

# Smart Contract Audit Report

## MatrixMarket

July. 21st, 2022



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# 1. Overview

SharkTeam recently received the requirements for MatrixMarket smart contracts audit. In this audit, the SharkTeam security experts communicate with MatrixMarket team to conduct smart contract security audit under controllable operation, so as to avoid any risk in the audit process as far as possible.

## Project Overview:

<b>Project Name</b>	MatrixMarket
<b>Description</b>	NFT, GameFi
<b>Language</b>	Cadence
<b>Codebase</b>	Private Repo
<b>MD5</b>	2916AF0CB2777EFE3373C1A467808DD6

## Audit method:

SharkTeam security experts conducted a detailed manual audit of the smart contracts line-by-line. From the four dimensions of high-level language, virtual machine, blockchain, and business logic, much more audit items of smart contracts have been comprehensively audited. In particular, the permissions of resources created by Cadence transactions and saved in the account are strictly audited.

## Audit Scope:

<b>Contract Files</b>	<b>MD5</b>
MatrixMarket.cdc	5901492672E3131836C51081FD8116B3

MatrixMarketOpenOffer.cdc

00ACEB10237BF02DCB5369A456D1E518

**Audit results:**

The MatrixMarket smart contract audit results: **Pass**.

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## 2. Findings

### 2.1 Summary

Vulnerability list:

ID	Item	Severity	Category	Status
1	Invalid-Assertion	■ Info	Language	ⓘ Unresolved

### 2.2 Detailed Results

#### 2.2.1 Invalid-Assertion [Info]

Description:

Location: MatrixMarketOpenOffer.cdc#113, 116

```
111  for cut in cuts {  
112      assert(cut.receiver.check(), message: "invalid cut receiver")  
113      price = price - cut.amount  
114      cutsInfo[cut.receiver.address] = cut.amount  
115  }  
116  assert(price > 0.0, message: "price must be > 0")
```

**Description:** in the for loop, when `price - cut.amount` overflows, the run-time will report an error, and the execution of the contract will be terminated, which makes the assert of price invalid.

**Recommendation:**

Put the assert check of price in the loop, as follows:

```
111     for cut in cuts {  
112         assert(cut.receiver.check(), message: "invalid cut receiver")  
113         assert(price > cut.amount, message: "price must be > 0")  
114         price = price - cut.amount  
115         cutsInfo[cut.receiver.address] = cut.amount  
116     }  
117     // assert(price > 0.0, message: "price must be > 0")
```

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## Appendix A: Vulnerability Severity Classification

The nature of vulnerabilities is unintentional and unexpected security flaws or risks, which can be divided into four threat levels: High, Medium, Low and Info. The classification is mainly based on the impact, likelihood of utilization and other factors.

The impact is defined mainly according to the three dimensions of confidentiality, integrity and availability;

The likelihood of utilization is defined mainly according to three dimensions: attack vector, attack complexity and authentication.

Impact Likelihood	critical	high	medium	low
low	■ High	■ High	■ Medium	■ Low
medium	■ High	■ Medium	■ Low	■ Low
high	■ Medium	■ Low	■ Low	■ Info
Ex-high	■ Low	■ Low	■ Info	■ Info

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## About SharkTeam

SharkTeam focus on smart contract security, composed of members with many years of practical experience in front-line cyber security and blockchain. We are proficient in the underlying principles of blockchain and smart contract, and has perfect capabilities in blockchain vulnerability mining and smart contract audit. We can provide comprehensive threat modeling, smart contract audit and emergency response services, SharkTeam has helped several well-known blockchain projects find and fix security vulnerabilities, and is committed to protecting the security of users' digital assets and privacy.



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