



# SOLIDProof

**Blockchain Security | Smart Contract Audits**

MADE IN GERMANY

# Audit Passed

**Security Assessment**  
**13. June, 2021**

**For**



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## Disclaimer

SolidProof.io reports are not, nor should be considered, an “endorsement” or “disapproval” of any particular project or team. These reports are not, nor should be considered, an indication of the economics or value of any “product” or “asset” created by any team. SolidProof.io do not cover testing or auditing the integration with external contract or services (such as Unicrypt, Uniswap, PancakeSwap etc’...)

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SolidProof.io Reports represent an extensive auditing process intending to help our customers increase the quality of their code while reducing the high level of risk presented by cryptographic tokens and blockchain technology. Blockchain technology and cryptographic assets present a high level of ongoing risk. SolidProof’s position is that each company and individual are responsible for their own due diligence and continuous security. SolidProof in no way claims any guarantee of security or functionality of the technology we agree to analyze.

# Overview

## **Network**

Binance Smart Chain (BEP20)

## **Website**

<https://www.thecollectivecoin.co/>

## **Telegram**

<https://t.me/joinchat/w9TCIQ0vZRBiMmM5>

## **Twitter**

[https://twitter.com/CollectiveCoin\\_](https://twitter.com/CollectiveCoin_)

## **Discord**

<https://discord.gg/zY2P77y4KS>

## **Github**

<https://github.com/TheCollectiveCoin/TheCollectiveCoin>

## **Email**

[info@thecollectivecoin.co](mailto:info@thecollectivecoin.co)

## **Reddit**

<https://www.reddit.com/r/CollectiveCoin/>

## Description

Currently Collective Coin Team offering graphic design services in exchange for cryptocurrencies, the goal of The Collective is to create a decentralized marketplace, inspired by platforms such as Etsy and Fiverr, for other providers to also offer their products and services to clients in exchange for The Collective Coin, or virtually any established cryptocurrency of their choosing, for a small fee.

Providers will create a profile, and have the ability to establish a virtual storefront on the Marketplace, which will be accessible through a dApp from the user's wallet.

The Collective Coin is a community driven Defi coin and will be the official currency of The Collective. The coin will be the main currency on the marketplace.

## Project Engagement

During the 9th of June, **Collective Coin Team** engaged Solidproof.io to audit smart contracts that they created. The engagement was technical in nature and focused on identifying security flaws in the design and implementation of the contracts. **Collective Coin Team** provided Solidproof.io with access to their code repository and whitepaper.

## Logo



## Contract Link

Preversion: <https://github.com/TheCollectiveCoin/TheCollectiveCoin/blob/main/TheCollectiveCoin.sol>

Changelog:

- 12. June, 2021: the contract was revised
  - <https://bscscan.com/address/0x46DeE6f53af7c4490A9771693C959dC86AE2F99b#code>
- 13. June, 2021: the contract was revised
  - <https://bscscan.com/address/0xf8418D0a7f30BB899639B232f9748c0f1fA87870#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)  |
|----------------------|---------|---|---|
| <b>Critical</b>      | 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.                              |
| <b>High</b>          | 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.           |
| <b>Medium</b>        | 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.           |
| <b>Low</b>           | 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. |
| <b>Informational</b> | 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 analysing 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)

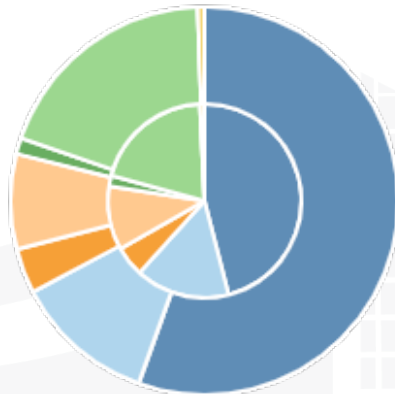
No other external frameworks imported.





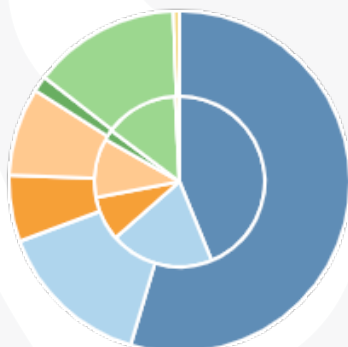
# Metrics

## Source Lines

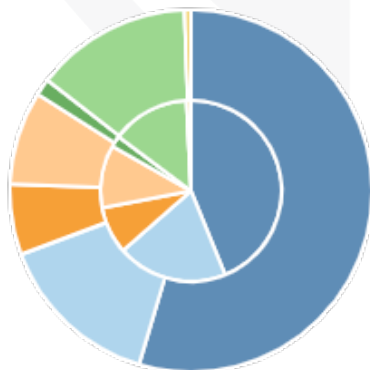


### Changelog:

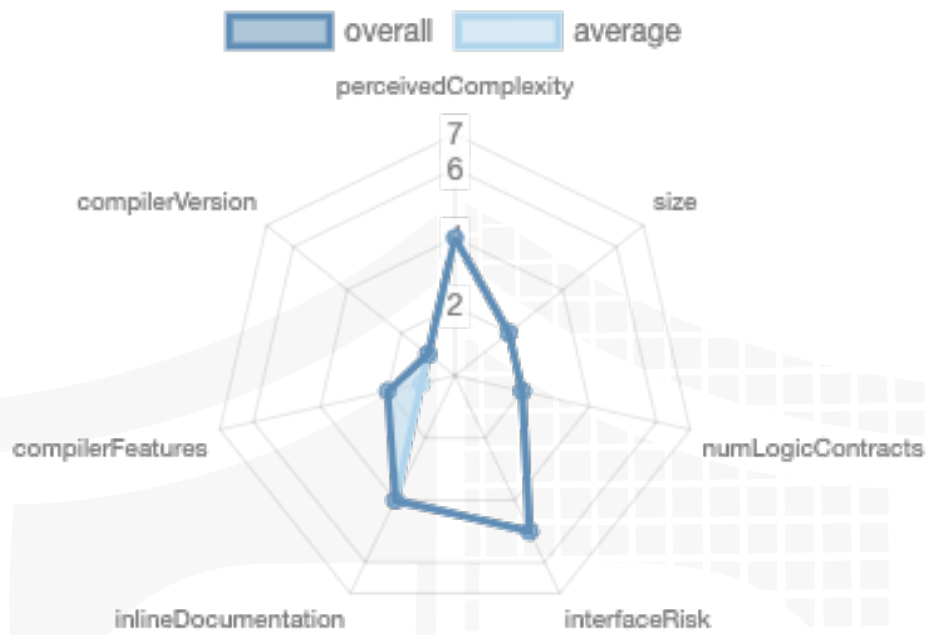
- 12. June, 2021:



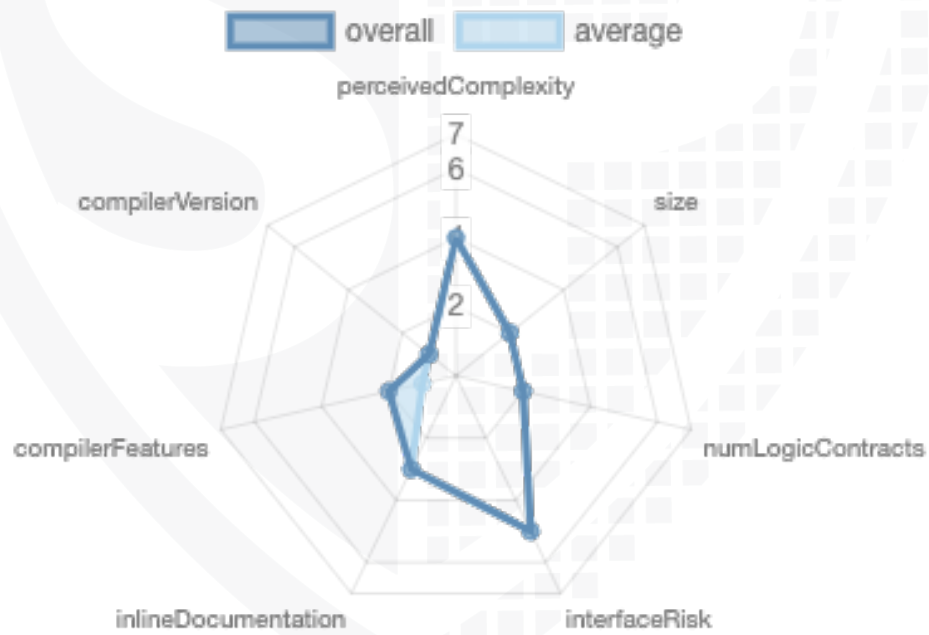
- 14. June, 2021:



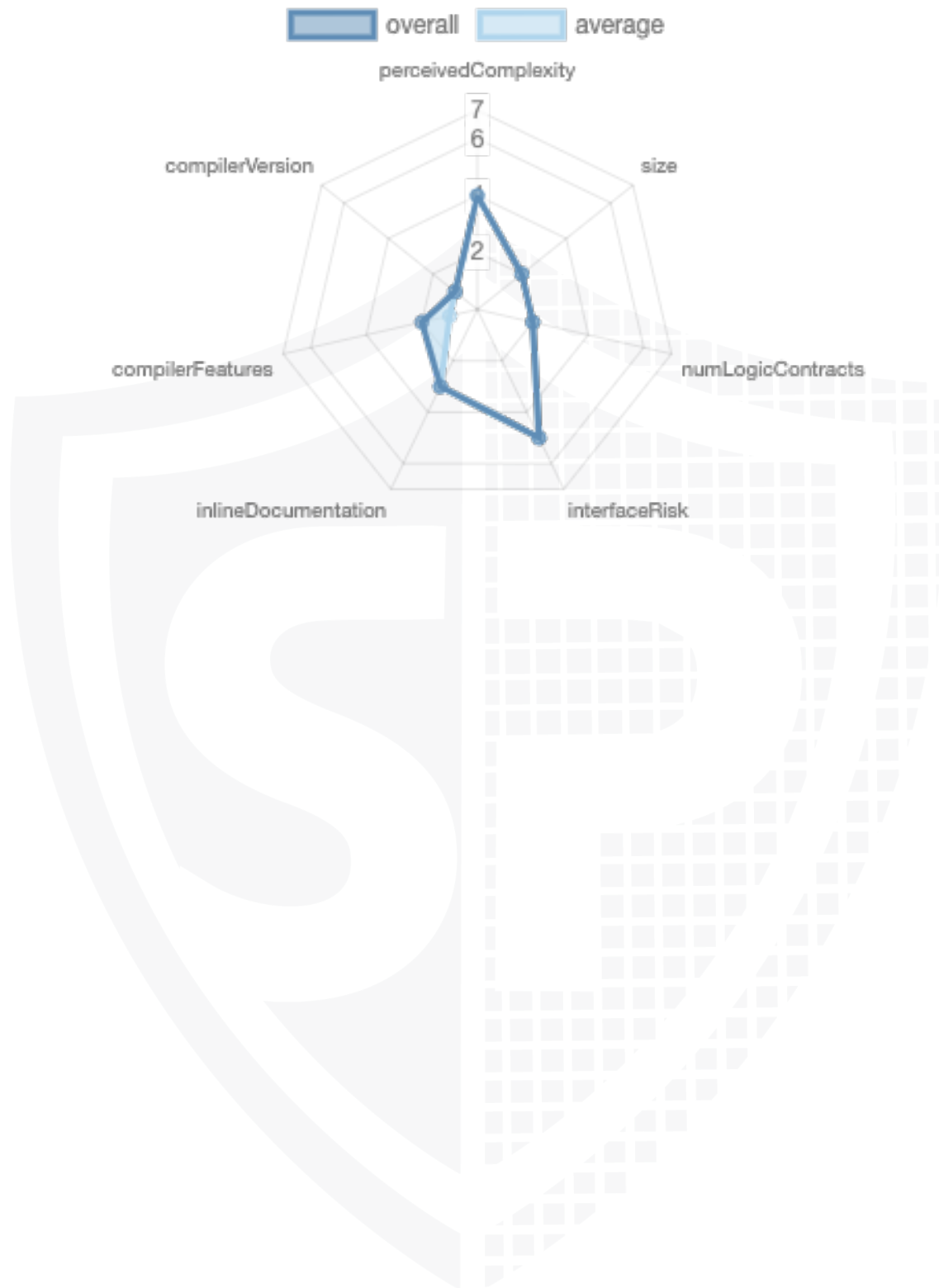
## Risk Level







Changelog:  
• 12. June, 2021



- 14. June, 2021

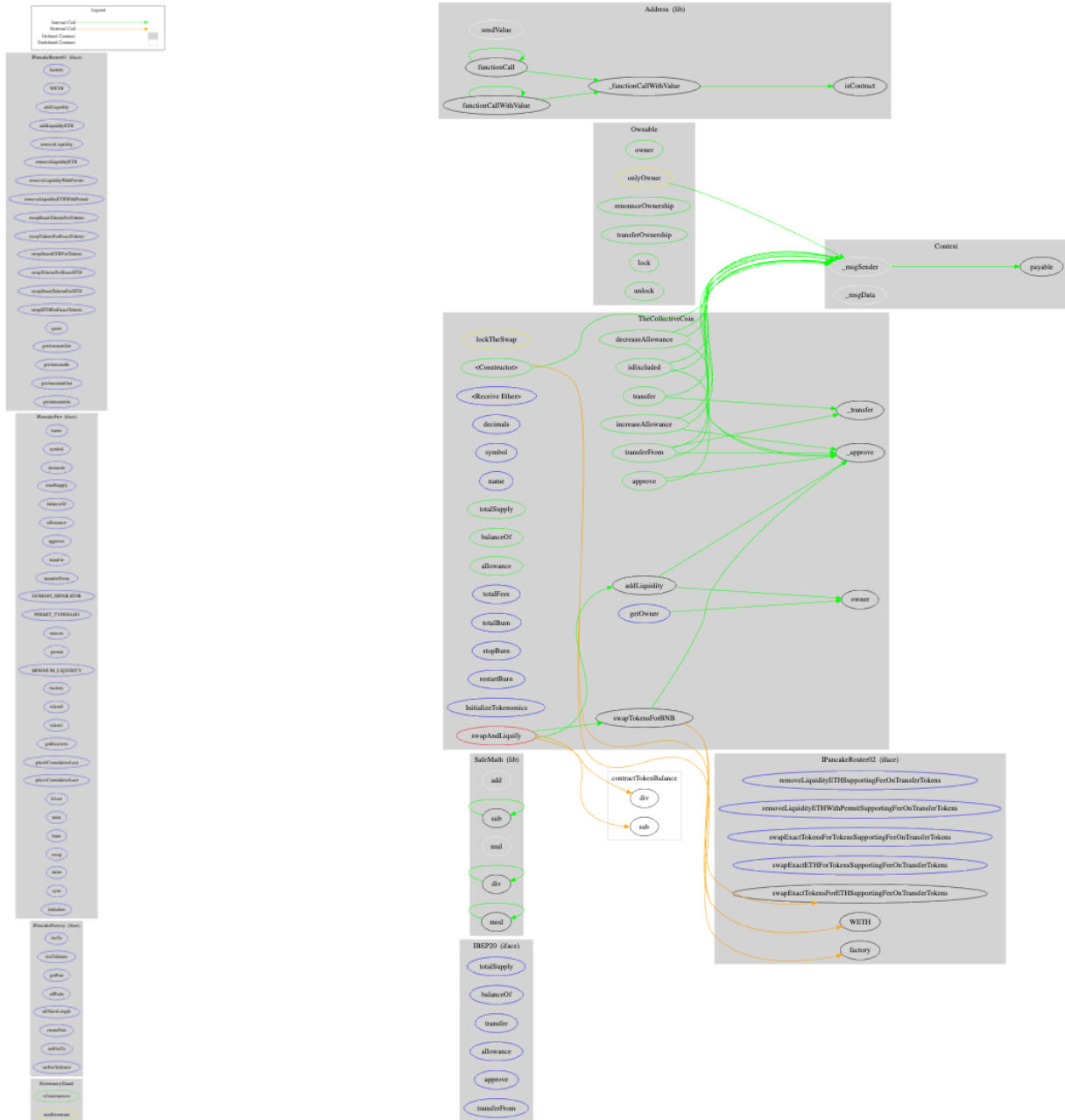


## Capabilities

| Solidity Versions observed |  Experimental Features |  Can Receive Funds |  Uses Assembly |  Has Destroyable Contracts |
|----------------------------|---|---|---|---|
| ^0.8.2                     |   | Yes   | yes<br>(2 asm blocks)   |   |

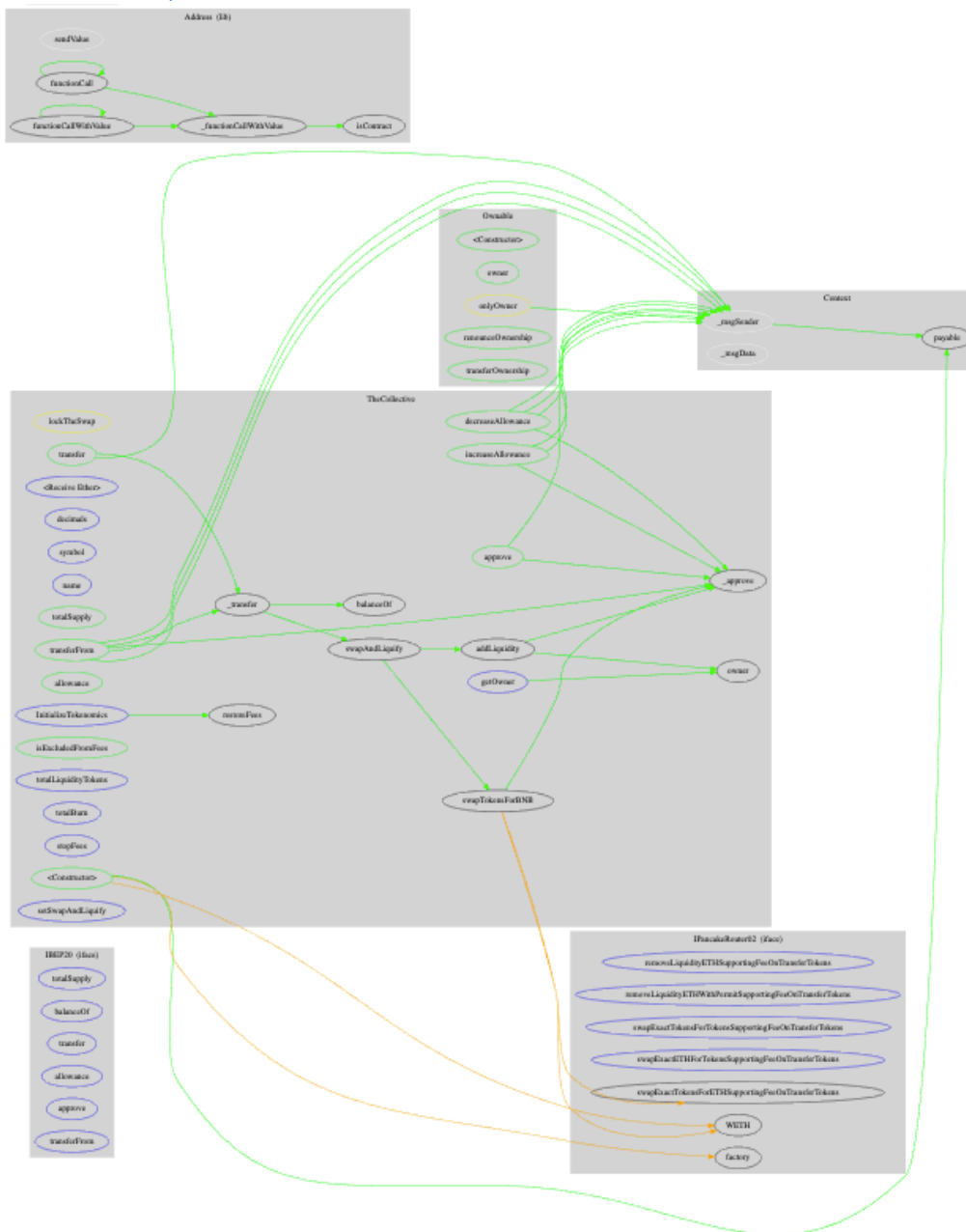


# CallGraph

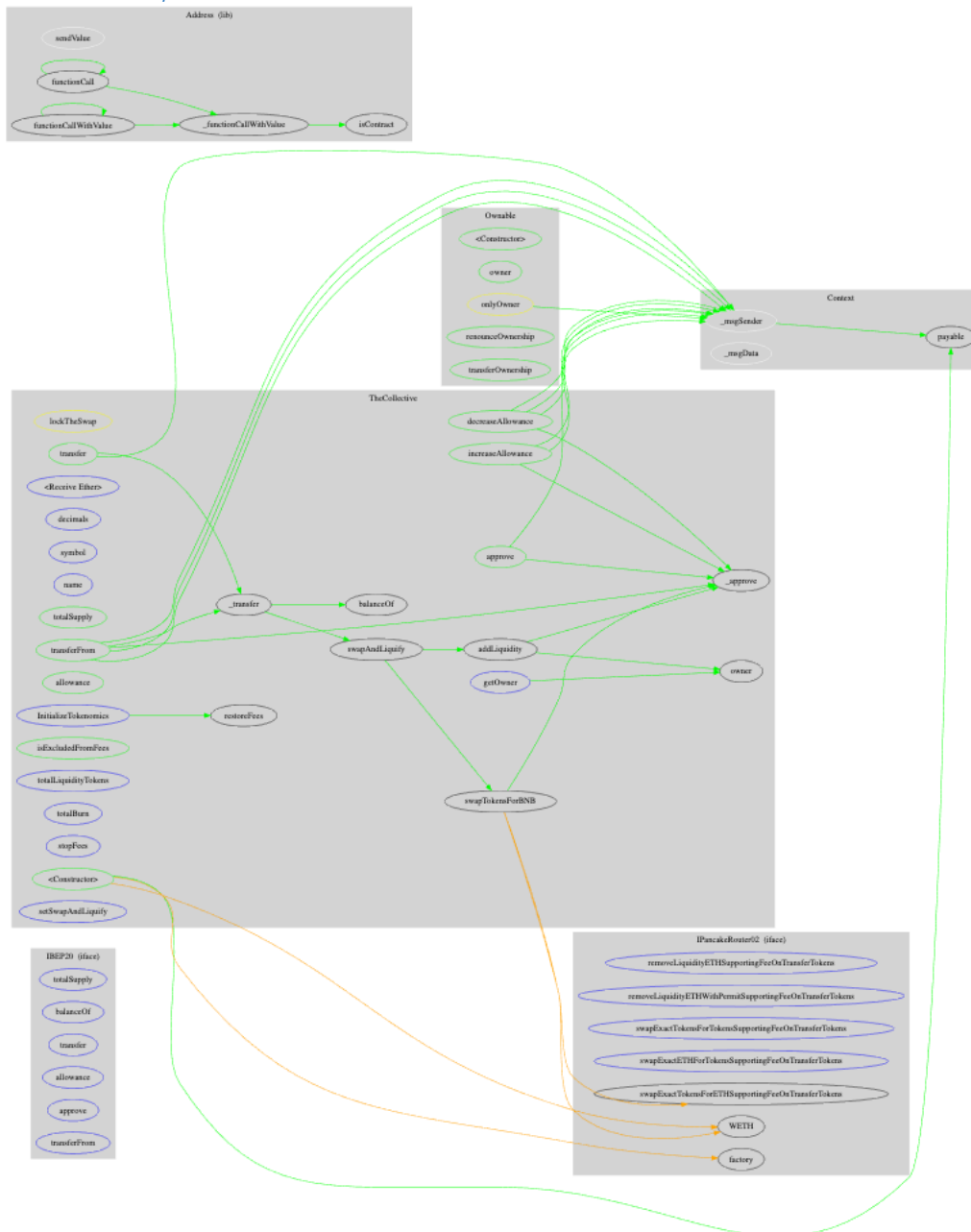


## Changelog:





- 12. June, 2021:



• 14. June, 2021:







## Source Units in Scope





| Type  | File                          | Logic Contracts | Interfaces | Lines | nLines | nSLOC | Comment Lines | Complex. Score | Capabilities  |
|---|-------------------------------|-----------------|------------|-------|--------|-------|---------------|----------------|---|
|  | contracts/collective_coin.sol | 6               | 5          | 766   | 534    | 310   | 106           | 389            |  |
|  | Totals                        | 6               | 5          | 766   | 534    | 310   | 106           | 389            |  |

### Changelog:

- 12. June, 2021:

| Type  | File                            | Logic Contracts | Interfaces | Lines | nLines | nSLOC | Comment Lines | Complex. Score | Capabilities  |
|---|---------------------------------|-----------------|------------|-------|--------|-------|---------------|----------------|---|
|  | contracts/collectivecoinnew.sol | 5               | 5          | 709   | 486    | 285   | 128           | 379            |  |
|  | Totals                          | 5               | 5          | 709   | 486    | 285   | 128           | 379            |  |

- 14. June, 2021:

| Type  | File                            | Logic Contracts | Interfaces | Lines | nLines | nSLOC | Comment Lines | Complex. Score | Capabilities  |
|---|---------------------------------|-----------------|------------|-------|--------|-------|---------------|----------------|---|
|  | contracts/collectivecoinnew.sol | 5               | 5          | 709   | 486    | 285   | 128           | 380            |  |
|  | Totals                          | 5               | 5          | 709   | 486    | 285   | 128           | 380            |  |



# Audit Results

# AUDIT PASSED

## Critical issues

- no critical issues found -

## High issues

- no high issues found -

## Medium issues

- no medium issues found -

## Low issues

| Issue | File | Line    | Type  | Finding  |
|-------|------|---------|---|--|
| #1    | Main | 430     | Local variables shadowing (shadowing-local) | TheCollective._approve(address,address,uint256).owner shadows: <ul style="list-style-type: none"><li>• Ownable.owner() (Line: 106-108)</li></ul>   |
| #2    | Main | 326     | Local variables shadowing (shadowing-local) | TheCollective.allowance(address,address).owner shadows: <ul style="list-style-type: none"><li>• Ownable.owner() (Line: 106-108)</li></ul>  |
| #3    | Main | 493-504 | Unused return values (unused-return)        | TheCollective.addLiquidity(uint256,uint256) ignores return value by pancakeRouter.addLiquidityETH{value: bnbAmount}(address(this),tokenAmount,0,0,owner(),block.timestamp) (Line: 496-503) |

## Informational issues

| Issue | File | Description   | Line    | Finding  |
|-------|------|---|---------|--|
| #2    | Main | Uninitialized state variables (uninitialized-state) | 232     | TheCollective._isExcludedFromFee) is never initialized. It is used in: <ul style="list-style-type: none"> <li>TheCollective._transfer(address,address,uint256) (Line: 359-416)</li> <li>TheCollective.isExcludedFromFees(address) (Line: 418-420)</li> </ul> |
| #4    | Main | Functions that are not used (dead-code)             | 166-187 | Address._functionCallWithValue(address,bytes,uint256,string)   |
| #5    | Main | Functions that are not used (dead-code)             | 162-165 | Address.functionCallWithValue(address,bytes,uint256,string)  |
| #6    | Main | Is not mixedCase                                    | 539     | Function IPancakePair.DOMAIN_SEPARATOR()   |
| #7    | Main | Is not mixedCase                                    | 540     | Function IPancakePair.PERMIT_TYPEHASH()  |

## SWC Attacks

| ID   | Title   | Relationships  | Status |
|--|---|--|--------|
| <a href="#">SW C-13</a><br><a href="#">1</a> | Presence of unused variables                      | <a href="#">CWE-1164: Irrelevant Code</a>  | PASSED |
| <a href="#">SW C-13</a><br><a href="#">0</a> | Right-To-Left-Override control character (U+202E) | <a href="#">CWE-451: User Interface (UI) Misrepresentation of Critical Information</a> | PASSED |
| <a href="#">SW C-12</a><br><a href="#">9</a> | Typographical Error                               | <a href="#">CWE-480: Use of Incorrect Operator</a>                                     | PASSED |
| <a href="#">SW C-12</a><br><a href="#">8</a> | DoS With Block Gas Limit                          | <a href="#">CWE-400: Uncontrolled Resource Consumption</a>                             | PASSED |
| <a href="#">SW C-12</a><br><a href="#">7</a> | Arbitrary Jump with Function Type Variable        | <a href="#">CWE-695: Use of Low-Level Functionality</a>                                | PASSED |
| <a href="#">SW C-12</a><br><a href="#">5</a> | Incorrect Inheritance Order                       | <a href="#">CWE-696: Incorrect Behavior Order</a>                                      | PASSED |
| <a href="#">SW C-12</a><br><a href="#">4</a> | Write to Arbitrary Storage Location               | <a href="#">CWE-123: Write-what-where Condition</a>                                    | PASSED |
| <a href="#">SW C-12</a><br><a href="#">3</a> | Requirement Violation                             | <a href="#">CWE-573: Improper Following of Specification by Caller</a>                 | PASSED |
| <a href="#">SW C-12</a><br><a href="#">2</a> | Lack of Proper Signature Verification             | <a href="#">CWE-345: Insufficient Verification of Data Authenticity</a>                | PASSED |

|                           |   |  |        |
|---------------------------|---|--|--------|
| <a href="#">SW C-12 1</a> | Missing Protection against Signature Replay Attacks | <a href="#">CWE-347: Improper Verification of Cryptographic Signature</a>  | PASSED |
| <a href="#">SW C-12 0</a> | Weak Sources of Randomness from Chain Attributes    | <a href="#">CWE-330: Use of Insufficiently Random Values</a>   | PASSED |
| <a href="#">SW C-11 9</a> | Shadowing State Variables                           | <a href="#">CWE-710: Improper Adherence to Coding Standards</a>  | PASSED |
| <a href="#">SW C-11 8</a> | Incorrect Constructor Name                          | <a href="#">CWE-665: Improper Initialization</a>   | PASSED |
| <a href="#">SW C-11 7</a> | Signature Malleability                              | <a href="#">CWE-347: Improper Verification of Cryptographic Signature</a>  | PASSED |
| <a href="#">SW C-11 6</a> | Timestamp Dependence                                | <a href="#">CWE-829: Inclusion of Functionality from Untrusted Control Sphere</a>                                    | PASSED |
| <a href="#">SW C-11 5</a> | Authorization through tx.origin                     | <a href="#">CWE-477: Use of Obsolete Function</a>  | PASSED |
| <a href="#">SW C-11 4</a> | Transaction Order Dependence                        | <a href="#">CWE-362: Concurrent Execution using Shared Resource with Improper Synchronization ('Race Condition')</a> | PASSED |
| <a href="#">SW C-11 3</a> | DoS with Failed Call                                | <a href="#">CWE-703: Improper Check or Handling of Exceptional Conditions</a>  | PASSED |
| <a href="#">SW C-11 2</a> | Delegatecall to Untrusted Callee                    | <a href="#">CWE-829: Inclusion of Functionality from Untrusted Control Sphere</a>                                    | PASSED |

|                          |                                      |  |        |
|--------------------------|--------------------------------------|--|--------|
| <a href="#">SW C-111</a> | Use of Deprecated Solidity Functions | <a href="#">CWE-477: Use of Obsolete Function</a>                            | PASSED |
| <a href="#">SW C-110</a> | Assert Violation                     | <a href="#">CWE-670: Always-Incorrect Control Flow Implementation</a>        | PASSED |
| <a href="#">SW C-109</a> | Uninitialized Storage Pointer        | <a href="#">CWE-824: Access of Uninitialized Pointer</a>                     | PASSED |
| <a href="#">SW C-108</a> | State Variable Default Visibility    | <a href="#">CWE-710: Improper Adherence to Coding Standards</a>              | PASSED |
| <a href="#">SW C-107</a> | Reentrancy                           | <a href="#">CWE-841: Improper Enforcement of Behavioral Workflow</a>         | PASSED |
| <a href="#">SW C-106</a> | Unprotected SELFDESTRUCT Instruction | <a href="#">CWE-284: Improper Access Control</a>                             | PASSED |
| <a href="#">SW C-105</a> | Unprotected Ether Withdrawal         | <a href="#">CWE-284: Improper Access Control</a>                             | PASSED |
| <a href="#">SW C-104</a> | Unchecked Call Return Value          | <a href="#">CWE-252: Unchecked Return Value</a>                              | PASSED |
| <a href="#">SW C-103</a> | Floating Pragma                      | <a href="#">CWE-664: Improper Control of a Resource Through its Lifetime</a> | PASSED |
| <a href="#">SW C-102</a> | Outdated Compiler Version            | <a href="#">CWE-937: Using Components with Known Vulnerabilities</a>         | PASSED |
| <a href="#">SW C-101</a> | Integer Overflow and Underflow       | <a href="#">CWE-682: Incorrect Calculation</a>                               | PASSED |

|   |                                   |   |               |
|---|-----------------------------------|---|---------------|
| <a href="#">SW</a><br><a href="#">C-10</a><br><a href="#">0</a> | Function<br>Default<br>Visibility | <a href="#">CWE-710: Improper Adherence<br/>to Coding Standards</a> | <b>PASSED</b> |
|---|-----------------------------------|---|---------------|



The logo features the words "SolidProof" in a white, elegant script font. The "P" is particularly large and stylized, with a long horizontal stroke that extends to the left. The background is a solid blue color with a faint, large shield emblem. The shield has a checkered pattern on its right side and a solid blue area on its left side.

SolidProof

**Blockchain Security | Smart Contract Audits**

A small horizontal bar representing the German flag, with black, red, and gold stripes.

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