



Study Control System for Universities: DiplomaADA

Project Identification:	1100266
Challenge:	F11: Cardano Use Cases: Concept
Budget:	ADA 99.000,00
Fondos distribuidos:	ADA 84,150.00
Fecha de inicio:	March 11, 2024
Completion Date:	April 2025

The project was developed based on the proposed results, acceptance criteria, and evidence of completion for each milestone, which were delivered. Each milestone was also reviewed by the corresponding evaluators, confirming its acceptance and successful completion, according to Catalyst's evaluation criteria and features, as well as its planned schedule, that is to say:

Milestone 1: Project initiation and design. Approved by the Catalyst team. User signature: April 22, 2024, at 3:00 a.m.

Milestone 2: API and Web Portal Development³. Approved by the Catalyst team. User signed: May 27, 2024, at 9:17 AM.

Milestone 3: Smart Contract Design and Development: Approved by the Catalyst team. User signature on: August 1, 2024, at 7:27 PM.

Milestone 4: Integration and Notification System: Approved by the Catalyst team. User signature: October 30, 2024, at 10:43 a.m.

Milestone 5: Testing, Testnet Deployment, and Feedback Collection: Approved by the Catalyst team, user sign-off on: March 20, 2025 at 4:55 AM.

Final Milestone: Testing, Testnet Deployment and Feedback Collection and Final Tweaks, Mainnet Deployment and Project Completion Report.

Below is a summary table of the project's evaluation results:

RESULTS CHART BY MILESTONE

MILESTONES	MILESTONE RESULTS	ACCEPTANCE CRITERIA	EVIDENCE OF MILESTONE COMPLETION	STATUS / DATE
MILESTONE #1: Project Initiation and Design	Define project objectives and scope, define roles, create a project schedule, and design the system architecture.	A clear and concise document defining the project objectives, a matrix clearly defining the roles of each person in the project, a project management tool for creating a project schedule, and complete documentation of the system architecture.	Project objectives and scope document, approval log, Roles and Responsibilities Matrix, Project schedule in the project management tool and System architecture documentation at the following address: https://github.com/FunintecVen ezuela/DiplomADA	Approved by the Catalyst team. User signature: April 22, 2024, at 3:00 a.m.
MILESTONE #2: Development of APIs and web3 portals	Set up API development environment, develop APIs, perform API unit testing, set up web development environment3, develop user interface and administration	<p>The application must be able to request and obtain the user's credentials. It must display a message to the user requesting their consent to access their credentials.</p> <p>The application must be able to connect to a wallet; the wallet must be available, and the application must be able to connect to it upon selection. The application must allow the user to sign transactions with their wallet. The application must display an interface that allows the user to review the transaction details before signing it.</p> <p>The application must display relevant information about</p>	<p>Please provide the necessary information to adequately assess the implementation of this milestone.</p> <p>Evidence to assess the implementation of a Web3 API and portal:</p> <p>Functionality:</p> <p>API testing, for each API endpoint, including requests and responses, and test reports.</p> <p>Test reports demonstrating the portal's usability and accessibility.</p> <p>Screen recordings demonstrating user workflow.</p> <p>Security:</p> <p>Security testing, vulnerability analysis of source code and infrastructure.</p> <p>Penetration testing: to identify and mitigate security risks.</p>	Approved by the Catalyst team. User signature: March 1, 2024, at 6:24 AM.



		signed transactions, such as the transaction hash, sender, and recipient.	Implementation of security measures: Authentication, authorization, and encryption. Document findings and recommendations. Action: Load testing: Simulation of a high volume of users to assess portal scalability. Monitoring server and network performance during load testing. Code and infrastructure optimization: to improve performance. Performance Analysis: Identification of bottlenecks and areas for performance improvement. Solution Implementation: Optimize response time and latency. Documentation: API and web portal documentation Video tutorials to explain the portal's key features. All of this can be found at the following address: https://github.com/FunintecVen ezuela/DiplomADA	
MILESTONE #3: Design and development of smart contracts	Design smart contracts and NFTs, define the structure, code smart contracts and NFTs, perform unit testing of contracts and NFTs	The application must be able to display information about smart contracts, such as the contract address and available features, and must be able to interact with auditable smart contracts on the Cardano testnet blockchain network initially.	The evidence includes: A screenshot of the application showing information about a smart contract. A screenshot of the application showing the execution of a smart contract function. A record of the interaction with the smart contract on the blockchain.	Approved by the Catalyst team. User signed: August 1, 2024, at 7:27 PM.
MILESTONE #4: Integration and Notification System	Integrate web3 portal with API, integrate web3 portal with	The acceptance criteria are as follows:	The evidence presented will allow for a complete and accurate assessment of the	Approved by the Catalyst team. User



	smart contracts and NFT, integrate notification system with web3 portal and API	<p>The API must be able to provide the web3 portal with the necessary data to display information correctly and up-to-date.</p> <p>The web3 portal must consume data from the API efficiently, without impacting application performance.</p> <p>The web3 portal must be able to interact with smart contracts deployed on the blockchain.</p> <p>The web3 portal should allow users to perform transactions with NFTs, such as buying, selling, and transferring.</p> <p>The web3 portal must be able to send notifications to users about relevant events, such as the receipt of an NFT or the execution of a transaction.</p> <p>The notification system must be configurable so that users can choose which types of notifications they wish to receive.</p>	<p>milestone implementation. These are as follows:</p> <p>Evidence:</p> <p>API Integration:</p> <p>Screenshots or videos showing the successful connection between the web3 portal and the API.</p> <p>Test logs detailing requests and responses between the web3 portal and the API.</p> <p>Confirmation of successful data transfer, smart contract integration:</p> <p>Screenshots or videos demonstrating the web3 portal's interaction with smart contracts.</p> <p>Visualization of the execution of smart contract functions from the portal.</p> <p>Transaction logs:</p> <p>Showing transactions made on the blockchain related to portal actions.</p> <p>Screenshots or videos showing the display of NFTs on the web3 portal.</p> <p>User Testing:</p> <p>Test reports detailing tests performed by real users with the web3 portal.</p> <p>Gathering feedback and suggestions on the user experience.</p> <p>All of this can be found at the following address: https://github.com/FunintecVenezuella/DiplomADA</p>	<p>signature:</p> <p>October 30, 2024, at 10:43 AM.</p>
MILESTONE #5: Testing, Testnet Deployment, and Feedback Collection	The application must be thoroughly tested to ensure it meets user requirements and expectations. Testing should cover various usage scenarios and extreme cases. Therefore,	Unit test reports should be generated to indicate the success or failure of each test, as well as integration tests that show the interaction between the	The evidence for evaluating Testnet Implementation Testing and Feedback Collection is as follows:	Approved by Catalyst Team, User Signature: March 20, 2025 at 4:55 AM



	the application should be deployed on a test network to verify its operation in a real-world environment. Integration testing with the blockchain network should be performed.	different application modules.	Testnet performance analysis reports. User comments on forums or emails. All of this can be found at the following address: https://github.com/FunintecVen ezuela/DiplomADA and on the page https://funintec.net/	
FINAL MILESTONE: Final adjustments, Mainnet deployment, and final project completion report.	Deploy contracts to the mainnet, perform integrity testing on the mainnet, and complete a final project completion report.	Ensure that fixes and enhancements do not impact existing functionality, run automated tests to detect bugs or regressions, perform a final security audit to identify and fix vulnerabilities, carefully migrate data from the test network to the main network, and present project findings and their impact on the organization.	A closing report and video will be presented, and the prototype will also be delivered. The development will be published at the following address: https://github.com/FunintecVen ezuela/DiplomADA ; the application will be on the page: https://funintec.net/	Waiting for approval

The prototype and project completion report point to a second phase, which will consider improving the platform and existing applications by significantly expanding their functions and capabilities, driving adoption, usability, and growth of the Cardano ecosystem, as well as increasing its transactions.

Therefore, the second phase of the project aims to promote and strengthen the incorporation of more functionalities into the system. Considering that we are in the conceptualization category, the project's focus is on defining, structuring, and supporting the foundations of a prototype.

The proposed Diploma in Cardano program seeks to significantly shift the capabilities of the centralized academic management systems currently used by universities. These existing systems, while performing basic registration and management functions, lack the transparency, immutable



security, and direct and global verifiability offered by a blockchain-based solution like Cardano. Diplomada is presented as an evolution of traditional academic management systems, allowing us to offer an innovative product that guarantees the security, transparency, and traceability of educational records, benefiting students and institutions alike.

Requirements for using the certified system:

- You must use the Chrome web browser.
- For now, it only works with the Eternal wallet. To do this, you must install the Eternal extension in your browser to securely connect the wallet to the app.