---|---|---|
| **Critical** | 9 - 10 | A vulnerability that can disrupt the contract functioning in a number of scenarios, or creates a risk that the contract may be broken. | Immediate action to reduce risk level. |
| **High** | 7 – 8.9 | A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way. | Implementation of corrective actions as soon as possible. |
| **Medium** | 4 – 6.9 | A vulnerability that could affect the desired outcome of executing the contract in a specific scenario. | Implementation of corrective actions in a certain period. |
| **Low** | 2 – 3.9 | A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective. | Implementation of certain corrective actions or accepting the risk. |
| **Informational** | 0 – 1.9 | A vulnerability that have informational character but is not effecting any of the code. | An observation that does not determine a level of risk |

# Auditing Strategy and Techniques Applied

Throughout the review process, care was taken to evaluate the repository for security-related issues, code quality, and adherence to specification and best practices. To do so, reviewed line-by-line by our team of expert pentesters and smart contract developers, documenting any issues as there were discovered.

## Methodology

The auditing process follows a routine series of steps:

1. Code review that includes the following:
    i) Review of the specifications, sources, and instructions provided to SolidProof to make sure we understand the size, scope, and functionality of the smart contract.
    ii) Manual review of code, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
    iii) Comparison to specification, which is the process of checking whether the code does what the specifications, sources, and instructions provided to SolidProof describe.

2. Testing and automated analysis that includes the following:
    i) Test coverage analysis, which is the process of determining whether the test cases are actually covering the code and how much code is exercised when we run those test cases.
    ii) Symbolic execution, which is analyzing a program to determine what inputs causes each part of a program to execute.

3. Best practices review, which is a review of the smart contracts to improve efficiency, effectiveness, clarify, maintainability, security, and control based on the established industry and academic practices, recommendations, and research.

4. Specific, itemized, actionable recommendations to help you take steps to secure your smart contracts.

# Used Code from other Frameworks/Smart Contracts (direct imports)

## Imported packages:

| Dependency / Import Path | Count |
|---|---|
| @openzeppelin/contracts/token/ERC20/ERC20.sol | 1 |

## Tested Contract Files

This audit covered the following files listed below with a SHA-1 Hash.

A file with a different Hash has been modified, intentionally or otherwise, after the security review. A different Hash could be (but not necessarily) an indication of a changed condition or potential vulnerability that was not within the scope of this review.

### v1.0

| File Name | SHA-1 Hash |
|---|---|
| contracts/yfo.sol | 1fe19c17349f0f3a6f681fcc0ccb2760b0bca6c5 |

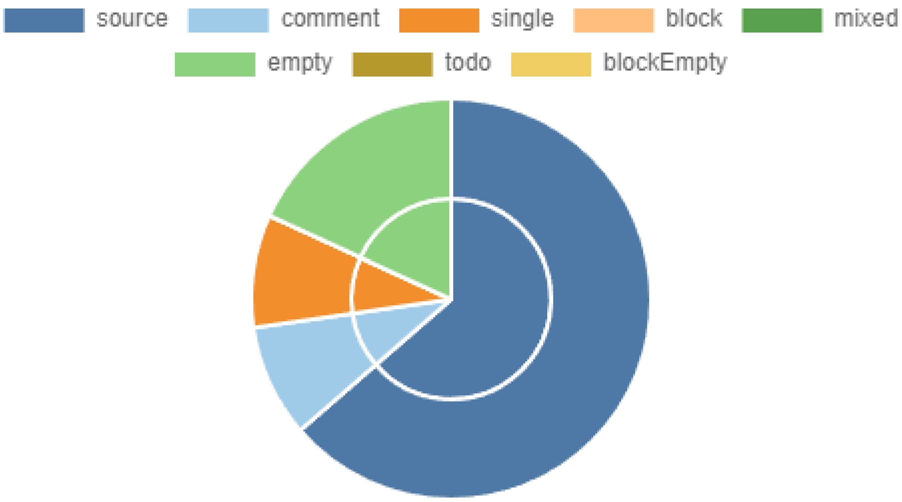
### v1.1

| File Name | SHA-1 Hash |
|---|---|
| Contracts/YFOToken.sol | c663440986773cad008bd03d20d082c3b42cc1a6 |

# Metrics

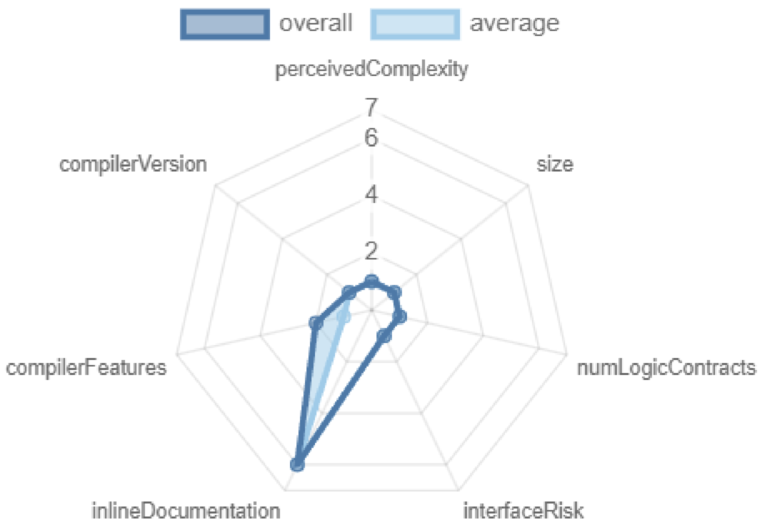
## Source Lines

v1.0




## Risk Level

v1.0




# Capabilities

# Components

| 📝Contracts | 📚Libraries | 🔍Interfaces | 🎨Abstract |
|---|---|---|---|
| 1 | 0 | 0 | 0 |

**Exposed Functions**

This section lists functions that are explicitly declared public or payable. Please note that getter methods for public stateVars are not included.

| 🌐Public | 💰Payable |
|---|---|
| 0 | 0 |

| External | Internal | Private | Pure | View |
|---|---|---|---|---|
| 0 | 1 | 0 | 0 | 0 |

**StateVariables**

| Total | 🌐Public |
|---|---|
| 0 | 0 |

**Capabilities**

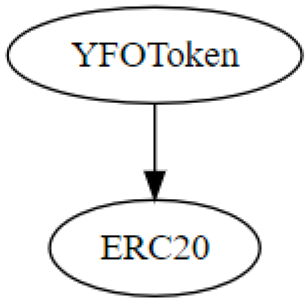
| Solidity Versions observed | 🧪 Experimental Features | 💰 Can Receive Funds | 🖥 Uses Assembly | 💣 Has Destroyable Contracts |
|---|---|---|---|---|
| `^0.8.0` | | | | |

| 📤 Transfers ETH | ⚡ Low-Level Calls | 👥 DelegateCall | 🧮 Uses Hash Functions | 🔖 ECRecover | 🌀 New/Create/Create2 |
|---|---|---|---|---|---|
| | | | | | |

| ♻️ TryCatch | Σ Unchecked |
|---|---|
| | |

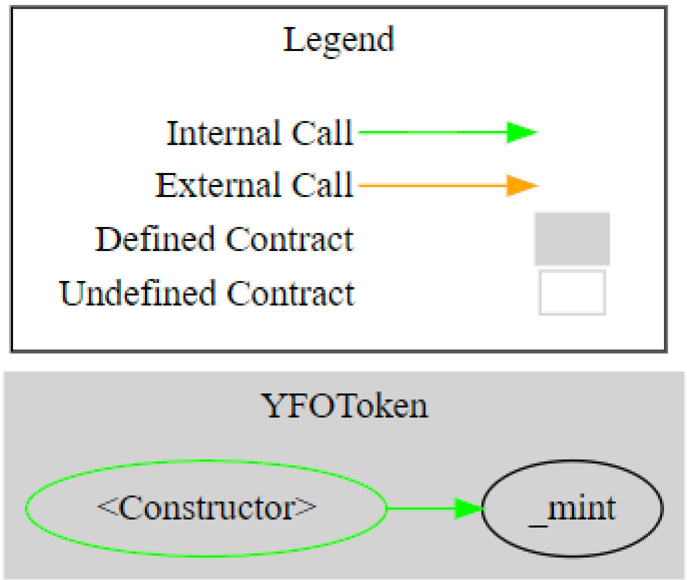
## Inheritance Graph

v1.0




## Call Graph

v1.0



## Scope of Work/Verify Claims

The above token Team provided us with the files that needs to be tested (Github, Bscscan, Etherscan, files, etc.). The scope of the audit is the main contract (usual the same name as team appended with .sol).

We will verify the following claims:

1. Is contract an upgradeable
2. Correct implementation of Token standard
3. Deployer cannot mint any new tokens
4. Deployer cannot burn or lock user funds
5. Deployer cannot pause the contract
6. Overall checkup (Smart Contract Security)

## Is contract an upgradeable

| Name | |
|---|---|
| Is contract an upgradeable? | No |

## Correct implementation of Token standard

| ERC20 | | | | |
|---|---|---|---|---|
| **Function** | **Description** | **Exist** | **Tested** | **Verified** |
| totalSupply | Provides information about the total token supply | Yes | Yes | Yes |
| balanceOf | Provides account balance of the owner's account | Yes | Yes | Yes |
| transfer | Executes transfers of a specified number of tokens to a specified address | Yes | Yes | Yes |
| transferFrom | Executes transfers of a specified number of tokens from a specified address | Yes | Yes | Yes |
| approve | Allow a spender to withdraw a set number of tokens from a specified account | Yes | Yes | Yes |
| allowance | Returns a set number of tokens from a spender to the owner | Yes | Yes | Yes |

## Deployer cannot mint any new tokens

| Name | Exist | Tested | Status |
|---|---|---|---|
| Deployer cannot mint | N/A | N/A | N/A |
| Max / Total Supply | 500000000000000000 00000 | | |

## Deployer cannot burn or lock user funds

| Name | Exist | Tested | Status |
|---|---|---|---|
| Deployer cannot lock | N/A | N/A | N/A |
| Deployer cannot burn | N/A | N/A | N/A |

## Deployer cannot pause the contract

| Name | Exist | Tested | Status |
|---|---|---|---|
| Deployer cannot pause | N/A | N/A | N/A |

## Overall checkup (Smart Contract Security)

| Tested | Verified |
|---|---|
| | |

## Legend

| Attribute | Symbol |
|---|---|
| Verified / Checked | |
| Partly Verified | |
| Unverified / Not checked | |
| Not available | |

## Modifiers and public functions
v1.0

N/A

## Ownership Privileges:
- There are no ownership privileges in the contract.

# Source Units in Scope

v1.0

| Type | File | Logic Contracts | Interfaces | Lines | nLines | nSLOC | Comment Lines | Complex. Score | Capabilities |
|---|---|---|---|---|---|---|---|---|---|
| | contracts\YFOToken.sol | 1 | | 10 | 10 | 7 | 1 | 5 | |
| | **Totals** | **1** | | **10** | **10** | **7** | **1** | **5** | |

## Legend

| Attribute | Description |
|---|---|
| Lines | total lines of the source unit |
| nLines | normalized lines of the source unit (e.g. normalizes functions spanning multiple lines) |
| nSLOC | normalized source lines of code (only source-code lines; no comments, no blank lines) |
| Comment Lines | lines containing single or block comments |
| Complexity Score | a custom complexity score derived from code statements that are known to introduce code complexity (branches, loops, calls, external interfaces, ...) |

# Audit Results

AUDIT PASSED

## Critical issues

No critical issues

## High issues

No high issues

## Medium issues

No medium issues

## Low issues

| Issue | File | Type | Line | Description |
|---|---|---|---|---|
| #1 | YFOToken.sol | Floating pragma solidity version | L2 | It is recommended to add the constant version of solidity as this prevents the unintentional deployment of a contract with an outdated compiler that contains unresolved bugs. |

## Informational issues

| Issue | File | Type | Line | Description |
|---|---|---|---|---|
| #1 | YFOToken.sol | Natspec documentation missing | - | If you started to comment on your code, also comment on all other functions, variables, etc. |

## Audit Comments

We recommend you to use the special form of comments (NatSpec Format, Follow link for more information https://docs.soliditylang.org/en/v0.5.10/natspec-format.html) for your contracts to provide rich documentation for functions, return variables and more. This helps investors to make clear what that variables, functions etc. do.

## 20. June, 2023:

- Read the report and modifier section to get more details.

## SWC Attacks

| ID | Title | Relationships | Status |
|---|---|---|---|
| SWC-136 | Unencrypted Private Data On-Chain | CWE-767: Access to Critical Private Variable via Public Method | **PASSED** |
| SWC-135 | Code With No Effects | CWE-1164: Irrelevant Code | **PASSED** |
| SWC-134 | Message call with hardcoded gas amount | CWE-655: Improper Initialization | **PASSED** |
| SWC-133 | Hash Collisions With Multiple Variable Length Arguments | CWE-294: Authentication Bypass by Capture-replay | **PASSED** |

| | | | |
|---|---|---|---|
| SWC-132 | Unexpected Ether balance | CWE-667: Improper Locking | **PASSED** |
| SWC-131 | Presence of unused variables | CWE-1164: Irrelevant Code | **PASSED** |
| SWC-130 | Right-To-Left-Override control character (U+202E) | CWE-451: User Interface (UI) Misrepresentation of Critical Information | **PASSED** |
| SWC-129 | Typographical Error | CWE-480: Use of Incorrect Operator | **PASSED** |
| SWC-128 | DoS With Block Gas Limit | CWE-400: Uncontrolled Resource Consumption | **PASSED** |
| SWC-127 | Arbitrary Jump with Function Type Variable | CWE-695: Use of Low-Level Functionality | **PASSED** |
| SWC-125 | Incorrect Inheritance Order | CWE-696: Incorrect Behavior Order | **PASSED** |
| SWC-124 | Write to Arbitrary Storage Location | CWE-123: Write-what-where Condition | **PASSED** |

| | | | |
|---|---|---|---|
| SWC-123 | Requirement Violation | CWE-573: Improper Following of Specification by Caller | **PASSED** |
| SWC-122 | Lack of Proper Signature Verification | CWE-345: Insufficient Verification of Data Authenticity | **PASSED** |
| SWC-121 | Missing Protection against Signature Replay Attacks | CWE-347: Improper Verification of Cryptographic Signature | **PASSED** |
| SWC-120 | Weak Sources of Randomness from Chain Attributes | CWE-330: Use of Insufficiently Random Values | **PASSED** |
| SWC-119 | Shadowing State Variables | CWE-710: Improper Adherence to Coding Standards | **PASSED** |
| SWC-118 | Incorrect Constructor Name | CWE-665: Improper Initialization | **PASSED** |
| SWC-117 | Signature Malleability | CWE-347: Improper Verification of Cryptographic Signature | **PASSED** |
| SWC-116 | Timestamp | CWE-829: Inclusion of Functionality from Untrusted Control Sphere | **PASSED** |

| | | | |
|---|---|---|---|
| | Dependence | | |
| SWC-115 | Authorization through tx.origin | CWE-477: Use of Obsolete Function | PASSED |
| SWC-114 | Transaction Order Dependence | CWE-362: Concurrent Execution using Shared Resource with Improper Synchronization ('Race Condition') | PASSED |
| SWC-113 | DoS with Failed Call | CWE-703: Improper Check or Handling of Exceptional Conditions | PASSED |
| SWC-112 | Delegate call to Untrusted Callee | CWE-829: Inclusion of Functionality from Untrusted Control Sphere | PASSED |
| SWC-111 | Use of Deprecated Solidity Functions | CWE-477: Use of Obsolete Function | PASSED |
| SWC-110 | Assert Violation | CWE-670: Always-Incorrect Control Flow Implementation | PASSED |
| SWC-109 | Uninitialized Storage Pointer | CWE-824: Access of Uninitialized Pointer | PASSED |
| SWC-108 | State Variable | CWE-710: Improper Adherence to Coding Standards | PASSED |

| | | | |
|---|---|---|---|
| | Default Visibility | | |
| SWC-107 | Reentrancy | CWE-841: Improper Enforcement of Behavioral Workflow | PASSED |
| SWC-106 | Unprotected SELFDESTRUCT Instruction | CWE-284: Improper Access Control | PASSED |
| SWC-105 | Unprotected Ether Withdrawal | CWE-284: Improper Access Control | PASSED |
| SWC-104 | Unchecked Call Return Value | CWE-252: Unchecked Return Value | PASSED |
| SWC-103 | Floating Pragma | CWE-664: Improper Control of a Resource Through its Lifetime | PASSED |
| SWC-102 | Outdated Compiler Version | CWE-937: Using Components with Known Vulnerabilities | Failed |
| SWC-101 | Integer Overflow and Underflow | CWE-682: Incorrect Calculation | PASSED |

| | | | |
|---|---|---|---|
| [SWC-100] | Function Default Visibility | [CWE-710: Improper Adherence to Coding Standards] | **PASSED** |

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