HACKEN

SMART CONTRACT CODE REVIEW AND SECURITY ANALYSIS REPORT

Customer: MemeBank
Date: April 13th, 2022

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Document

Name	Smart Contract Code Review and Security Analysis Report for MemeBank.
Approved By	Evgeniy Bezuglyi | SC Department Head at Hacken OU
Type of Contracts	ERC20 token
Platform	EVM
Language	Solidity
Methods	Architecture Review, Functional Testing, Computer-Aided Verification, Manual Review
Timeline	13.04.2022
Changelog	13.04.2022 - Initial Review

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Table of contents

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Introduction

Hacken OÜ (Consultant) was contracted by MemeBank (Customer) to conduct a Smart Contract Code Review and Security Analysis. This report presents the findings of the security assessment of the Customer's smart contracts.

Scope

The scope of the project is smart contracts in the repository:

Repository:
https://github.com/memebankcode/v1
Commit:
ee94bde4f6282338dc724b26b9b3cc265bcc2d55
Technical Documentation: No
JS tests: No
Deployed contracts:
https://bscscan.com/address/0xbF19367080c33E8a36c87B979EDc1a5Cd8f47949
Contracts:
memebank.sol

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

Category	Check Item
Code review	▪ Reentrancy ▪ Ownership Takeover ▪ Timestamp Dependence ▪ Gas Limit and Loops ▪ Transaction-Ordering Dependence ▪ Style guide violation ▪ EIP standards violation ▪ Unchecked external call ▪ Unchecked math ▪ Unsafe type inference ▪ Implicit visibility level ▪ Deployment Consistency ▪ Repository Consistency
Functional review	▪ Business Logics Review ▪ Functionality Checks ▪ Access Control & Authorization ▪ Escrow manipulation ▪ Token Supply manipulation ▪ Assets integrity ▪ User Balances manipulation ▪ Data Consistency ▪ Kill-Switch Mechanism

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Executive Summary

The score measurements details can be found in the corresponding section of the methodology.

Documentation quality

The Customer provided no functional requirements and technical requirements as the detailed comments in the contract. However, the description of the constructor does not match the code. The total Documentation Quality score is **5** out of **10**.

Code quality

The total CodeQuality score is **5** out of **10**. No unit tests were provided. There are NatSpec blocks but not full. Some hardcoded values.

Architecture quality

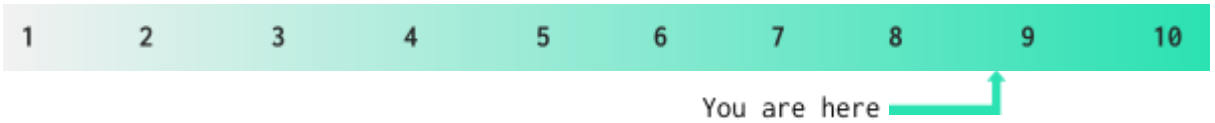
The architecture quality score is **9** out of **10**. The architecture of the contract is clear, but all the logic is implemented in one file.

Security score

As a result of the audit, security engineers found **no** severity issues. The security score is **10** out of **10**.

Summary

According to the assessment, the Customer's smart contract has the following score: **8.9**



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Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they cannot lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that cannot have a significant impact on execution

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Findings

Critical

No critical severity issues were found.

High

No high severity issues were found.

Medium

No medium severity issues were found.

Low

No low severity issues were found.

Recommendations

1. Divide the logic into separate files.

   Contracts: memebank.sol

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Disclaimers

Hacken Disclaimer

The smart contracts given for audit have been analyzed by the best industry practices at the date of this report, with cybersecurity vulnerabilities and issues in smart contract source code, the details of which are disclosed in this report (Source Code); the Source Code compilation, deployment, and functionality (performing the intended functions).

The audit makes no statements or warranties on the security of the code. It also cannot be considered a sufficient assessment regarding the utility and safety of the code, bug-free status, or any other contract statements. While we have done our best in conducting the analysis and producing this report, it is important to note that you should not rely on this report only — we recommend proceeding with several independent audits and a public bug bounty program to ensure the security of smart contracts.

Technical Disclaimer

Smart contracts are deployed and executed on a blockchain platform. The platform, its programming language, and other software related to the smart contract can have vulnerabilities that can lead to hacks. Thus, the audit cannot guarantee the explicit security of the audited smart contracts.