Name of project and Project URL on IdeaScale/Fund:

Marlowe Enhanced: Tailored Contracts with Intuitive Design

Marlowe Enhanced: Tailored Contracts with Intuitive Design (ideascale.com)

Project Number: 1100190

Project manager: Erick Romero

Date project started: March 4, 2024

Date project completed: August 25, 2024

List of challenge KPIs and how the project addressed them

- The main challenge we faced was that, because the TS-SDK is brand new, we had to simultaneously work on the platform, create contracts, and test the SDK. This made it difficult to pinpoint where issues were originating—whether in the web development framework, the smart contract language, or the offchain code. To address this, we followed a testing and contract creation pipeline and maintained continuous communication with the core team on Discord.
- Another challenge we encountered was the lack of structured documentation and examples from Marlowe framework. To overcome this, we held regular meetings with the core team and the lead developer working on the TS-SDK.

List of project KPIs and how the project addressed them

A key KPI for our project was to showcase the use of the TS-SDK by creating a web application that allows users to interact with smart contracts in an intuitive manner. We achieved this successfully and received positive feedback from the community. The enhancement of the UI/UX was made possible by the development of the TS-SDK, which included features like annotation and Merkleization.

Key achievements (around collaboration and engagement)

In addition to demonstrating the use of the TS-SDK to create Marlowe web applications, we've lowered the barrier for new developers interested in building Dapps with Marlowe. We achieved this by using a web framework and organizing the code in a way that is easily replicable for those referencing the source code. Furthermore, we compiled a list of all the bugs encountered during testing and submitted it to the Marlowe core team's GitHub, directly collaborating with them. We've also provided feedback and recommendations for improving performance and UX.

Key learnings

Consistently maintain strong communication with the core library team. Marlowe holds significant potential, especially for developers new to Cardano who are eager to experiment with smart contracts.

Next steps for the product or service developed

Create a SaaS starter kit using a web framework with pre-built contract templates, allowing new developers to quickly download the necessary libraries and have a SaaS template up and running in minutes.

Final thoughts/comments

The Cardano ecosystem is expanding rapidly, with new tools maturing and offering developers more options to meet their application needs. Marlowe, in particular, abstracts away the complexities of the blockchain and UTXO model, allowing developers to focus solely on their application logic. Additionally, with Marlowe now being open source and community driven, I anticipate an increased collaboration and the addition of new features, as stated by the core team in their Marlowe 2025 roadmap.

Links to other relevant project sources or documents.

- Dapp Demo: marlowe.eddalabs.io
- GitHub repo: ErickRomeroDev/marlowe-web-integration (github.com)
- Marlowe GitHub: Marlowe Lang (github.com)
- TS-SDK reference: api | Marlowe ts-sdk - v0.4.0-beta (input-output-hk.github.io)

Link to Close-out video - must be either YouTube or Vimeo link only

https://youtu.be/4ZzZHQnTb3w