WHITE HAT DAO

Dyl Token

Safety Rating

In quest of web3 safety
www.whitehatdao.com

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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.

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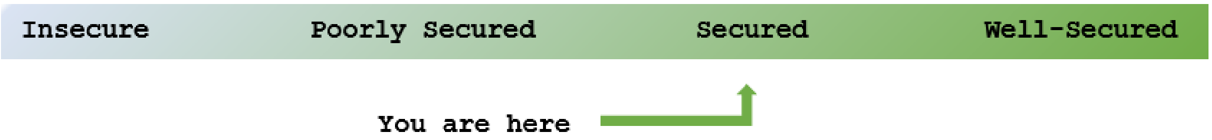
Executive Summary

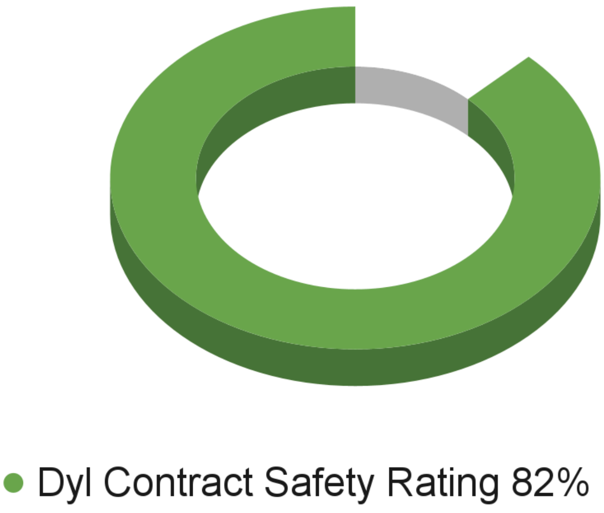
White Hat DAO has conducted this security assessment.   There was 1 contract reviewed during this security assessment. The smart contract was manually reviewed and analyzed with static and dynamic analysis tools.

Based on our examination, the contract is Secured.



No major issues related to the codebase were found. Although improvement can be made. More details have been provided as below.

Safety Score: 82%



Introduction

This security assessment has been prepared for Dyl Contract by WHD to find any safety concerns, bad practices and vulnerabilities in the source code as well as any contract dependencies in scope that were not part of an officially recognized library. Comprehensive tests have been conducted, utilizing manual code review, static and dynamic analysis and techniques.

The process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors
- Assessing the codebase to ensure compliance with current best practices and industry standards
- Ensuring contract logic meets the specifications and intentions of the client. Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders
- Thorough line-by-line manual review of the entire codebase by industry experts
- Reviewing unit tests to ensure full coverage of the codebase

The Project Summary, Scope, Details and Methodology of the assessment is described in the following sections.

The security assessment resulted in findings that ranged from critical to informational. We recommend addressing these findings to ensure a high level of security standards. These can be found in the Findings section of the report.

Project Summary

Project	Dyl Token
Description	Dylan Rhodes, known as Dyl is a Multi-Platinum awarded recording artist and entrepreneur from Philadelphia, PA. Dyl is a pioneer of crypto and Music NFTs
Website	https://dylmusic.com
Platform	Ethereum
Language used	Solidity
Codebase	https://etherscan.io/address/0x7a8946eda77817126ffe301249f6dc4c7df293c3#code
Commit	

Project Scope

White Hat DAO was commissioned by Dyl to perform security assessments on smart contracts as below:

Source Code	Acknowledgement	nSloc
https://etherscan.io/address/0x7a8946eda77817126ffe301249f6dc4c7df293c3#code	Accepted	

Details

Delivery Date	10/01/2024
Submission Date	09/01/2024
Key Components	Dyl Token

Methodology

Code review was conducted on following source-code
https://etherscan.io/address/0x7a8946eda77817126ffe301249f6dc4c7df293c3#code)

The code was manually reviewed in an attempt to identify potential vulnerabilities and verify adherence to the specification, best practices and proper use of the language itself. The unit tests were examined to ensure full coverage of the code. Automated analysis of the codebase was performed and results were reviewed.

The smart contracts were scanned for commonly known and more specific vulnerabilities. Following is the list of commonly known vulnerabilities that were considered during the audit of the smart contract:

- Access Control
- Arbitrary token minting
- Asset's integrity
- Authority Control attack
- Business Logics Review
- Centralization of power
- Client synchronization
- Code clones, functionality duplication
- Conditional Completion attack

- Consensus splits
- Costly Loop
- Data Consistency
- Data integrity loss
- Denial of service / logical oversights
- Deployment Consistency
- DoS with (Unexpected) Throw
- DoS with Block Gas Limit
- ERC20 API violation
- Escrow manipulation
- Explicit visibility of functions state variables
- False top-up Vulnerability
- Falsified messages
- Floating Points and Numerical Precision
- Functionality Checks
- Gas Usage, Gas Limit and Loops
- Implicit visibility level
- Injection type attacks
- Integer Overflow and Underflow attacks
- Invalid incoming messages
- Kill-Switch Mechanism
- Logic Flaws
- Mishandled exceptions and call stack limits
- Number rounding errors
- Operation Trails & Event Generation
- Outdated data in cache
- Ownership Takeover
- Redundant fallback function
- Reentrancy
- Remote code execution
- Reordering attack
- Replay attacks
- Repository Consistency
- Scoping and Declarations

- Second pre-image attacks on Merkle Trees
- Short address attack
- Style guide violation
- TimeStamp Dependence attack
- Token Supply manipulation
- Transaction Ordering Dependence attack
- tx.origin Authentication
- Unchecked external call
- Unchecked math
- Uninitialized Storage Pointers
- Unsafe external calls
- Unsafe type Inference
- User Balances manipulation

Severity Definitions

Severity	Definitions
Critical	These vulnerabilities have a catastrophic impact on the security of the project. They can lead to loss, data manipulation, take over, etc. It is strongly recommended to fix these vulnerabilities.
High	These vulnerabilities have a significant impact on the security of the project. They can lead to loss, data manipulation, take over, etc. It is strongly recommended to fix these vulnerabilities.
Medium	These vulnerabilities are important to fix. These vulnerabilities alone can't lead to asset loss or data manipulation. However, medium vulnerabilities can be chained to create a more severe vulnerability. It is highly recommended to review and address these vulnerabilities.
Low	These vulnerabilities are mostly related to outdated, unused code snippets and don't have significant impact on execution. It is suggested that the project party evaluate and consider whether these vulnerabilities need to be fixed.
Informational	These vulnerabilities don't pose an immediate risk, but are relevant to security best practices. They could be code style violations and informational statements that don't affect smart contract execution. They may be able to be ignored.

Critical Vulnerabilities

No Low severity / vulnerabilities were found.

Major Vulnerabilities

No Major severity / vulnerabilities were found.

Minor Vulnerabilities

No Minor severity / vulnerabilities were found.

However no harmful vulnerabilities were found, it is worth to mention that

# Contract was not renounced

# No LP Burnt / Locked - Locking or burning LP provides community safety to prevent owner from directly removing LP from the pool.
LP Contract - 0x1f98431c8ad98523631ae4a59f267346ea31f984 (Univ3)

# Contract Complies - yes

# Honeypot test - Passed

# Contract controlled by proxy - No

# Contract by known scam wallet

# Potential Multi-Blacklist- No

# Can Whitelist- No

# Can Update Taxes/Fees - No

# Can Update Max Wallet - No

# Can Update Max Tx- No

# Can Pause Trading- No

# Trading Cooldown- No

#Can Update Fee Wallets - No

Conclusion

The code was commented well. Comments are helpful in understanding the overall architecture and the logic flow of the contracts.