

TechRate

Predictz Dex **Smart Contract Security Audit**

November, 2020

TechRate
<https://techrate.org>

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 Predictz Dex to perform an audit of smart contract:

- [FSTSwap.sol](#)

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

1. Compiler warnings; - **No issues identified**
2. Race Conditions. Reentrancy. Cross-function Race Conditions. Pitfalls in Race Condition solutions; - **No issues identified**
3. Possible delays in data delivery; - **No issues identified**
4. Oracle calls; - **No issues identified**
5. Transaction-Ordering Dependence (front running); - **No issues identified**
6. Timestamp Dependence; - **No issues identified**
7. Integer Overflow and Underflow; - **No issues identified**
8. DoS with (unexpected) Revert; - **No issues identified**
9. DoS with Block Gas Limit; - **No issues identified**
10. Methods execution permissions; - **No issues identified**
11. Economy model. It's important to forecast scenarios when user is provided with additional economic motivation or faced with limitations. If application logic is based on incorrect economy model, the application would not function correctly and participants would incur financial losses. This type of issue is most often found in bonus rewards systems; - **No issues identified**
12. The impact of the exchange rate on the logic; - **No issues identified**
13. Private user data leaks. - **No issues identified**

Security Issues

High Severity Issues

Smart contract does not contain high severity issues.

Medium Severity Issues

Smart contract does not contain medium severity issues.

Low Severity Issues and Recommendations

1. Function names

Recommendation:

Most of the function's name is not in CamelCase, but they should be as written in [solidity style guides](#). Also the function `calculateRatee` has the wrong name (Line 292).

Fixed by team in November 2020.

2. Division by zero

Issue:

In the function `div` there is a possibility of dividing by zero.

Recommendation:

Add checking that divisor can not be zero:

```
require(b > 0);
```

Fixed by team in November 2020.

Conclusion

Smart contract is free of security issues and all previous recommendations added to the contract.

Audit performed by [Ilnar K.](#) and Matthew L.