Smart Contract Security Audit

Audit details:

Audited project:	Adventureland Finance
Deployer address	0xa02f00467b7d84cefec54b64872272c470a78cdf
Blockchain:	Binance Smart Chain
Project website:	https://adventureland.finance

May, 2021
TechRate

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at 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 us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by Adventureland Finance to perform an audit of smart contracts:

- *https://bscscan.com/address/0xc59824a2ab5db97b8202e283fd1b8584c69348d0#code*
- *https://bscscan.com/address/0x0b8571bf2d64b842a8be127a09a36f78e5151875#code*
- *https://bscscan.com/address/0xe0e064480e7c16a178d6d553542f3de084e5779a#code*

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.

Contracts details

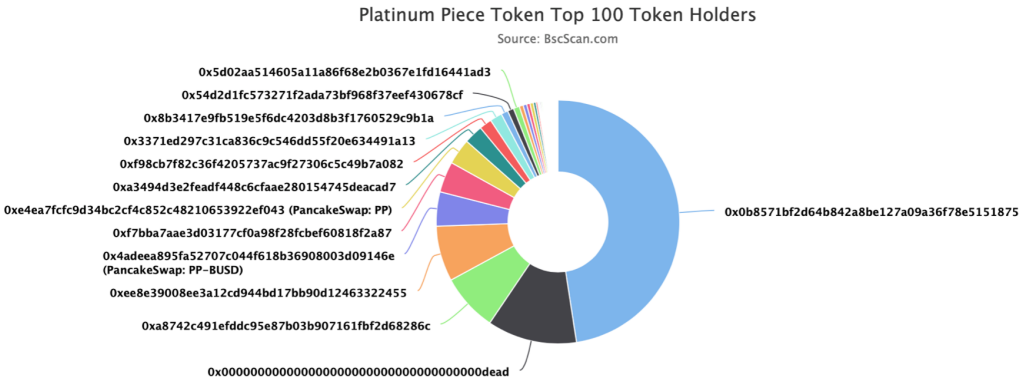
Token contract details for 06.05.2021.

Contract name:	Platinum Piece Token
Compiler version:	v0.6.12+commit.27d51765
Contract address:	0xc59824a2ab5db97b8202e283fd1b8584c69348d0
Total supply:	1_242_648_806_891_025_641_020_993
Token ticker:	PP
Decimals:	18
Token holders:	163
Transactions count:	20604
Top 100 dominance:	99.99 %
Contract deployer address:	0xa02f00467b7d84cefec54b64872272c470a78cdf
Contract's current owner address:	0x0b8571bf2d64b842a8be127a09a36f78e5151875

Platinum Piece token distribution

The top 100 holders collectively own 99.99% (1,242,539.11 Tokens) of Platinum Piece Token

Token Total Supply: 1,242,648.81 Token | Total Token Holders: 163

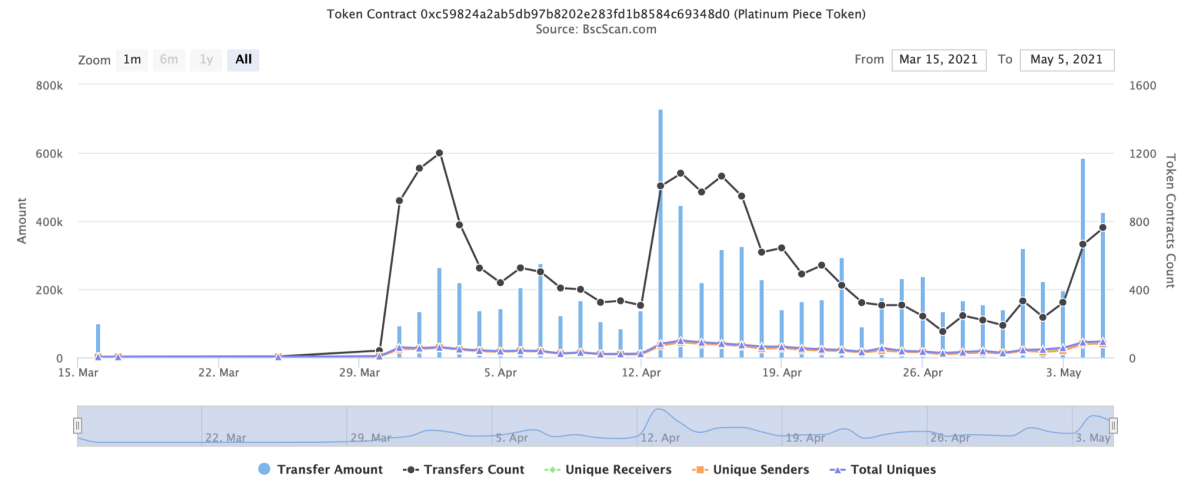


(A total of 1,242,539.11 tokens held by the top 100 accounts from the total supply of 1,242,648.81 token)

Platinum Piece contract interaction details

Time Series: Token Contract Overview

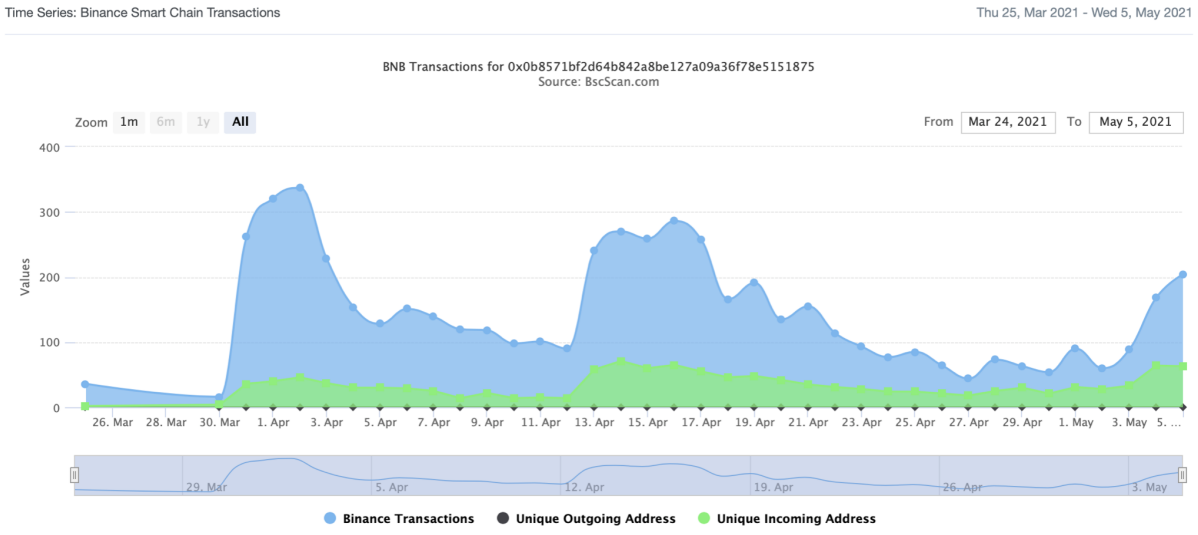
Tue 16, Mar 2021 - Wed 5, May 2021



Platinum Piece top 10 token holders

Rank	Address	Quantity (Token)	Percentage
1	0x0b8571bf2d64b842a8be127a09a36f78e5151875	591,081.314733939529135096	47.5662%
2	0x000000000000000000000000000000000000dead	147,954.161805555555554582	11.9064%
3	0xa8742c491efddc95e87b03b907161fbf2d68286c	94,772.611303025162442406	7.6267%
4	0xee8e39008ee3a12cd944bd17bb90d12463322455	91,399.40567147143415731	7.3552%
5	PancakeSwap: PP-BUSD	56,263.607574990194463761	4.5277%
6	0xf7bba7aae3d03177cf0a98f28fcbef60818f2a87	50,920.199712382680374616	4.0977%
7	PancakeSwap: PP	42,715.584761128231106985	3.4375%
8	0xa3494d3e2feadf448c6cfaae280154745deacad7	31,156.633504936302844786	2.5073%
9	0xf98cb7f82c36f4205737ac9f27306c5c49b7a082	20,657.149692586901504	1.6623%
10	0x3371ed297c31ca836c9c546dd55f20e634491a13	20,181.510044761030436574	1.6241%

MasterChef transactions



DungeonMaster contract details for 06.05.2021.

Contract name:	DungeonMaster
Compiler version:	v0.6.12+commit.27d51765
Contract address:	0x0b8571bf2d64b842a8be127a09a36f78e5151875
Dev address:	0x1aee7ebabdaa9afe11b2abd2748a548316e6c065
Fee address:	0xf7bba7aae3d03177cf0a98f28fcbef60818f2a87
Pp contract address:	0xc59824a2ab5db97b8202e283fd1b8584c69348d0
Pp per block:	1_000_000_000_000_000_000
Contract owner address:	0xe0e064480e7c16a178d6d553542f3de084e5779a
Pool length:	33
Start block:	5744156
Total alloc point:	14400
Bonus multiplier:	1

MasterChef functions outline

+ ReentrancyGuard
  - [Int] <Constructor> #

+ Context
  - [Int] _msgSender
  - [Int] _msgData

+ [Lib] Address
  - [Int] isContract
  - [Int] sendValue #
  - [Int] functionCall #
  - [Int] functionCall #
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Int] functionStaticCall
  - [Int] functionStaticCall
  - [Int] functionDelegateCall #
  - [Int] functionDelegateCall #
  - [Prv] _verifyCallResult

+ [Lib] SafeERC20
  - [Int] safeTransfer #
  - [Int] safeTransferFrom #
  - [Int] safeApprove #
  - [Int] safeIncreaseAllowance #
  - [Int] safeDecreaseAllowance #
  - [Prv] _callOptionalReturn #

+ [Int] IERC20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ ERC20 (Context, IERC20)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #

- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Int] _transfer #
- [Int] _mint #
- [Int] _burn #
- [Int] _approve #
- [Int] _setupDecimals #
- [Int] _beforeTokenTransfer #

+ [Lib] SafeMath
- [Int] tryAdd
- [Int] trySub
- [Int] tryMul
- [Int] tryDiv
- [Int] tryMod
- [Int] add
- [Int] sub
- [Int] mul
- [Int] div
- [Int] mod
- [Int] sub
- [Int] div
- [Int] mod

+ Ownable (Context)
- [Int] <Constructor> #
- [Pub] owner
- [Pub] renounceOwnership #
  - modifiers: onlyOwner
- [Pub] transferOwnership #
  - modifiers: onlyOwner

+ PlatinumPieceToken (ERC20, Ownable)
- [Pub] mint #
  - modifiers: onlyOwner
- [Ext] delegates
- [Ext] delegate #
- [Ext] delegateBySig #
- [Ext] getCurrentVotes
- [Ext] getPriorVotes
- [Int] _delegate #
- [Int] _moveDelegates #
- [Int] _writeCheckpoint #
- [Int] safe32

  - [Int] getChainId

+ DungeonMaster (Ownable, ReentrancyGuard)
  - [Pub] <Constructor> #
  - [Ext] questLength
  - [Pub] add #
    - modifiers: onlyOwner,nonDuplicated
  - [Pub] set #
    - modifiers: onlyOwner
  - [Pub] getMultiplier
  - [Ext] pendingPlatinumPiece
  - [Pub] massUpdateQuests #
  - [Pub] updateQuest #
  - [Pub] deposit #
    - modifiers: nonReentrant
  - [Pub] withdraw #
    - modifiers: nonReentrant
  - [Pub] emergencyWithdraw #
    - modifiers: nonReentrant
  - [Int] safePlatinumPieceTransfer #
  - [Pub] dev #
  - [Pub] setFeeAddress #
  - [Pub] updateEmissionRate #
    - modifiers: onlyOwner

($) = payable function
= non-constant function

Issues Checking Status

№	Issue description.	Checking status
1	Compiler errors.	Passed
2	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3	Possible delays in data delivery.	Passed
4	Oracle calls.	Passed
5	Front running.	Passed
6	Timestamp dependence.	Passed
7	Integer Overflow and Underflow.	Passed
8	DoS with Revert.	Passed
9	DoS with block gas limit.	Low issues
10	Methods execution permissions.	Passed
11	Economy model of the contract.	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
18	Design Logic.	Passed
19	Cross-function race conditions.	Passed
20	Safe Open Zeppelin contracts implementation and usage.	Passed
21	Fallback function security.	Passed

Security Issues

High Severity Issues

No high severity issues found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

1. Block gas limit

Issue:

The updateEmissionRate function can fail due to block gas limit if the pool size is too big.

Conclusion

Smart contracts do not contain high severity issues!

Techrate note:
Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.