Unified Open Source DEX Analytics For Cardano
— Project Close-Out Report —

MuesliSwap Team

February 19, 2025

Official Close-Out Summary

- **Name of project and Project URL on Fund:**
  Unified Open Source DEX Analytics For Cardano
  https://projectcatalyst.io/funds/12/cardano-open-developers/unified-open-source-dex-analytics-for-cardano

- **Project ID:** #1200241

- **Project managed by:** MuesliSwap Team

- **Project started in:** September 2024

- **Project completed in:** February 2025

- **Challenge KPIs and how the project addressed them:**

  - **Transparency:** Developed a fully open-source tool that aggregates DEX data, ensuring all community members have access to reliable information.
  - **Inclusivity:** Provided support for all major Cardano DEX protocols to eliminate reliance on single gatekeepers.
  - **Adoption and trust:** Empowered developers and users by democratizing access to on-chain DEX analytics.

- **Project KPIs and how the project addressed them:**

  - **Analytics API:** Delivered a functional API featuring endpoints for last trades, user history, price history, and volume analysis.
  - **Open-source release:** Transitioned our closed-source codebase to an open-source repository under the GNU General Public License.
  - **Robust Documentation:** Published comprehensive documentation (including schema, API endpoints, and integration guides) accessible via our GitHub repository.
  - **Community engagement:** Actively shared updates and gathered feedback through Catalyst channels, social media, and technical forums.

- **Key achievements:**

  - Successfully built and deployed a unified DEX analytics tool that supports multiple protocols.
  - Open-sourced our codebase and documentation to encourage community collaboration.

- Completed all project milestones (Smart Contract Analysis; Code-Base Schema Optimisation and API Development; Deployment, Testing and Advanced Feature Integration) on schedule.

- **Key learnings:**

  - Modular design is essential for handling diverse DEX architectures.
  - Integrating on-chain data with off-chain batch processing requires iterative testing and refinement.
  - Continuous community feedback drives innovation and helps fine-tune analytical features.

- **Next steps for the product or service developed:**

  - Enhance the analytics tool with advanced features (e.g., arbitrage detection, additional market metrics).
  - Expand support to emerging DEX protocols as the Cardano ecosystem evolves.
  - Maintain and update documentation, encouraging contributions from the community.
  - Explore integration with other Cardano data platforms to further democratize DeFi insights.

- **Final thoughts/comments:**
  The Unified Open Source DEX Analytics project has established a solid foundation for transparency and innovation in the Cardano DeFi ecosystem. By making detailed market data accessible to all, the project reinforces Cardano's commitment to decentralization and community empowerment. We look forward to continued collaboration and further advancements as the ecosystem grows.

- **Links to other relevant project sources or documents:**

  - GitHub Repository:
    `https://github.com/MuesliSwapTeam/muesliswap-dex-analytics`
  - Milestone 1 Report:
    `https://github.com/MuesliSwapTeam/muesliswap-dex-analytics/blob/main/report/main.pdf`
  - Milestone 2 Documentation:
    `https://github.com/MuesliSwapTeam/muesliswap-dex-analytics/blob/main/docs/api-docs.pdf`
  - Milestone 3 Deployment & Testing Video:
    `https://youtu.be/7FP45SVvrZc`
  - Close-Out Video:
    `https://youtu.be/GroHXWJiJOE`

1 Introduction

This report summarizes the development, testing, and deployment of the Unified Open Source DEX Analytics tool for Cardano. The project was conceived to address the lack of a comprehensive and transparent analytics solution for Cardano DEXs. By aggregating data from multiple protocols into a single open-source platform, we have aimed to empower users, developers, and researchers with reliable insights into the decentralized finance (DeFi) landscape on Cardano.

2 Project Overview and Milestones

The project was executed over a period of [4 months Placeholder] and was structured into three key milestones:

1. **Milestone 1 – Smart Contract Analysis:**
   A comprehensive report analyzing the order processing smart contract systems of major Cardano DEX protocols (e.g., MuesliSwap, Minswap, SundaeSwap, WingRiders, VyFI). This laid the groundwork for understanding the on-chain data flows and datum structures required for accurate analytics.

2. **Milestone 2 – Code-Base Schema Optimisation and API Development:**
   Refactoring of our existing closed-source system to an open-source repository, along with the development of a robust analytics API featuring endpoints for trade history, price tracking, and volume analysis. Enhancements were made based on insights gathered during Milestone 1.

3. **Final Milestone – Deployment, Comprehensive Testing, and Advanced Feature Integration:**
   Deployment scripts and performance optimizations were implemented to ensure easy installation and operation. A comprehensive testing suite validated the tool's core functionality, and advanced analytical features were integrated to support deeper market insights.

3 Conclusion

The completion of this project marks a significant advancement in Cardano DeFi transparency and user empowerment. The Unified Open Source DEX Analytics tool not only provides vital market data in a user-friendly format but also fosters a collaborative environment by being fully open source. We are confident that the tool will serve as a valuable resource for the Cardano community, spurring further innovation and adoption across the ecosystem.

For further information or to contribute, please refer to the links provided in the summary above.