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*Bring trust into your projects*

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

MADE IN GERMANY

# Audit

**Security Assessment**  
**15. January, 2022**

**For**



Disclaimer	3
Description	5
Project Engagement	5
Logo	5
Contract Link	5
Methodology	7
Used Code from other Frameworks/Smart Contracts (direct imports)	8
Tested Contract Files	9
Source Lines	10
Risk Level	10
Capabilities	11
Scope of Work	13
Inheritance Graph	13
Verify Claims	14
Modifiers	20
CallGraph	22
Source Units in Scope	23
Critical issues	24
High issues	24
Medium issues	24
Low issues	24
Informational issues	25
Commented Code exist	26
Audit Comments	26
SWC Attacks	27

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Version	Date	Description
1.0	15. January 2022	<ul style="list-style-type: none"><li>• Layout project</li><li>• Automated- /Manual-Security Testing</li><li>• Summary</li></ul>

## **Network**

Binance Smart Chain (BEP20)

## **Website**

<https://firstshib.app/>

## **Telegram**

<https://t.me/FirstSHIBCN>

## **Twitter**

<https://twitter.com/FirstSHIB>



## Description

FirstShib

is a play-to-earn mmo (massive multiplayer online game) where players can explore a new world and construct buildings to collect resources, level up, compete, socialize and earn the game's.

§Firstshib token.

Our motivation why?

The game industry (and also NFT use) has quickly become one of the main drivers of blockchain adoption among the general public. Many\* giants of the gaming world have understood this

well and are

investing colossal sums in the developement of video games based on the blockchain ora features taking advantage of this tech

From

now and years to com, •the blockchain and its countless possibilities promise to invade the daily lives of gamers.

FirstShib's mission is to build an integrated •digital platform tokenized

That appels to the average consumers as they can play and make profit to the.blockchain technology.

The future of blockchain games will first come through non.Fungible tokens (NFTs).

## Project Engagement

During the 12th of January 2022, **FirstShib 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. They provided Solidproof.io with access to their code repository and whitepaper.

## Logo



## Contract Link

v1.0

- <https://bscscan.com/address/0xe7d692898cba66a6f81ad98c997cc88d23103518#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)

Imported packages:

```
Context  
IERC20  
SafeMath  
Address  
Ownable  
IUniswapV2Factory  
IUniswapV2Pair  
IUniswapV2Router01  
IUniswapV2Router02
```



# Tested Contract Files

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

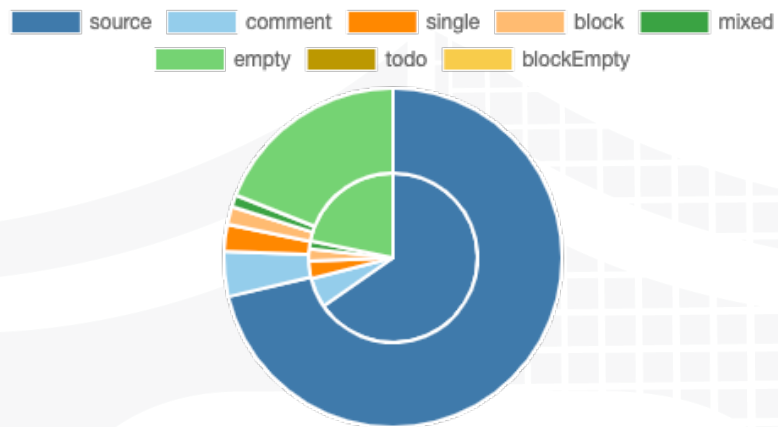
*A file with a different Hash has been modified, intentionally or otherwise, after the security review. A different Hash could be (but not necessarily) an indication of a changed condition or potential vulnerability that was not within the scope of this review.*

## v1.0

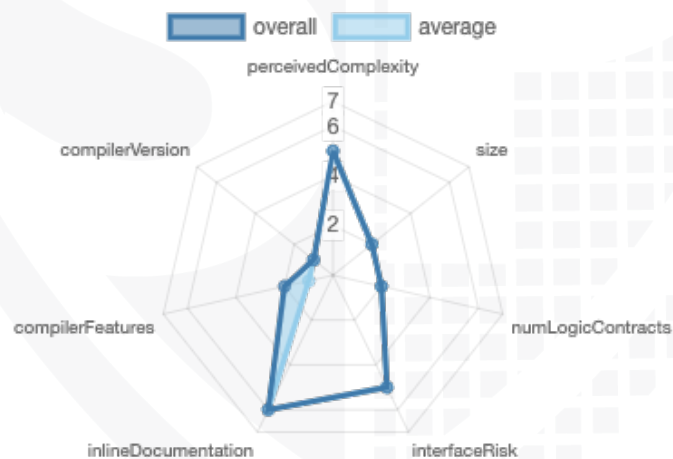
File Name	SHA-1 Hash
contracts/firstshib.sol	9908bd8967c621132a782a6dbb3dbe3c0b27d66b

# Metrics

## Source Lines v1.0



## Risk Level v1.0



## Capabilities

### Components

Version	Contracts	Libraries	Interfaces	Abstract
1.0	2	2	5	1

### Exposed Functions

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

Version	Public	Payable
1.0	101	5

Version	External	Internal	Private	Pure	View
1.0	76	87	7	18	36

### State Variables

Version	Total	Public
1.0	37	26

### Capabilities

Version	Solidity Versions observed	Experimental Features	Can Receive Funds	Uses Assembly	Has Destroyable Contracts
1.0	^0.8.4		yes	yes (2 asm blocks)	

Version	Transfers ETH	Low-Level Calls	DelegateCall	Uses Hash Functions	ECRecover	New/Create/Create2
---------	---------------	-----------------	--------------	---------------------	-----------	--------------------

1.0	yes					
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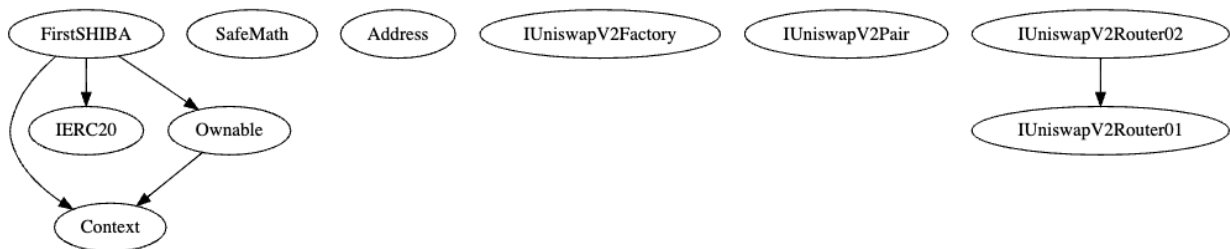
## Scope of Work

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

## Inheritance Graph v1.0



## Verify Claims

### Correct implementation of Token standard

Tested	Verified
✓	✓

Function	Description	Exist	Tested	Verified
TotalSupply	provides information about the total token supply	✓	✓	✓
BalanceOf	provides account balance of the owner's account	✓	✓	✓
Transfer	executes transfers of a specified number of tokens to a specified address	✓	✓	✓
TransferFrom	executes transfers of a specified number of tokens from a specified address	✓	✓	✓
Approve	allow a spender to withdraw a set number of tokens from a specified account	✓	✓	✓
Allowance	returns a set number of tokens from a spender to the owner	✓	✓	✓

## Write functions of contract

1. approve

2. changeRouterVersion

3. decreaseAllowance

4. enableDisableWalletLimit

5. increaseAllowance

6. lock

7. setBuyTaxes

8. setDistributionSettings

9. setIsExcludedFromFee

10. setIsTxLimitExempt

11. setIsWalletLimitExempt

12. setMarketPairStatus

13. setMarketingWalletAddress

14. setMaxTxAmount

15. setNumTokensBeforeSwap

16. setSellTaxes

17. setSwapAndLiquifyByLimitOnly

18. setSwapAndLiquifyEnabled

19. setTeamWalletAddress

20. setWalletLimit

21. transfer

22. transferFrom

23. transferOwnership

24. unlock

25. waiveOwnership

## Deployer cannot mint any new tokens

Name	Exist	Tested	Verified
Deployer cannot mint	—	—	—

Max / Total Supply: 1.000.000.000.000.000





## Deployer cannot burn or lock user funds

Name	Exist	Tested	Verified
Deployer cannot lock	✓	✓	✗
Deployer cannot burn	—	—	—

Comments:

### v1.0

- Deployer can lock user funds by
  - Setting `_maxTxAmount` to 0
  - Setting `_walletMax` to 0 if `checkWalletLimit` is true

## Deployer cannot pause the contract

Name	Exist	Tested	Verified
Deployer cannot pause	—	—	—



## Overall checkup (Smart Contract Security)

Tested	Verified
✓	✓

### Legend

Attribute	Symbol
Verified / Checked	✓
Partly Verified	🚩
Unverified / Not checked	✗
Not available	—

## Modifiers

onlyOwner

```
setMarketPairStatus
setIsTxLimitExempt
setIsExcludedFromFee
setBuyTaxes
setSellTaxes
setDistributionSettings
setMaxTxAmount
enableDisableWalletLimit
setIsWalletLimitExempt
setWalletLimit
setNumTokensBeforeSwap
setMarketingWalletAddress
setTeamWalletAddress
setSwapAndLiquifyEnabled
setSwapAndLiquifyByLimitOnly
changeRouterVersion
```

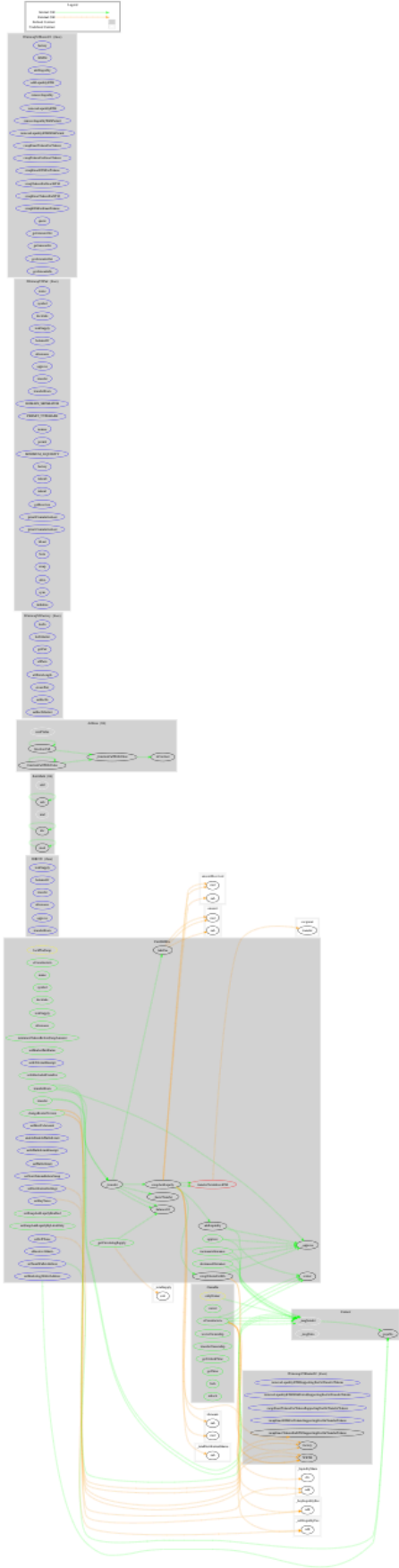
## Comments

- Deployer can set following state variables without any limitations
  - `_buyLiquidityFee`
  - `_buyMarketingFee`
  - `_buyTeamFee`
  - `_totalTaxIfBuying`
  - `_sellLiquidityFee`
  - `_sellMarketingFee`
  - `_sellTeamFee`
  - `_totalTaxIfSelling`
  - `_liquidityShare`
  - `_marketingShare`
  - `_teamShare`
  - `_totalDistributionShares`
  - `_maxTxAmount`
  - `_walletMax`
  - `minimumTokensBeforeSwap`
- Deployer can enable/disable following state variables

- isMarketPair
- isTxLimitExempt
- isExcludedFromFee
- checkWalletLimit
- isWalletLimitExempt
- swapAndLiquifyEnabled
- swapAndLiquifyByLimitOnly







# CallGraph



# Source Units in Scope

## v1.0

Type	File	Logic Contracts	Interfaces	Lines	nLines	nSLOC	Comment Lines	Complex. Score	Capabilities
	contracts/firstshib.sol	5	5	808	595	426	37	520	
	Totals	5	5	808	595	426	37	520	

### 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	Main	Contract doesn't import npm packages from source (like OpenZeppelin etc.)	-	We recommend to import all packages from npm directly without flatten the contract. Functions could be modified or can be susceptible to vulnerabilities
#2	Main	A floating pragma is set	22	The current pragma Solidity directive is „^0.8.4”.
#3	Main	Missing Zero Address Validation (missing-zero-check)	625, 629	Check that the address is not zero
#4	Main	State variable visibility is not set	428, 460	It is best practice to set the visibility of state variables explicitly
#5	Main	Local variables shadowing	561, 538	Rename the local variables that shadow another component



#6	Main	Missing Events Arithmetic	581, 597, 605, 621, 589, 617	Emit an event for critical parameter changes
#7	Main	Ownable contract	24	<p>If owner locks once the previousOwner is set to the address of owner</p> <p>If owner renounce/transfer ownership owner address is still set as previousOwner</p> <p>If the old owner now calls unlock function the ownership can be get back by the old owner</p> <p>Make sure to set previousOwner to address zero after transfer/renouncing ownership</p>

## Informational issues

Issue	File	Type	Line	Description
#1	Main	State variables that could be declared constant (constable-states)	422, 420, 421	Add the `constant` attributes to state variables that never change
#2	Main	Unused return values	779	Ensure that all the return values of the function calls are used and handle both success and failure cases if needed by the business logic
#3	Main	Functions that are not used	140, 122, 126, 130, 134, 103, 114, 30, 91, 95	Remove unused functions

#4	Main	SafeMath library is not necessary	-	<p>SafeMath library is not necessary because contract is using solidity pragma version above 0.8.0</p> <p>In those versions SafeMath library is automatically imported</p> <p>If you remove SafeMath library make sure to change every math operations (e.g. add/sub/div/mul etc.) with raw mathematic operations</p>
#5	Main	Contract Name	415	Remove "A" from contract name because the project name is FirstSHIB not FirstSHIBA
#6	Main	Misspelling	469, 669	<ul style="list-style-type: none"> <li>- tokensIntoLiquidity should be tokensIntoLiquidity</li> <li>- recieve should be receive</li> <li>- Swiping should be swapping</li> </ul>

## Commented Code exist

There are some instances of code being commented out in the following files that should be removed:

Line	Comment
86	// assert(a == b * c + a % b); // There is no case in which this doesn't hold

## Recommendation

Remove the commented code, or address them properly.

## Audit Comments

### 15. January 2022:

- Normal Function \_msgSender was changed to returning payable address instead of non payable address
- Read whole report for more information

## SWC Attacks

ID	Title	Relationships	Status
<a href="#">SW C-1 36</a>	Unencrypted Private Data On-Chain	<a href="#">CWE-767: Access to Critical Private Variable via Public Method</a>	PASSED
<a href="#">SW C-1 35</a>	Code With No Effects	<a href="#">CWE-1164: Irrelevant Code</a>	PASSED
<a href="#">SW C-1 34</a>	Message call with hardcoded gas amount	<a href="#">CWE-655: Improper Initialization</a>	PASSED
<a href="#">SW C-1 33</a>	Hash Collisions With Multiple Variable Length Arguments	<a href="#">CWE-294: Authentication Bypass by Capture-replay</a>	PASSED
<a href="#">SW C-1 32</a>	Unexpected Ether balance	<a href="#">CWE-667: Improper Locking</a>	PASSED
<a href="#">SW C-1 31</a>	Presence of unused variables	<a href="#">CWE-1164: Irrelevant Code</a>	PASSED
<a href="#">SW C-1 30</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-1 29</a>	Typographical Error	<a href="#">CWE-480: Use of Incorrect Operator</a>	PASSED
<a href="#">SW C-1 28</a>	DoS With Block Gas Limit	<a href="#">CWE-400: Uncontrolled Resource Consumption</a>	PASSED

<a href="#">SW C-1 27</a>	Arbitrary Jump with Function Type Variable	<a href="#">CWE-695: Use of Low-Level Functionality</a>	<b>PASSED</b>
<a href="#">SW C-1 25</a>	Incorrect Inheritance Order	<a href="#">CWE-696: Incorrect Behavior Order</a>	<b>PASSED</b>
<a href="#">SW C-1 24</a>	Write to Arbitrary Storage Location	<a href="#">CWE-123: Write-what-where Condition</a>	<b>PASSED</b>
<a href="#">SW C-1 23</a>	Requirement Violation	<a href="#">CWE-573: Improper Following of Specification by Caller</a>	<b>PASSED</b>
<a href="#">SW C-1 22</a>	Lack of Proper Signature Verification	<a href="#">CWE-345: Insufficient Verification of Data Authenticity</a>	<b>PASSED</b>
<a href="#">SW C-1 21</a>	Missing Protection against Signature Replay Attacks	<a href="#">CWE-347: Improper Verification of Cryptographic Signature</a>	<b>PASSED</b>
<a href="#">SW C-1 20</a>	Weak Sources of Randomness from Chain Attributes	<a href="#">CWE-330: Use of Insufficiently Random Values</a>	<b>PASSED</b>
<a href="#">SW C-11 9</a>	Shadowing State Variables	<a href="#">CWE-710: Improper Adherence to Coding Standards</a>	<b>NOT PASSED</b>
<a href="#">SW C-11 8</a>	Incorrect Constructor Name	<a href="#">CWE-665: Improper Initialization</a>	<b>PASSED</b>
<a href="#">SW C-11 7</a>	Signature Malleability	<a href="#">CWE-347: Improper Verification of Cryptographic Signature</a>	<b>PASSED</b>

<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-11 1</a>	Use of Deprecated Solidity Functions	<a href="#">CWE-477: Use of Obsolete Function</a>	PASSED
<a href="#">SW C-11 0</a>	Assert Violation	<a href="#">CWE-670: Always-Incorrect Control Flow Implementation</a>	PASSED
<a href="#">SW C-1 09</a>	Uninitialized Storage Pointer	<a href="#">CWE-824: Access of Uninitialized Pointer</a>	PASSED
<a href="#">SW C-1 08</a>	State Variable Default Visibility	<a href="#">CWE-710: Improper Adherence to Coding Standards</a>	NOT PASSED
<a href="#">SW C-1 07</a>	Reentrancy	<a href="#">CWE-841: Improper Enforcement of Behavioral Workflow</a>	PASSED
<a href="#">SW C-1 06</a>	Unprotected SELFDESTRUCT Instruction	<a href="#">CWE-284: Improper Access Control</a>	PASSED

<a href="#">SW</a> <a href="#">C-1</a> <a href="#">05</a>	Unprotected Ether Withdrawal	<a href="#">CWE-284: Improper Access Control</a>	<b>PASSED</b>
<a href="#">SW</a> <a href="#">C-1</a> <a href="#">04</a>	Unchecked Call Return Value	<a href="#">CWE-252: Unchecked Return Value</a>	<b>PASSED</b>
<a href="#">SW</a> <a href="#">C-1</a> <a href="#">03</a>	Floating Pragma	<a href="#">CWE-664: Improper Control of a Resource Through its Lifetime</a>	<b>NOT PASSED</b>
<a href="#">SW</a> <a href="#">C-1</a> <a href="#">02</a>	Outdated Compiler Version	<a href="#">CWE-937: Using Components with Known Vulnerabilities</a>	<b>PASSED</b>
<a href="#">SW</a> <a href="#">C-1</a> <a href="#">01</a>	Integer Overflow and Underflow	<a href="#">CWE-682: Incorrect Calculation</a>	<b>PASSED</b>
<a href="#">SW</a> <a href="#">C-1</a> <a href="#">00</a>	Function Default Visibility	<a href="#">CWE-710: Improper Adherence to Coding Standards</a>	<b>PASSED</b>

The logo features the word "SolidProofed" in a white, handwritten-style script. 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 grid-like pattern on its right side and a solid blue area on its left side.

SolidProofed

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

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

MADE IN GERMANY