# Introduction

## Summary

Below is a decision tree, chart and safety checklist for investors seeking a safe and respectable smart contract with clearly outlined vulnerabilities and risks. The following tables and methods allow for an easy way to categorize risks involved with smart contracts and whether or not a protocol or project is safe– when investing funds.

Audit firms receive a score out of ten. The following firms can be considered transparent and standard for the industry. Standardized audit firms follow best practices when– the audit process and format are transparent, standards/prerequisites are available, and the firms are easily contactable.

* OpenZeppelin (10)
* QuantStamp (10)
* PeckShield (10)
* Haechi (10)
* Certik (10)
* ConsenSys Diligence (10)

*Scores for Audit firms get based on readability, searchability, transparency (public profiles), activity, social impact/status & overall documentation available.*

The scoring system makes the following tables and charts more sensible.

### Research Methods

Research methods used were: Detailed analysis with manual searches, complete with graphs, charts, tables and checklists.

### Researcher

Rayne L.

# BREAKDOWN: Point System

Point System– Standardized via Open Zeppelin's audit procedure. Max attainable points are 10. OpenZeppelin currently creates the benchmark for audit firms with the max attainable points. The highlighted firms above represent the notable '6' in security audits for codebase across the blockchain networks.

Maximum Points: 10 (Standardized Firm)

Minimum Points: 8 (Recognized Firm)

### Audit Process– 2 possible points.

* Clear +1 (Concise)
* Formal +1 (Standard)

### Pre-Audit Checklist/Standards– 1 possible point.

* Clear +1 (Available + Easy to follow)

### Audit Format– 5 possible points.

* Multiple Auditors +1 (Bias Reduction + Less like-mind)
* Industry Lead +1 (Started vs Complete, Audit Rep < 5 High-profile reports)
* Structure +1 (Uniform + Easy-to-follow)
* Clarity +1
* Consistency +1

### Public Profiles– 2 possible points.

* Transparency +1
* Community Discord/Telegram/Reddit +1

# BREAKDOWN: Technical Report

### Safety Checklist

A smart contract safety checklist. A checklist

### Decision Tree

By creating a choice tree, a simple path for decisions is quick and efficient. The results of the decision tree form a basis for the risk chart.

### Risk Chart

After completing the safety-checklist and navigating the decision tree. A risk chart gauges your risk tolerance when considering investing in DeFi protocols or other blockchain projects that use smart contracts to function.

Link to PDF

#### Tools & Resources

* [*The Hitchhiker's Guide to Smart Contracts in Ethereum*](https://medium.com/zeppelin-blog/the-hitchhikers-guide-to-smart-contracts-in-ethereum-848f08001f05) *by;* [*Manuel Araoz*](https://maraoz.medium.com/)
* [Ethereum Smart Contract Security Best Practices](https://consensys.github.io/smart-contract-best-practices/) (ConsenSys)
* [CertiK Ecosystem Overview](https://certik.org/technology)
* [Messari](https://messari.io/)
* [State of Dapps](https://www.stateofthedapps.com/)
* [DeFi Prime](https://defiprime.com/)