



User Manual for ChainIDentity

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User Manual for the ChainIDentity

1. Introduction

ChainIDentity is a decentralized software platform designed to tokenize entities, digital and physical objects. It utilizes blockchain smart contracts to link users digital tokens with unique objects or real-world assets such as vehicles, birth certificates, or academic credentials.

This document is intended to interact with the front-end system. It assumes the system has been deployed and running.

All interfaces are fully responsive and support both light and dark modes, which users can select based on their preference. Figure 1 illustrates the interface in dark mode, while Figure 2 presents the same interface in light mode.

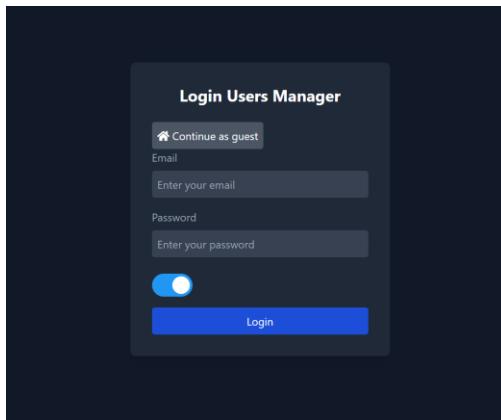


Figure 1. Dark mode enable.

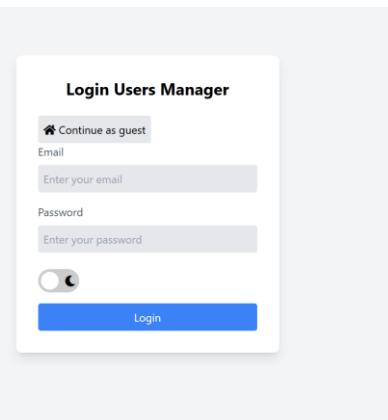


Figure 2. Light mode enable.

2. Initial Setup and Access

2.1 Accessing the Front-End Interface

Once deployed, the platform is accessible through the Users Front at: <http://localhost:5512> (local development) or <http://<assigned-ip>:5512> (remote access). In this manual we will use the local URL.

Navigate to `/registergovernment` to begin the system. This is the first mandatory step.

2.2 Registering the First Government User

Go to <http://localhost:5512/registergovernment> endpoint, a form is presented with three input fields:

- Email
- Password

-Token Identity, e.g., 0x2CfcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341 (You can leave the default value), obtained from Ganache or another blockchain wallet.

This user becomes the system's root authority and can create all subsequent users and services.

Fill out the fields shown in Figure 3 and submit the form. Once registration is completed, the system, will pop-ups 2 alerts as shown in Figure 4, then route /registergovernment is disabled automatically redirects to the login page. This government user is essential to the system functionality, without it, no other service can operate.

The form is titled "Initial Admin Registration". It contains three input fields: "Email" with value "gover@gover.com", "Password" with value "123456789", and "Government Address" with value "0x2CfcBB9Cf2910fBa7E7E7a8092aa1a40BC". Below the fields is a blue "Register Critical User" button.

Figure 3. Government initial form.

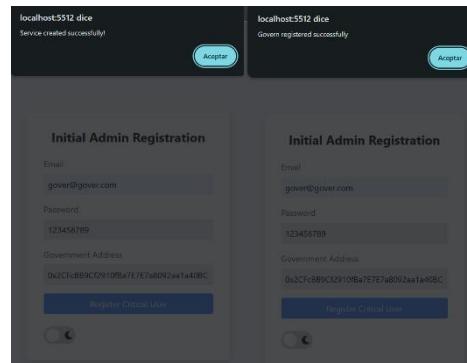


Figure 4. Successful registration.

3. Authentication and Guest Access

3.1 Logging In

Upon redirection, the login screen is displayed (Figure 5). There are 2 options to log in, log in with their credentials or continue as guests. The first time log in with government credentials.

The form is titled "Login Users Manager". It has two main sections: "Continue as guest" (with a small icon) and "Email" (gover@gover.com) and "Password" (redacted). Below the fields is a blue "Login" button.

Figure 5. Login form of Users system.

Guests can read only public information.

If the password or email is incorrect during login process the alert shown in Figure 6 will appear in any service.

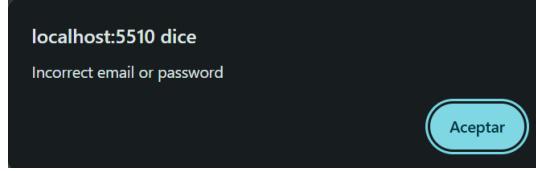


Figure 6. Login fail attempt.

3.2 Guest Capabilities

Guests can use the search bar to find public data by entering a token address or user email and pressing Enter or clicking the magnifying glass icon. The front-end is illustrated in Figure 7.

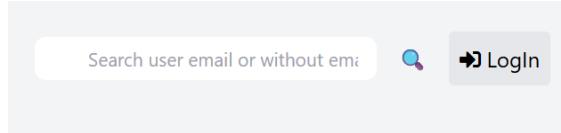


Figure 7. User search bar.

Guests cannot: View private data, register new users, or modify the system state

4. Government Dashboard

4.1 Viewing All Registered Users

Government users gain access to the Users Tab, which contains a searchable table with registered users. Each row includes Email, Token Address, Type, and Digital Identity Address.

The government can browse the registry, as shown in Figure 8.

A screenshot of a user interface showing a table titled "Users consult information". The table has columns for Email, User Address, Type, and Digital Identity Address. There are four rows of data. On the left, there is a sidebar with links for "Register user", "Users consult information", and "User List".

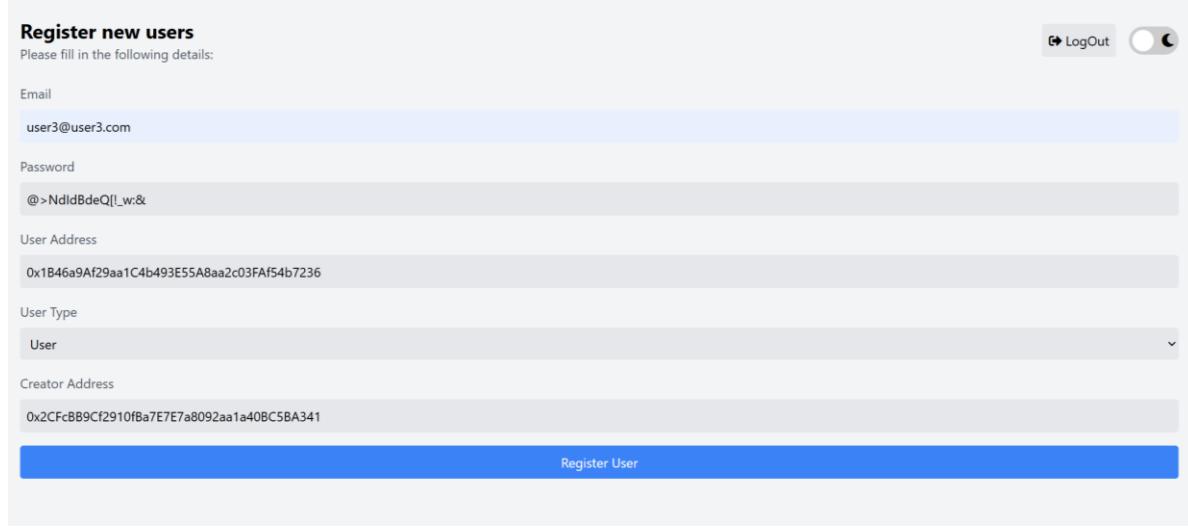
Email	User Address	Type	Digital Identity Address
gover@gover.com	0x2CfcBB9Cf2910Ba7E7E7a8092aa1a40Bc58A341	Government	0x00
user1@user1.com	0x32d680Aa90D45867788a0fE9Af3d3578dcB4a83	User	0x3C6554C094916899981B8824db8066912cd62A6A
user2@user2.com	0x207e64483970598A705629674b2F8c90f1CA594b	User	0x1Ac17a150dce22fe723aDd108BD0c6b694f0eD1F
admin@admin.com	0x9702Af51c5ebCd44464E615846A511BFb1598	Admin	0x4072b13B1D007a4cb24349829416d3b797679287

Figure 8. User List

4.2 Registering a New User

In the Registration Tab, the government may create new users. The form contains: email, password, user type, token address, and creator address (auto-filled from the logged-in

Government) visually shown in Figure 9. (You can obtain addresses from the ganache container, without using already used addresses)



The image shows a registration form titled "Register new users". It includes fields for Email (user3@user3.com), Password (@>NdIdBdeQ{l_w:&), User Address (0x1B46a9Af29aa1C4b493E55A8aa2c03FAf54b7236), and Creator Address (0x2FcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341). A dropdown for User Type shows "User" selected. At the bottom is a blue "Register User" button.

Figure 9. Registration form.

The user types are characterized by the options shown in Figure 10. The Government is the only entity capable of creating other government accounts (i.e., users with the same permissions). The admin has limited functions but still possesses higher privileges than the regular users. Users and Educational Administrators share similar levels of access, with the least privileges overall. However, Educational Administrators are the only users authorized to manage the Scholar Curriculum System.

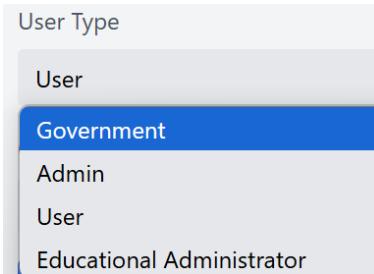


Figure 10. User types.

Submitting this form a new Digital Identity Contract is created, and assigned to the filled user. The token will serve as the record for linking documents and verifying identity. See Figure 11 for a sample of successful registration.

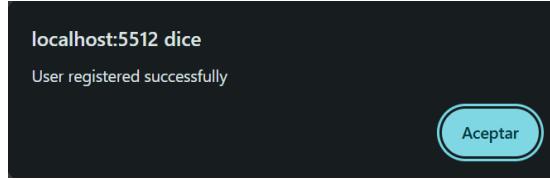


Figure 11. Successful registration alert.

4.3 Consult user information

The user consultation operates as described in Section 5.1, referring to the main page, and in Section 5.2, which will explain the key differences between other users and the government.

5. User Interface Overview

5.1 Main Page and Search

Upon login, users land on the Main User Interface. At the top right you can see a search bar (previously shown at Figure 7). Clicking into the bar and typing a known token address or user email, followed by pressing Enter or clicking the icon, it retrieves public metadata stored on the user's contract — e.g., the name, token direction, or contract origin (as shown in Figure 12 and Figure 13). As well, if the field is empty, by pressing enter or clicking the icon, will display the service information like the government of the service (Figure 14).

Info	User Result
Type	User
Digital Identity Address	0x3C6554C094916899981B8824db8066912cd62A6A
Creator	0x2FcBB9Cf2910fBa7E7a8092aa1a40BC5BA341

Figure 12. Information obtained from user1@user1.com

Info	User Result
Type	User
Digital Identity Address	0x3C6554C094916899981B8824db8066912cd62A6A
Creator	0x2FcBB9Cf2910fBa7E7a8092aa1a40BC5BA341

Figure 13. Information obtained from user1@user1.com using the token address.

User Contract Info	Value
owner	0x2FcBB9Cf2910fBa7E7a8092aa1a40BC5BA341
nameToken	Users
government	0x2FcBB9Cf2910fBa7E7a8092aa1a40BC5BA341

Figure 14. Information displayed from the empty search bar.

If the user is an admin or official government, on the left interface menu expands (Figure 15) to include access to:

- A list of all users
- A user registration form
- A Users consult information

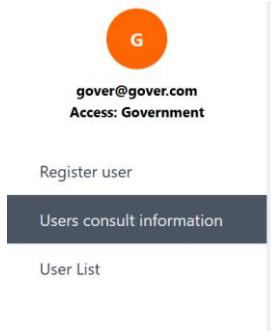


Figure 15. Extended menu.

5.2 Role-Based Permissions

Each role has unique access capabilities as shown in the following table:

Role	View Public Data	View Private Data	Register Users	Create Records	Link Objects
Guest	✓	✗	✗	✗	✗
Registered User	✓	✓ (self only)	✗	✗	✓ (self)
Government	✓	✓	✓	✓	✓

Table 1. Comparison between the different roles.

6. Digital Identity Service

Access the Digital Identity Service via <http://localhost:5511>

6.1 Personal Dashboard

Each registered user has access to the Digital Identity Interface, which serves as their dashboard. From here, users can view public and private data associated with their identity and also search other public identities using token address.

For example, by typing a user's public token in the search bar (similar to the process in Figure 7), one can preview their public information. This interface is illustrated in Figure 16, by clicking on the 'More Information' link, you can display the details of the token being logged.

The screenshot shows a web-based application titled 'Token Information'. At the top, it says 'Search a Digital Identity Tokens'. Below that is a 'Digital Identity Address' input field containing the value '0x3C6554C094916899981B8824db8066912cd62A6A'. Underneath is a 'Token to Search Address' input field with the placeholder 'Select a token'. A large blue 'Search' button is at the bottom of this section. The entire interface is contained within a light gray box.

Figure 16. Search section for digital identity.

This screenshot shows the same 'Token Information' interface after a search has been performed. The 'Digital Identity Address' field now contains '0x3C6554C094916899981B8824db8066912cd62A6A'. The 'Token to Search Address' field now contains 'BirthCertificate'. Below these fields is a large blue 'Search' button. At the bottom of the page, under the heading 'Result :', there is a list of items: 'More Info -> [Click Here](#)', 'Token Name -> BirthCertificate', and 'Government of the token -> 0x2FcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341'. The entire interface is contained within a light gray box.

Figure 17. Information obtained from Birth Certificate information in the digital identity address.

6.2 Linking Objects and Records

Once logged, users can link new tokens (representing physical objects or records) to their identity token by submitting the token address to the form. The token might correspond to: A car, birth certificate, diploma or achievement, etc. Figure 18. A token example can be obtained following the service example from either section 7 or 8,

The screenshot shows a user interface for linking a token to a digital identity. On the left, there's a sidebar with a user icon, the email 'user1@user1.com', and the access level 'Access: User'. Below this are two buttons: 'Consult Token information' and 'Link Tokens'. The main area is titled 'Token Information' and contains a section for 'Token linker'. It shows the 'Token Address' as '0x81c22c57e848c6de7b0b77ac66258bf93ad34595'. Below it, 'Digital Identity Address' is listed as '0x3C6554C094916899981B8824db8066912cd62A6A'. A note states 'Owner of token *Needs to be the same token as the owner in the token to add' followed by the address '0x32d680a90D45B677B8a0fF9Af3d3578dcB4a83'. At the bottom is a blue 'Submit' button.

Figure 18. Token Linker.

The form validates the token existence and binds it to the user's identity. This enables decentralized ownership verification, when the right link is introduced, on screen will appear the next notification "Linked Successfully" (Figure 19.), after that, the address will appear with its name on the search section in the "Consult Token Information" tab, as shown in Figure 20.

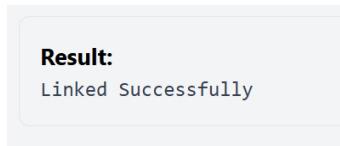


Figure 19. Linked Successfully.

The screenshot shows the 'Token Information' page. In the 'Search a Digital Identity Tokens' section, the 'Digital Identity Address' is listed as '0x3C6554C094916899981B8824db8066912cd62A6A'. Below it, the 'Token to Search Address' section has a dropdown menu with three options: 'Select a token', 'Select a token', and 'BirthCertificate', with 'BirthCertificate' highlighted.

Figure 20. New certificate stored on the digital identity.

7. Birth Certificate Service

This service allows the government to issue Digital Birth Certificates.

Access the Digital Identity Service via <http://localhost:5510>

7.1 Creating a Birth Certificate

Once logged, the government can select a user without a birth record, input personal data (full name, parents, birthplace, etc.), and assign token addresses to the parents (if available) Figure 21.

Email	User Address	Type	
gover@gover.com	0x2CfcBB9Cf2910fBa7e7E7a8092aa1a40BC5BA341	Government	<button>New</button>
user1@user1.com	0x32d680Aa90D45B677B8a0fFe9Af3d3578dcB4a83	User	<button>New</button>
user2@user2.com	0x207Ee44B397059BA705629674b2F8c9Df1CA594b	User	<button>New</button>
admin@admin.com	0x9702Af51cA5ebCd44464E615846A511B0f159B	Admin	<button>New</button>
user3@user3.com	0x1B46a9Af29aa1C4b493E55A8aa2c03FAf54b7236	User	<button>New</button>
up@up.edu.mx	0x295B65c0e1BfE88A898068aab9608f6277BF257D	Educational Administrator	<button>New</button>

Figure 21. User list, to create a new certificate.

Figure 22 shows the form in use to create a certificate. After all filled, the birth certificate is created and needs to be linked to the digital identity token for it to be stored. Figure 20 shows this form in use linking the certificate to the digital identity.

Figure 22. Birth Certificate form.

7.2 Accessing the Certificate

Represented in Figure 23, Figure 25, and Figure 26, one can see the different viewing that each user has, and the government having an extra function (Figure 24), in addition all users can view information of the contracts, but what they can see in the contract details depends on their role.

Complete Name	Contract Address	Owner Address		
admin adminFLN adminMLN	0x156d33fe728c0ceeb1e34084ec3a7fb38e85b29	0x9702Af51cA5ebCd44464E615846A511B0f159B	<input checked="" type="checkbox"/> Edit an Address	<input type="checkbox"/> View
Brandon Hernandez Cortez	0x16a822f1730cc585cb4644ba56d8861b07746faf1a	0x207Ee44B397059BA705629674b2F8c9Df1CA594b	<input checked="" type="checkbox"/> Edit an Address	<input type="checkbox"/> View
Juan Carlos Hernandez	0x81c22c57e848c6de7b0b77a66258bf93ad34595	0x32d680Aa90D45B677B8a0fFe9Af3d3578dcB4a83	<input checked="" type="checkbox"/> Edit an Address	<input type="checkbox"/> View

Figure 23. Governments main view.

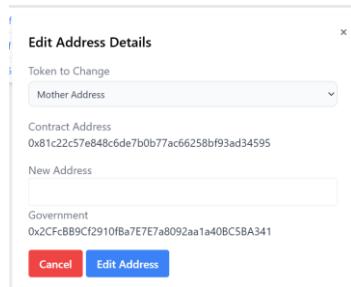


Figure 24. Edit address function.

Figure 25. Users main view.

Figure 26. Guests main view.

Users can view their own birth certificate, both public and private fields. Figure 27.

Figure 27. Users form view.

Guests can only view public data, e.g., name and sex. Figure 28.

Figure 28. Guests form view.

Governments can view all data. Figure 29.

Figure 29. Governments form view.

8. Scholar Curriculum Service

This service tokenizes academic achievement. It requires a user representing an educational institution, which must be registered by the government.

Access the Scholar Curriculum Service via <http://localhost:5513>

8.1 Assigning Student Identity

Once logged, the institutions may register verified individuals (i.e., those with valid birth certificates) to become students by filling a unique Student Id and the student Birth certificate, Figure 30.

Create Scholar Curriculum
Contracts. Please use this page to create Scholar Curriculums.

Student ID
0289547

Birth Certificate Address
0x81c22c57e848c6de7b0b77ac66258bf93ad34595

University permitted address
0x295865c0e1BfE88A898068aab9608f82778f257D

Submit

Figure 30. Create a scholar curriculum form.

8.2 Adding Academic Records

School admins can add records such as enrollments, degrees or diplomas, and achievements (e.g., project awards) seen in Figure 31 and the form in Figure 32. Figure 33 demonstrates how an institution enters student data.

Check and add achievements to students			
Student ID	Complete Name	Curriculum Address	Achievements
0244582	Brandon Hernandez Cortez	0x65364614b26be4a95160ce441f42cbbeddf1b1d7	Select Achievement ▾ Achievement Details Add Achievement
0289547	Juan Carlos Hernandez	0x6e1d28914b8dd1987cf031e7483455d033a5f6d7	Select Achievement ▾ Achievement Details Add Achievement

Figure 31. Achievements section.

Add Achievement

Achievement ID
000000

Achievement Title
Title

Achievement Details
Details here.

Achievement Creation Date
dd/mm/aaaa --::--

Add to curriculum Cancel

Add Achievement

Achievement ID
r185c005up

Achievement Title
Race UP

Achievement Details
Winning the UP racing tournament

Achievement Creation Date
17/06/2025 18:28

Add to curriculum Cancel

Figure 32. Add achievement form.

Figure 33. Achievement form filled.

In the same section, the available achievements can be viewed to display only the ones the student has earned, as shown in Figure 34. Following this, referring to Figure 35, you can see how the details are displayed after pressing the “Achievement Details” button.

Check and add achievements to students				
Student ID	Complete Name	Curriculum Address	Achievements	
0244582	Brandon Hernandez Cortez	0x65364614b26be4a95160ce441f42cbbeddf1b1d7	Select Achievement	Achievement Details Add Achievement
0289547	Juan Carlos Hernandez	0x6e1d28914b8dd1987cf031e7483455d033a5f6d7	Select Achievement Race UP	Achievement Details Add Achievement

Figure 34. Achievements updated.

Achievement Details

Title
Race UP

ID
r185c005up

Details
Winning the UP racing tournament

Date
17/6/2025

Cancel

Figure 35. Achievement details example.

8.3 Student and Guest Access

- Students can log in to view their achievements Figure 36.
- Guests can search for students using their token and view only public achievements. Figure 37.

Scholar Curriculum Information				
Search for a Curriculum				
Student ID or Complete Name				
<input type="text" value="0244582"/>				
Search				
Student ID	Complete Name	Curriculum Address	Achievements	
0244582	Brandon Hernandez Cortez	0x65364614b26be4a95160ce441f42cbbeddf1b1d7	Select Achievement Select Achievement Race UP	Achievement Details

Figure 36. Scholar curriculum home, Students view.

Check and add achievements to students				
Student ID	Complete Name	Curriculum Address	Achievements	
0289547	Juan Carlos Hernandez	0x6e1d28914b8dd1987cf031e7483455d033a5f6d7	Select Achievement	Achievement Details

Figure 37. Scholar curriculum home, Guests view.

9. Summary and Future Integration

This manual has documented the full flow of the Digital Identity system, including:

- Initialization of the government user

- Role-based interaction - Linking of records
 - Demonstration use cases: Birth Certificates and Academic Records
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