



ASTROBIATECH
BLOCKCHAIN SECURITY

MADE IN INDIA

BLOCKCHAIN SECURITY

SECURITY ASSESSMENT REPORT



PREPARED FOR
CryptoLaunchpad



@astrobiatech

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 **astrobiatech.in**

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SCOPE OF AUDIT

The scope of this audit was to analyze and document the **CRYPTOLAUNCHPAD** smart contract codebase for quality, security, and correctness.

CHECKED VULNERABILITIES

We have scanned the smart contract for commonly known and more specific vulnerabilities. Here are some of the commonly known vulnerabilities that we considered:

- Re-entrancy
- Timestamp Dependence
- Gas Limit and Loops
- DoS with Block Gas Limit
- Transaction-Ordering Dependence
- Use of tx.origin
- Exception disorder
- Gasless send
- Balance equality
- Byte array
- Transfer forwards all gas
- ERC20 API violation
- Malicious libraries
- Compiler version not fixed
- Redundant fallback function
- Send instead of transfer
- Style guide violation
- Unchecked external call
- Unchecked math
- Unsafe type inference
- Implicit visibility level

TECHNIQUES AND METHODS

Throughout the audit of smart contract, care was taken to ensure:

- The overall quality of code.
- Use of best practices.
- Code documentation and comments match logic and expected behaviour.
- Token distribution and calculations are as per the intended behaviour mentioned in the whitepaper.
- Implementation of ERC-20 token standards.
- Efficient use of gas.
- Code is safe from re-entrancy and other vulnerabilities.

The following techniques, methods and tools were used to review all the smart contracts.

Static Analysis

Static Analysis of Smart Contracts was done to identify contract vulnerabilities. In this step a series of automated tools are used to test security of smart contracts.

Code Review / Manual Analysis

Manual Analysis or review of code was done to identify new vulnerability or verify the vulnerabilities found during the static analysis. Contracts were completely manually analyzed, their logic was checked and compared with the one described in the whitepaper. Besides, the results of automated analysis were manually verified.

ISSUE CATEGORIES

Every issue in this report has been assigned with a severity level. There are four levels of severity and each of them has been explained below.

HIGH SEVERITY ISSUES

A high severity issue or vulnerability means that your smart contract can be exploited. Issues on this level are critical to the smart contract's performance or functionality and we recommend these issues to be fixed before moving to a live environment.

MEDIUM SEVERITY ISSUES

The issues marked as medium severity usually arise because of errors and deficiencies in the smart contract code. Issues on this level could potentially bring problems and they should still be fixed.

LOW SEVERITY ISSUES

Low level severity issues can cause minor impact and or are just warnings that can remain unfixed for now. It would be better to fix these issues at some point in the future.

INFORMATIONAL

These are severity four issues which indicate an improvement request, a general question, a cosmetic or documentation error, or a request for information. There is low-to-no impact.

ISSUES TABLE

TYPE	HIGH	MEDIUM	LOW	INFORMATIONAL
OPEN	-	-	-	-
ACKNOWLEDGEMENT	1	1	1	3
CLOSED	-	-	-	-

INTRODUCTION

During the period of April 1 , 2023 to April 2, 2023 – Astrobiatech Blockchain Security Team performed a security audit for **CRYPTOLAUNCHPAD** smart contracts.

The Security Assessment are performed on following Smart Contracts :

- router.sol
- presaleproxy.sol
- launchpad_Implementation.sol
- normal_token.sol
- liq_token.sol
- lock.sol

ISSUES FOUND

High Severity Issues

1. Re-entrancy

Description :-

The Checks-Effects-Interaction pattern is a best practice for smart contract development, which suggests that external contract interactions should always come after any state changes in the contract.

Recommendation :-

We recommend to enforce the Checks-Effects-Interaction pattern more rigorously,

Status :- **Not Fixed**

Medium Severity Issues

1. Sequential Iteration Loop

Description :-

Using for loops over dynamic arrays in Solidity can lead to gas limit errors and race conditions, as each iteration consumes gas and changes to the array during the loop can cause unexpected behavior.

Recommendation :-

We recommend using an alternative methods like while loops, mapping structures, or batch processing.

Status :- **Not Fixed**

Low Severity Issues

1. msg.sender is not checked

Description :-

The "msg.sender" value should be checked to ensure that it exists in the list of locked accounts before proceeding with any additional processing.

Recommendation :-

We recommend is to include a "require" statement to verify that the "msg.sender" value has been added to the "lockedAccount" list. By doing so, the possibility of incorrect values causing unexpected behaviors or wasted gas during the execution of the smart contract can be prevented.

Status :- **Not Fixed**

Informational

1. Unlocked Compiler Version

Description :-

The contract has unlocked compiler version. An unlocked compiler version in the source code of the contract permits the user to compile it at or above a particular version. This, in turn, leads to differences in the generated bytecode between compilations due to different compiler versions.

Recommendation :-

We advise that the compiler version is instead locked at the lowest version possible that the contract can be compiled at.

Status :- **Not Fixed**

2. DoS with block gas limit

Description :-

If the gas requirement of a function is higher than the block gas limit, it cannot be executed.

Recommendation :-

We advise avoid loops in your functions or actions that modify large areas of storage.

Status :- **Not Fixed**

3. Function name must be in mixedCase

Description :-

The used function name contains some only capital letters

Recommendation :-

We advise to make all funtions name in mixed letter.

Status :- **Not Fixed**

4. Use double quotes for string literals

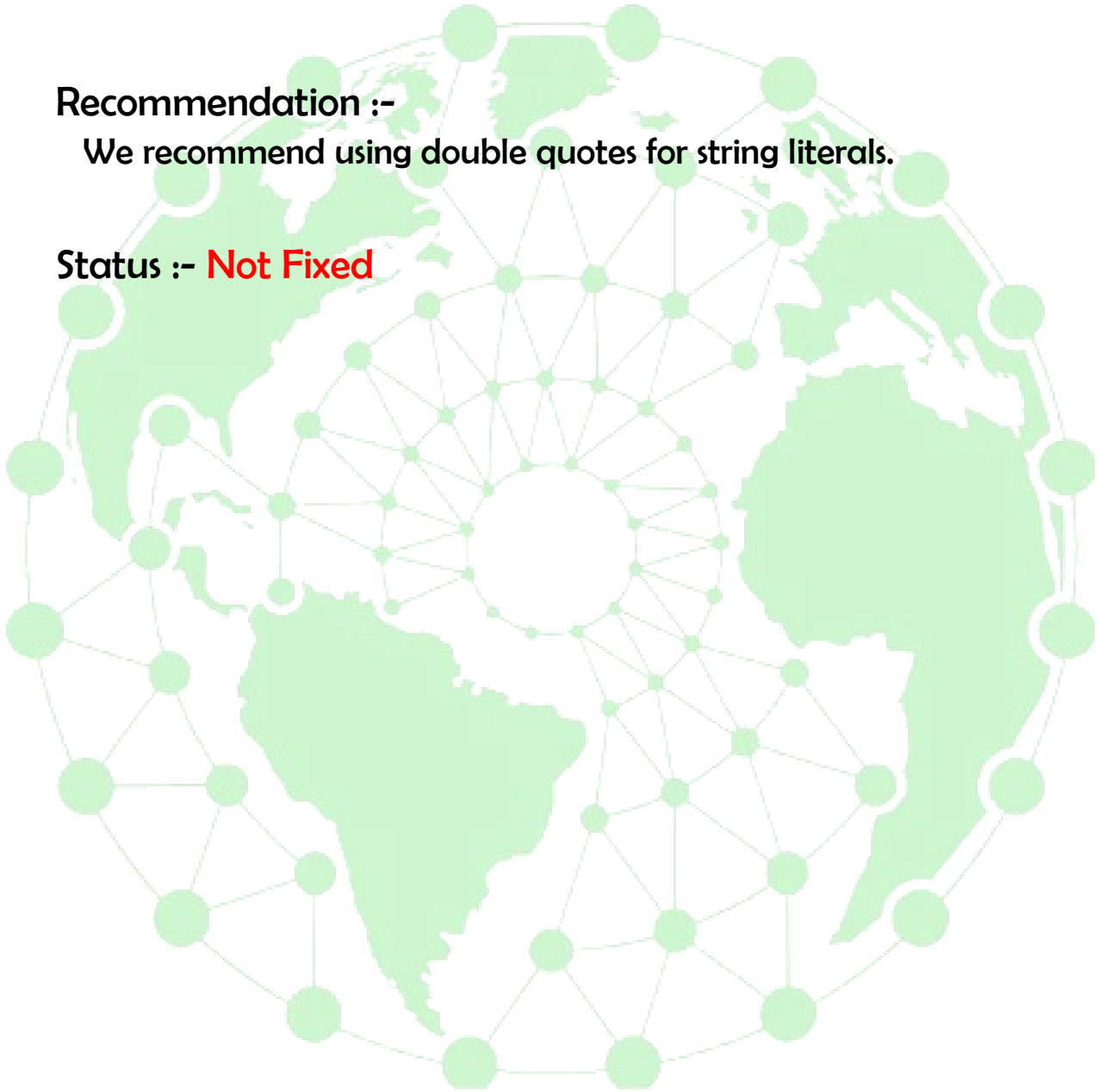
Description :-

Single quote found in the string variables. Whilst, the double quotes are being utilized for other string literals.

Recommendation :-

We recommend using double quotes for string literals.

Status :- **Not Fixed**



FUNCTIONAL TEST

FUNCTIONS NAME	TESTING RESULT
approve	Passed
burn	Passed
changeOwnership	Passed
mint	Passed
release	Passed
transfer	Passed
transferFrom	Passed

FUNCTIONS

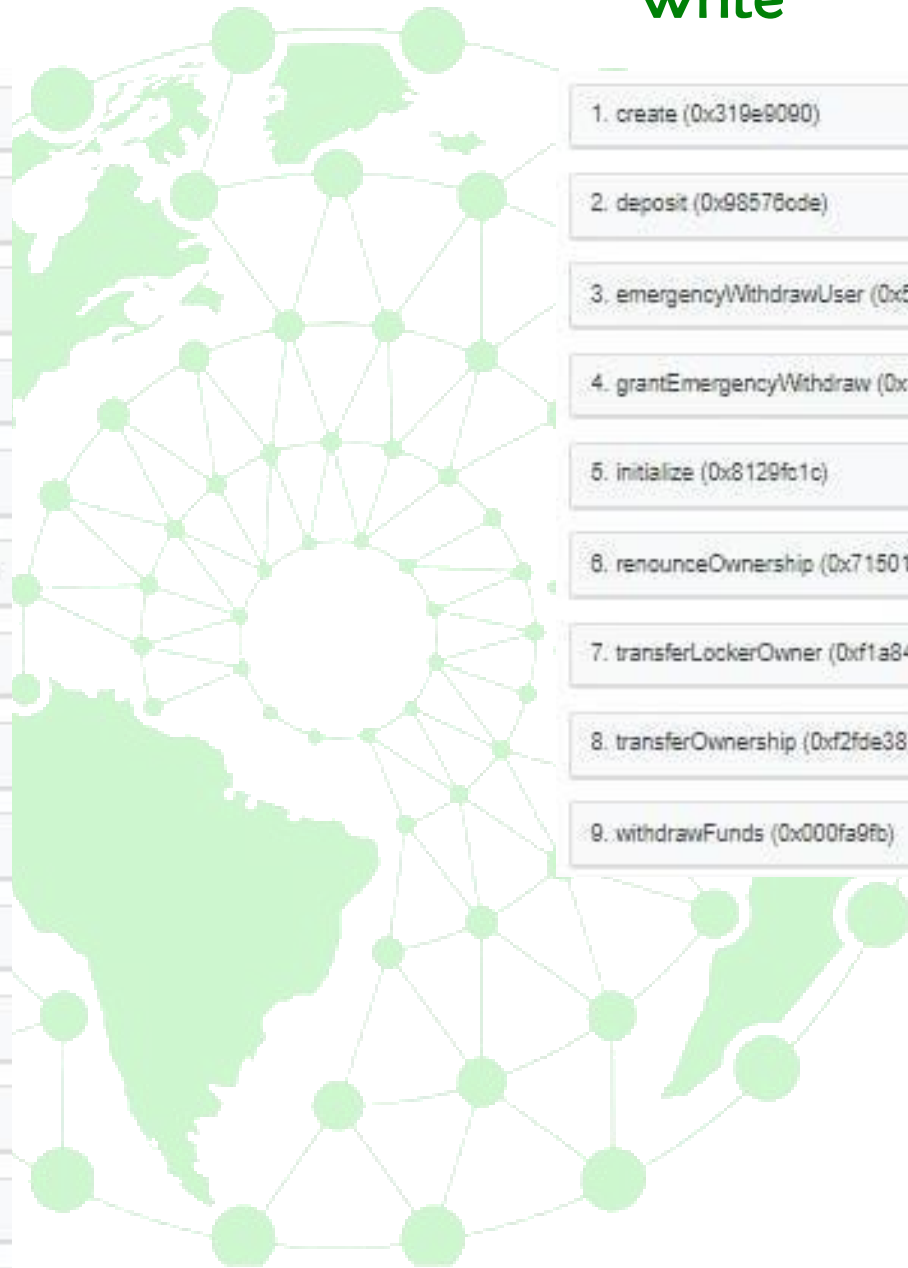
lock.sol

Read

1. CheckUserData
2. LpLocker
3. fee
4. getLockerId
5. getLockerInfo
6. getLockerUsersInfo
7. getUserperlocker
8. lockedInfold
9. lockedUsersInfo
10. lockerCount
11. lockerisExists
12. lockers
13. owner
14. returnValues
15. userPerLockers
16. users

Write

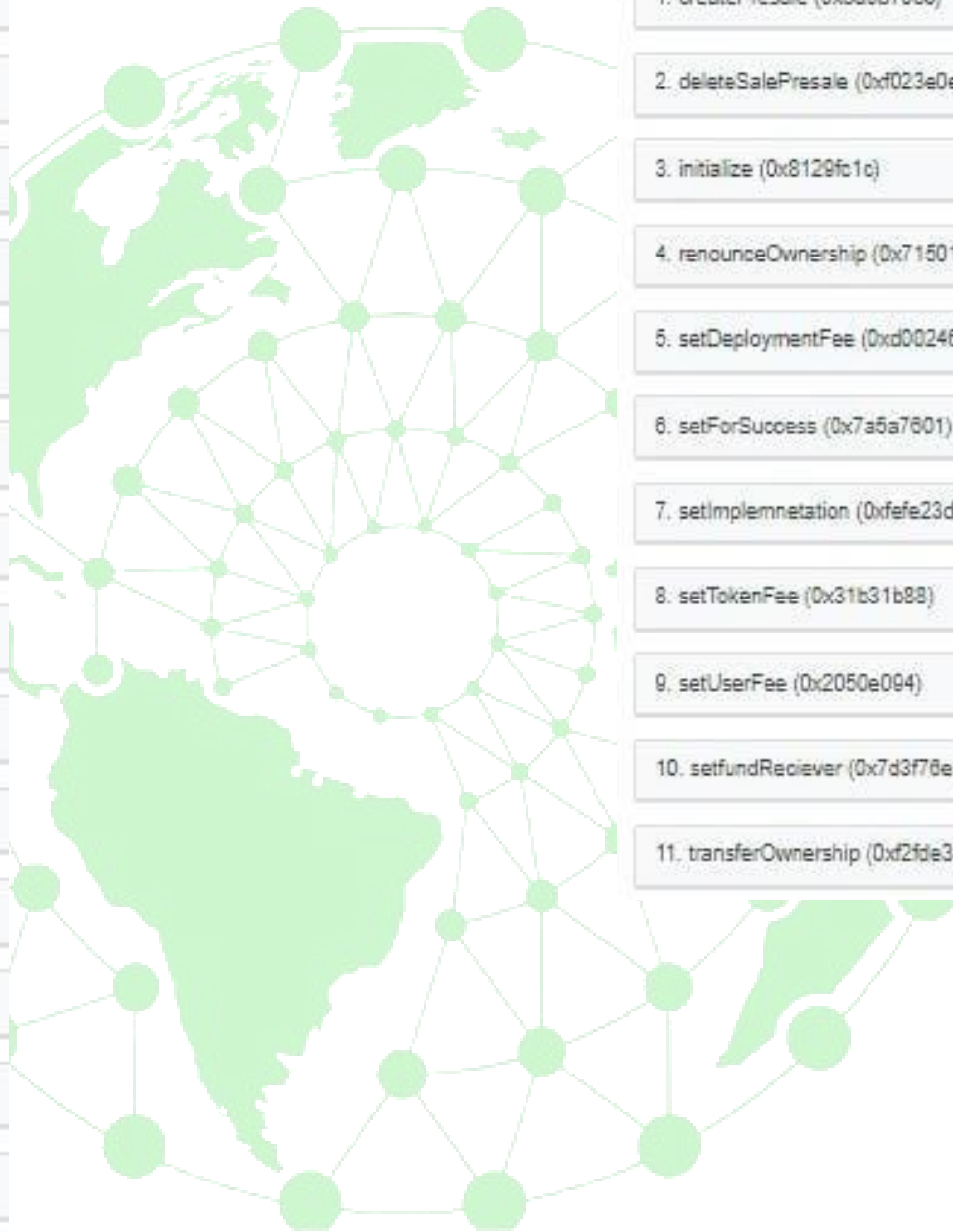
1. create (0x319e9090)
2. deposit (0x98578ode)
3. emergencyWithdrawUser (0x58ead892)
4. grantEmergencyWithdraw (0x8196d5dd)
5. initialize (0x8129fc1c)
6. renounceOwnership (0x715018a8)
7. transferLockerOwner (0xf1a84dd1)
8. transferOwnership (0xf2fde38b)
9. withdrawFunds (0x000fa9fb)



presaleproxy.sol

Read

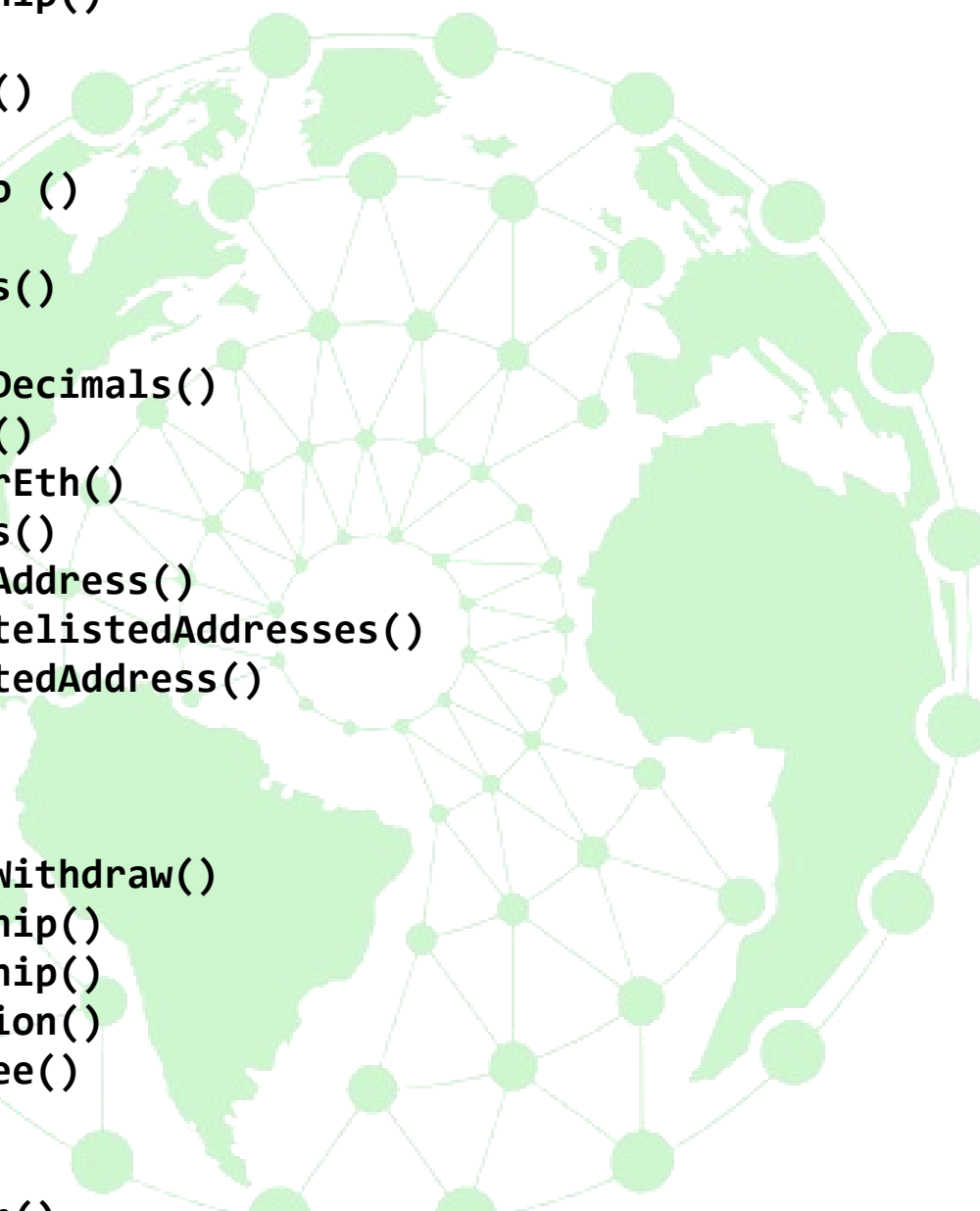
1. _preSale
2. _sales
3. checkForSuccess
4. depolymentFee
5. fee
6. fundReciever
7. getCheckSuccess
8. getDeploymentFee
9. getSale
<u>10. getTokenFee</u>
11. getTotalSales
12. getUserFee
13. getfundReciever
14. implementation
15. owner
16. saleId
17. userFee



Write

1. createPresale (0x3a9b70c0)
2. deleteSalePresale (0xf023e0ea)
3. initialize (0x8129fc1c)
4. renounceOwnership (0x715018a8)
5. setDeploymentFee (0xd002462b)
6. setForSuccess (0x7a5a7601)
7. setImplemnetation (0xfefe23d2)
8. setTokenFee (0x31b31b88)
9. setUserFee (0x2050e094)
10. setfundReciever (0x7d3f76e6)
11. transferOwnership (0xf2fde38b)

OWNER PRIVILAGED FUNCTION



```
transferOwnership()  
startPresale()  
setVestingInfo()  
setWhitelist()  
updateTokenInfo ()  
closePresale()  
setTokenAddress()  
setToken()  
setMinEthLimitDecimals()  
setMaxEthLimit()  
setTokenRatePerEth()  
setRateDecimals()  
addWhitelistedAddress()  
addMultipleWhitelistedAddresses()  
removeWhitelistedAddress()  
finalizeSale()  
withdrawBNB()  
getLPtokens()  
grantEmergencyWithdraw()  
transferOwnership()  
renounceOwnership()  
setImplementation()  
setDeploymentFee()  
setTokenFee()  
setUserFee()  
setfundReciever()  
deleteSalePresale()
```

SUMMARY

In this report, we have considered the security of the **CRYPTOLAUNCHPAD** platform. We performed our audit according to the procedure described above. 1 high , 1 medium, 1 low, and 4 informational severity were discovered during the audit.



Website	https://cryptolaunchpad.finance/
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Twitter	https://twitter.com/CryptoL2023

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By
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