



ANASTASIA LABS

PROJECT CLOSE-OUT REPORT

Project Number	1000012
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Date Completed	Placeholder

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Project Name: Streamlining Development: A User-Friendly Smart Contract Library for Plutarch and Aiken Design Patterns & Efficiency

URL: [Project Catalyst Proposal](#)

List of KPIs

Challenge KPIs

Performance Optimization

- Streamlined and optimized mapping functions to reduce complexity and cost of smart contracts
- Efficiently managed script size and execution budgets to reduce transaction fees
- Reduced ExUnits cost compared to traditional checks

Security Enhancement

- Implemented measures against known exploits like double satisfaction
- Ensured comprehensive validation by incorporating UTxO indices within the redeemer

Consistency

- Predictable and optimized compilation outcomes
- Provided a normalized representation of validity ranges

Project KPIs

Library Completeness

- Inclusion of key design patterns for Plutarch and Aiken

Documentation Quality

- High-quality, detailed documentation for each smart contract library with detailed flow charts/images displaying solution architectures

Engagement

- Active participation in social networks, GitHub, and community events can be observed through various means like

Key achievements

Development of Comprehensive Libraries

User-friendly libraries for Plutarch and Aiken, simplifying complex design patterns without sacrificing readability and circumventing repetitive boilerplate

Exemplary use of these libraries are found for 7 different validator scenarios in:

- **For Aiken**
- **For Plutarch**

Engagement

Communication with the developer community (A presentation on design patterns was given in Buidlfest), which will potentially lead to increased adoption and valuable feedback.

Examples of the feedback we have received are found [here](#)

Key learnings

User Feedback

Actively incorporated feedback from developers/users to improve the libraries

Process Improvements

Improved the development process based on insights gained during the project

Best Practices

Further identified and documented best practices for smart contract development. An extensive documentation

Next steps

Feature Enhancements

Maintain and further optimize existing libraries created for the developers.

Additional design pattern libraries that streamline the implementation process for other existing smart contract languages. (Such as [Scalus](#))

Expansion

Targeting a wider developer audience through increased outreach

Final thoughts

The project successfully addressed its purpose by creating a freely accessible library of design patterns for Cardano developers. Initiatives alike help best practices and already solved puzzles of development on Cardano spread and create ecosystem-wide returns. We would like to believe our long-lasting open-source efforts have simplified design decisions and improved developer accessibility.

Resources

Project

- [GitHub Repository](#)
- [Catalyst Proposal](#)

Aiken

- [Aiken - Design Patterns](#)
- [Test Results / GIF](#)

Plutarch

- [Plutarch - Design Patterns](#)
- [Test Results / GIF](#)

Close-out Video

- [linkhere](#)