



**TechRate**  
AUDIT COMPANY

# **Memenopoly**

## **Smart Contract Security Audit**

# 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 Memenopoly to perform an audit of smart contracts:

<https://testnet.bscscan.com/address/0xf4339196B5f558b4b323935c2452f4cA18594FeF#code> (Memenopoly)

<https://testnet.bscscan.com/address/0xf6bfe879E17E49A53B71a9d779260BdA835892e6#code> (MemenopolyStore)

<https://testnet.bscscan.com/address/0xDC2aA6813379Dfe05eB5beb4474CFE78ecb2c8C#code> (TheBroker)

<https://testnet.bscscan.com/address/0x030b3F8854d1a99BcbDe73652eE7B76121320D91#code> (MnopCardPack)

<https://testnet.bscscan.com/address/0x88725112064eb1E5DAfef4cd0DDC5A1Cb3faa443#code> (TheBanker)

<https://testnet.bscscan.com/address/0xCB963463B018dc6a4A773B5DFd096002D0723D64#code> (MNOPToken)

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.

# 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. Out of gas

Issue:

- Function `massUpdatePools()` functions use the loop to update all pools.

Recommendation:

Check that array length is not too big.

## 📎 Information

### 1. Unused variables

- The variable `onlyNoBoosters` in TheBroker contract is initialized and unused.

# Owner privileges (In the period when the owner is not renounced)

## TheBanker:

- Dev address can change dev address.
- Fee address can change fee address.
- Owner can add pool.
- Owner can change:
  - deposit fee in basis points of pool;
  - level multiplier of pool;
  - allocation points of pool;
  - emission rate;
  - user level thresh;

## TheBroker:

- Owner can add card set.
- Owner can remove card set.
- Owner can change:
  - highest card id;
  - mnop rate of sets;
  - bonus mnop multiplier of sets;

## MnopCardPack:

- Owner can withdraw BNB and LINK tokens.
- Owner can change LINK fee.
- Owner can add class and option.
- Owner can set class for token id.
- Owner can reset class.
- Owner can change options.
- Owner can mint.

## MemenopolyStore:

- Owner can change:
  - NFT level;
  - card pack and banker contract address;
  - fund address;
  - distribution status;
  - id, bnbPrice, burnCost, rewards, maxRedeem and isActive parameters of card and pack;

## Memenopoly:

- Owner can withdraw BNB and LINK tokens.
- Owner can update spot.
- Owner can change game active status.
- Owner can change:
  - default parking;
  - chest reward;
  - pay day reward;
  - broker address;
  - roll time limit;
  - active time limit;
  - max level;
  - link fee;

# Conclusion

Smart contracts contain low severity issue!

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## ***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.***