Smart Contract
Security Audit
V1

Fxtoday Token Smart Contract

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Background

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Project Information

- **Name**: Fxtoday
- **Ticker**: FXT
- **Platform**: Binance Smart Chain Network
- **Contract Address**: 0x4bcc3E9C6c48e73D86290f3Bb5Bf5DdA46472469
- **Code:**

https://bscscan.com/address/0x4bcc3E9C6c48e73D86290f3Bb5Bf5DdA46472469#code

Contracts address deployed to test net (BSC)

Fxtoday (FXT)Token contract on BSC test net to test every function by the auditor.

https://testnet.bscscan.com/address/0x1e9d1b3aa429d69e475f77fa14bd271734e834e4

Executive Summary

According to our assessment, the customer`s solidity smart contract is **Well Secured**.

Well Secured	✓
Secured	
Poor Secured	
Insecure	

Automated checks are with remix IDE. All issues were performed by the team, which included the analysis of code functionality, manual audit found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the audit overview section. The general overview is presented in the Project Information section and all issues found are located in the audit overview section.

Team found 0 critical, 0 high, 1 medium, low, 0 very low-level issues and 2 notes in all solidity files of the contract

The files:

Fxtoday.sol

File and Function Level Report

File in Scope:

Contract Name	SHA 256 hash	Contract Address
Fxtoday.sol	**345bac9dd6070044b8ed86255fdde76453007e8b1c431ba18030541adf21b781**	0x4bcc3E9C6c48e73D86290f3Bb5Bf5DdA46472469

- Contract: Fxtoday
- Inherit: Context, IBEP20, Ownable
- Observation: All passed including security check
- Test Report: passed
- Score: passed
- Conclusion: passed

Function	Test Result	Type / Return Type	Score
name	✓	Read / public	**Passed**
symbol	✓	Read / public	**Passed**
allowance	✓	Read / public	**Passed**
decimals	✓	Read / public	**Passed**
getOwner	✓	Read / public	**Passed**
balanceOf	✓	Read / public	**Passed**
Owner	✓	Read / public	**Passed**
totalSuppy	✓	Read / public	**Passed**
decreaseAllowance	✓	Write / public	**Passed**
increaseAllowance	✓	Write / public	**Passed**
mint	✓	Write / public	**Passed**

approve	✓	Write / public	**Passed**
transfer	✓	Write / public	**Passed**
transferFrom	✓	Write / public	**Passed**
transferOwnership	✓	Write / public	**Passed**
renounceOwnership	✓	Write / public	**Passed**

Issues Checking Status

No.	Issue Description	Checking Status
1	Compiler warnings.	**Passed**
2	Race conditions and Reentrancy. Cross-function race conditions.	**Passed**
3	Possible delays in data delivery.	**Passed**
4	Oracle calls.	**Passed**
5	Design Logic.	**Passed**
6	Timestamp dependence.	**Passed with Notes**
7	Integer Overflow and Underflow.	**Passed**
8	DoS with Revert.	**Passed**
9	DoS with block gas limit.	**Passed with Notes**
10	Methods execution permissions.	**Passed**
11	Economy model. If application logic is based on an incorrect economic model, the application would not function correctly and participants would incur financial losses. This type of issue is most often found in bonus rewards systems, Staking and Farming contracts, Vault and Vesting contracts, etc.	**Passed**
12	The impact of the exchange rate on the logic.	**Passed**
13	Private user data leaks.	**Passed**
14	Malicious Event log.	**Passed**
15	Scoping and Declarations.	**Passed**
16	Uninitialized storage pointers.	**Passed**
17	Arithmetic accuracy.	**Passed**

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to tokens loss etc.
High	High-level vulnerabilities are difficult to exploit; however, they also have significant impact on smart contract execution, e.g. public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can’t lead to tokens lose
Low	Low-level vulnerabilities are mostly related to outdated, unused etc. code snippets, that can’t have significant impact on execution
Note	Lowest-level vulnerabilities, code style violations and info statements can’t affect smart contract execution and can be ignored.

Audit Findings

Critical:

No Critical severity vulnerabilities were found

High:

No High severity vulnerabilities were found

Medium:

#Centralization Risks

Description

The owner has the authority to :

- Can mint new tokens. this represents a risk for the users because in that case their funds will be lower if the owner mints more FXT.

```
function mint(uint256 amount) public onlyOwner returns (bool) {
    _mint(_msgSender(), amount);
    return true;
  }
```

Remediation

Make these functions internal in next version or the team should announce the investors before mint more tokens to give them time if they want to do anything.

The auditor recommended adding the max supply of the token, when the owner mints new tokens can't mint more than the max supply

P.S: This issue is common to the majority of Some Token’s smart contracts.

Status: Closed. Fixed in version 2.

Low:

No Low severity vulnerabilities were found.

Very Low:

No Very Low severity vulnerabilities were found.

Notes:

#Compiler version is old

Description
The compiler being used was released 3 years – 4 year. It's recommended to use more recent compiler version, there can be benefits like reduction in bytecode size etc.

Status: Acknowledged

Constant calculations in the contract

Description
recalculated initialization will save 2847 units of gas in deployment

```
_totalSupply = 10000000 * (10 ** 18);
```

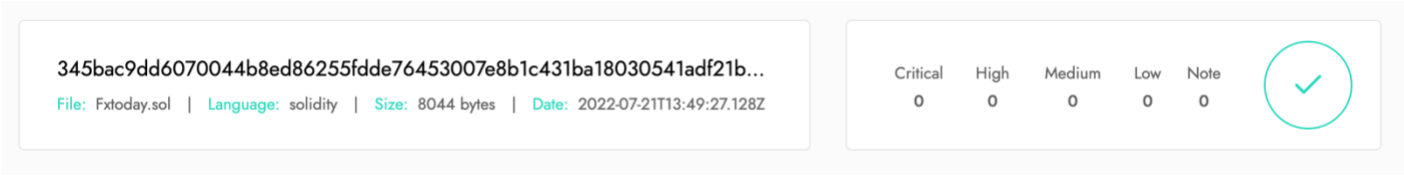
Recommendation
Replace the initialization as

```
_totalSupply = 10000000000000000000000000;
```

Status: Acknowledged

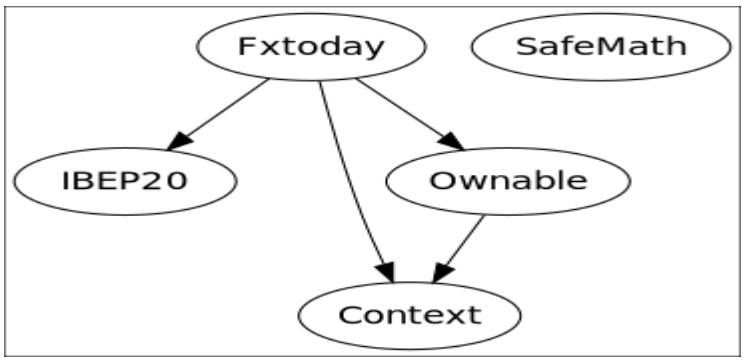
Automatic Testing

1- Check for security

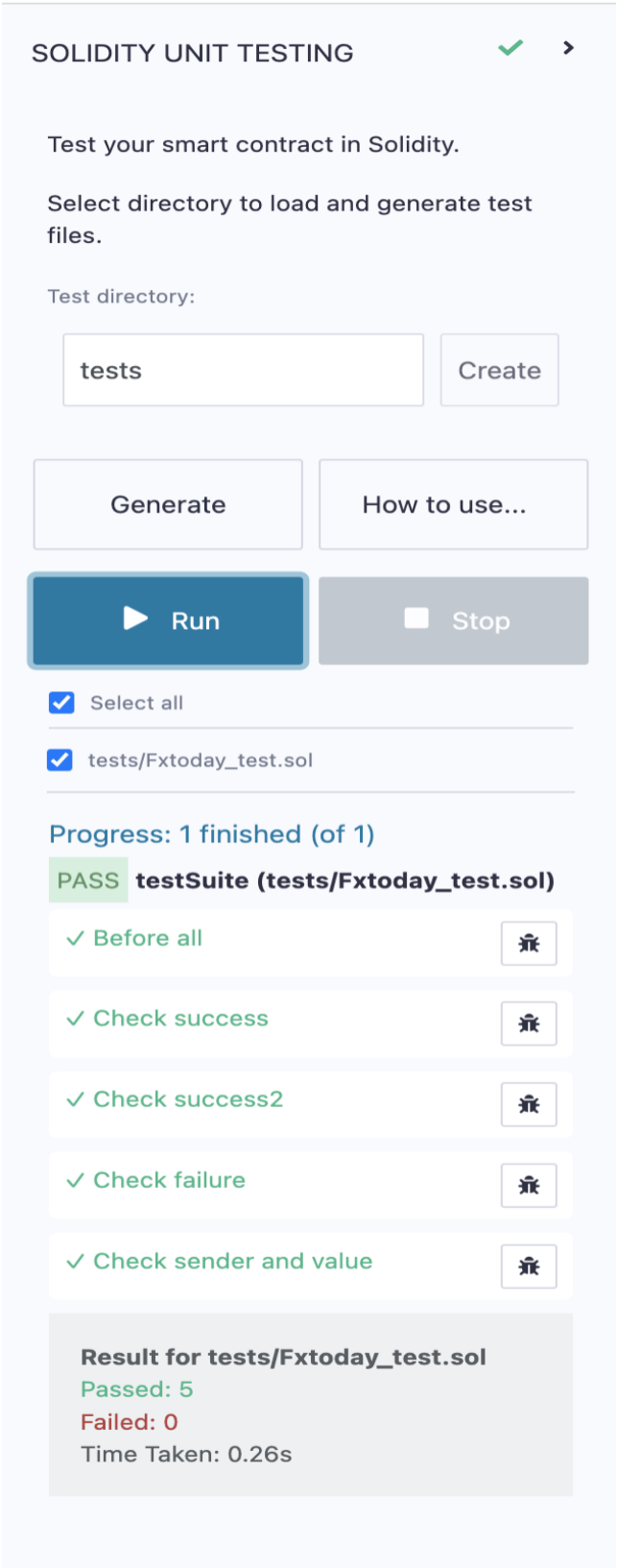


2- SOLIDITY STATIC ANALYSIS

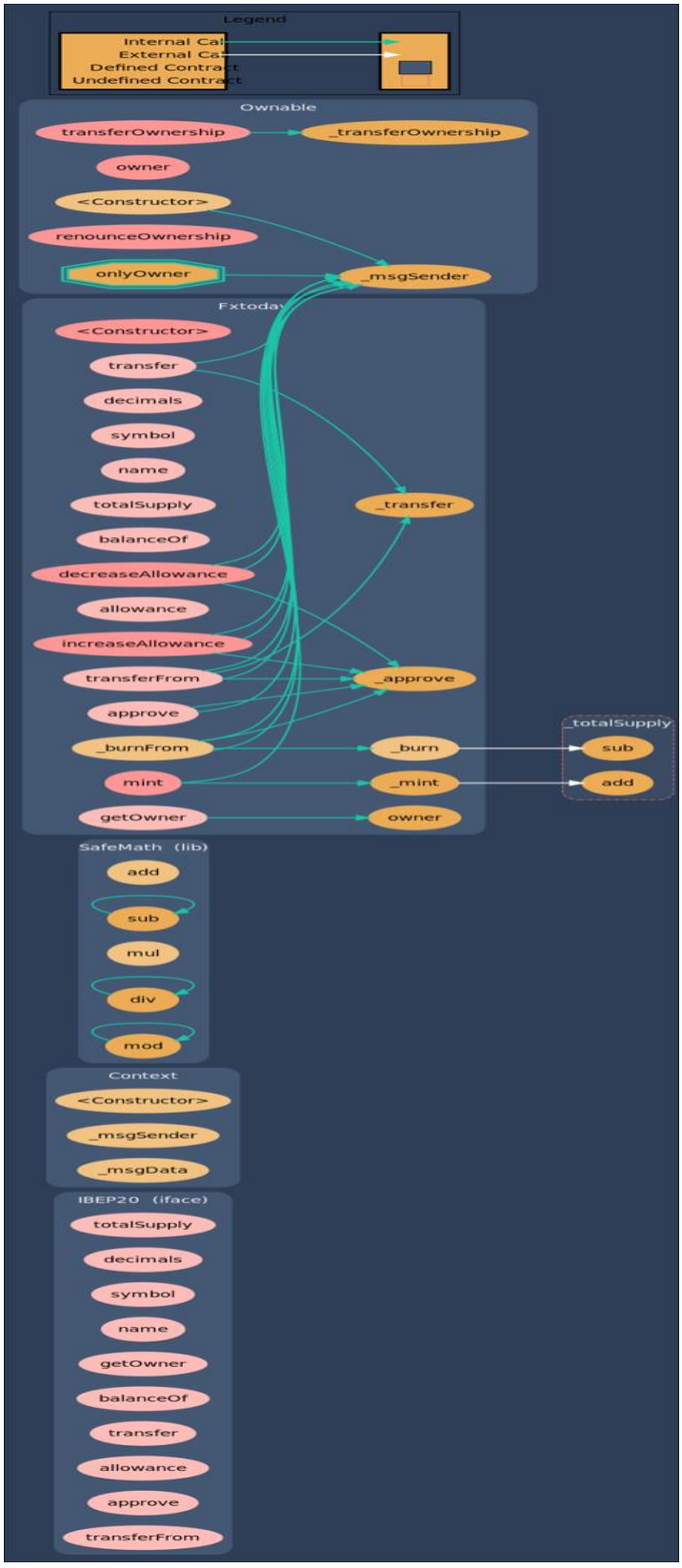
3- Inheritance graph



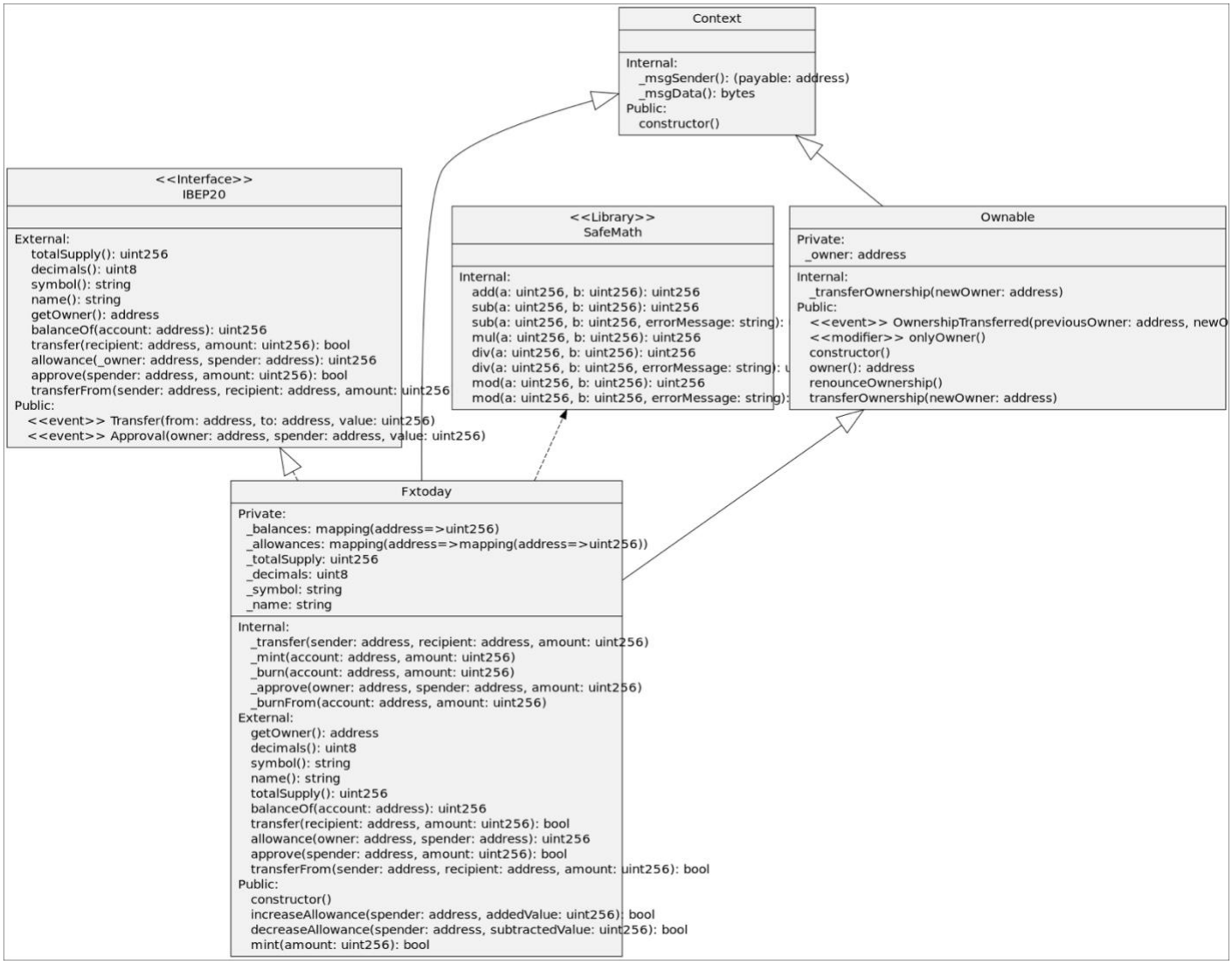
4- SOLIDITY UNIT TESTING



5- Call graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
Ownable
transferOwnership
_transferOwnership
owner
<Constructor>
renounceOwnership
onlyOwner
_msgSender
Fxtoday
<Constructor>
transfer
decimals
symbol
name
totalSupply
balanceOf
decreaseAllowance
allowance
increaseAllowance
transferFrom
approve
_burnFrom
mint
getOwner
_transfer
_approve
_burn
_mint
owner
totalSupply
sub
add
SafeMath (lib)
add
sub
mul
div
mod
Context
<Constructor>
_msgSender
_msgData
IBEP20 (iface)
totalSupply
decimals
symbol
name
getOwner
balanceOf
transfer
allowance
approve
transferFrom

Unified Modeling Language (UML)



Functions signature

```
Sighash   |   Function Signature
========================
39509351  =>  increaseAllowance(address,uint256)
18160ddd  =>  totalSupply()
313ce567  =>  decimals()
95d89b41  =>  symbol()
06fdde03  =>  name()
893d20e8  =>  getOwner()
70a08231  =>  balanceOf(address)
a9059cbb  =>  transfer(address,uint256)
dd62ed3e  =>  allowance(address,address)
095ea7b3  =>  approve(address,uint256)
23b872dd  =>  transferFrom(address,address,uint256)
119df25f  =>  _msgSender()
8b49d47e  =>  _msgData()
771602f7  =>  add(uint256,uint256)
b67d77c5  =>  sub(uint256,uint256)
e31bdc0a  =>  sub(uint256,uint256,string)
c8a4ac9c  =>  mul(uint256,uint256)
a391c15b  =>  div(uint256,uint256)
b745d336  =>  div(uint256,uint256,string)
f43f523a  =>  mod(uint256,uint256)
71af23e8  =>  mod(uint256,uint256,string)
8da5cb5b  =>  owner()
715018a6  =>  renounceOwnership()
f2fde38b  =>  transferOwnership(address)
d29d44ee  =>  _transferOwnership(address)
a457c2d7  =>  decreaseAllowance(address,uint256)
a0712d68  =>  mint(uint256)
30e0789e  =>  _transfer(address,address,uint256)
4e6ec247  =>  _mint(address,uint256)
6161eb18  =>  _burn(address,uint256)
104e81ff  =>  _approve(address,address,uint256)
a22b35ce  =>  _burnFrom(address,uint256)
```

Automatic general report

Files Description Table

File Name	SHA-1 Hash
/Users/macbook/Desktop/smart contracts/Fxtoday.sol	b4a1156ee0abd131c62685479135999c6ef665df

Contracts Description Table

Contract	Type	Bases				
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**		
IBEP20	Interface					
└	totalSupply	External ❗		NO❗		
└	decimals	External ❗		NO❗		
└	symbol	External ❗		NO❗		
└	name	External ❗		NO❗		
└	getOwner	External ❗		NO❗		
└	balanceOf	External ❗		NO❗		
└	transfer	External ❗	🛑	NO❗		
└	allowance	External ❗		NO❗		
└	approve	External ❗	🛑	NO❗		
└	transferFrom	External ❗	🛑	NO❗		
Context	Implementation					
└	<Constructor>	Internal 🔒	🛑			
└	_msgSender	Internal 🔒				
└	_msgData	Internal 🔒				
SafeMath	Library					
└	add	Internal 🔒				
└	sub	Internal 🔒				
└	sub	Internal 🔒				
└	mul	Internal 🔒				
└	div	Internal 🔒				
└	div	Internal 🔒				
└	mod	Internal 🔒				
└	mod	Internal 🔒				
Ownable	Implementation	Context				

└	<Constructor>	Internal 🔒	🛑	
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
└	_transferOwnership	Internal 🔒	🛑	
Fxtoday	Implementation	Context, IBEP20, Ownable		
└	<Constructor>	Public ❗	🛑	NO❗
└	getOwner	External ❗		NO❗
└	decimals	External ❗		NO❗
└	symbol	External ❗		NO❗
└	name	External ❗		NO❗
└	totalSupply	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	transfer	External ❗	🛑	NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
└	increaseAllowance	Public ❗	🛑	NO❗
└	decreaseAllowance	Public ❗	🛑	NO❗
└	mint	Public ❗	🛑	onlyOwner
└	_transfer	Internal 🔒	🛑	
└	_mint	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_approve	Internal 🔒	🛑	
└	_burnFrom	Internal 🔒	🛑	

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

Conclusion

The contracts are written systematically. Team found no critical issues.

Since possible test cases can be unlimited and developer level documentation (code flow diagram with function level description) not provided, for such an extensive smart contract protocol, we provide no such guarantee of future outcomes. We have used all the latest static tools and manual observations to cover maximum possible test cases to scan Everything.

Security state of the reviewed contract is “ Well Secured”.

✓ No volatile code.
✓ No many high severity issues were found.

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against the team on the basis of what it says or doesn't say, or how team produced it, and it is important for you to conduct your own independent investigations before making any decisions. team go into more detail on this in the below disclaimer below – please make sure to read it in full.

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