



User Manual for ChainIDentity

Brandon Magaña Avalos
Student ID - 0244582
bavalosmm@gmail.com
Student of ISGC

Juan Carlos López Pimentel
clopezp@up.edu.mx
Research Professor - Faculty of Engineering

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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.

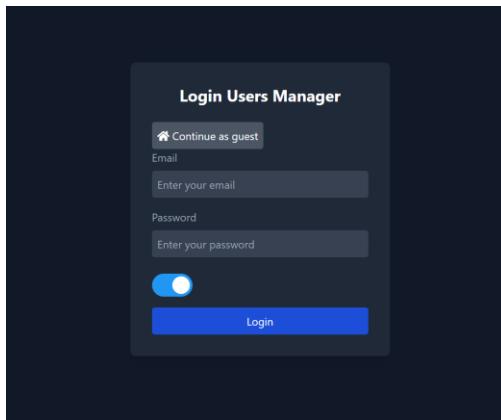


Figure 1. Dark mode enable.

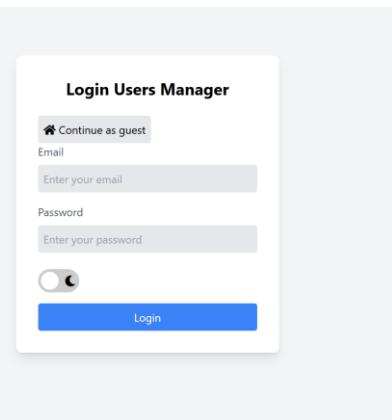


Figure 2. Light mode enable.

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, 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.

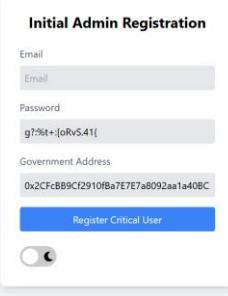


Figure 3. Government initial form.

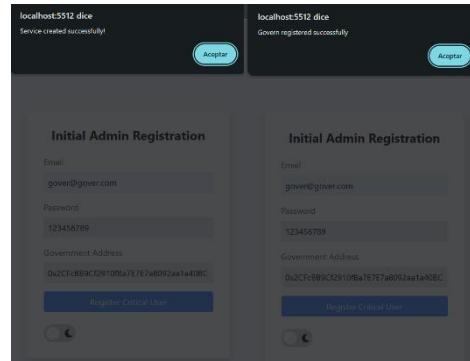


Figure 4. Successful registration.

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.

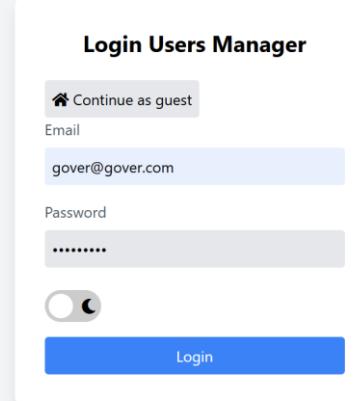


Figure 5. Login form of Users system.

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.

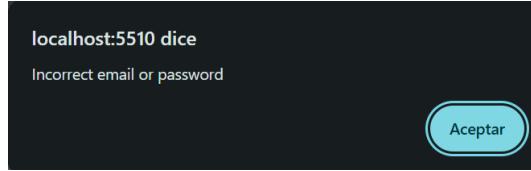


Figure 6. Login fail attempt.

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.

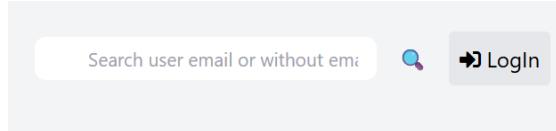


Figure 7. User search bar.

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.

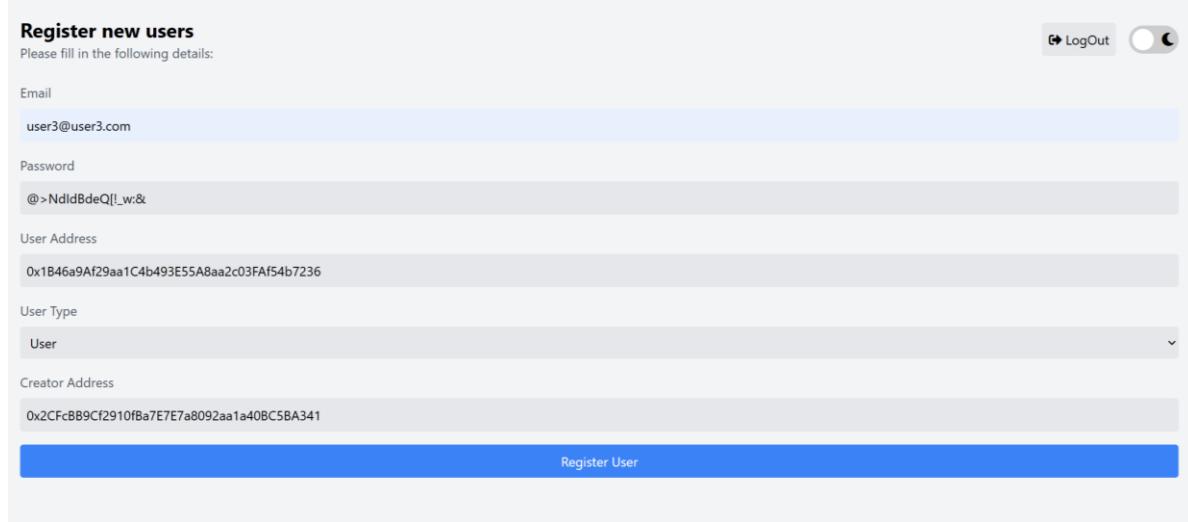
A screenshot of a dashboard titled "Users consult information". On the left, there is a sidebar with a profile picture, the email "gover@gover.com", and the text "Access: Government". Below that are links for "Register user", "Users consult information", and "User List". The main area has a title "Users consult information" and a table with four columns: "Email", "User Address", "Type", and "Digital Identity Address". The table contains five rows of data. At the top right of the main area, there are "LogOut" and "Logout" buttons.

Email	User Address	Type	Digital Identity Address
gover@gover.com	0x2CfcBB9Cf2910f8a7E7e8092aa1a40Bc58A341	Government	0x00
user1@user1.com	0x32d680Aa90D45867788a0fE9Af3d3578dcB4a83	User	0x3C6554C094916899981B8824db8066912cd62A6A
user2@user2.com	0x2076e4483970598A705629674b2F8c90f1CA594b	User	0x1Ac17a150dce22fe723aDd108BD0c6b694Fe0eD1F
admin@admin.com	0x9702Afc51c5ebCd44464615846A511BFb1598	Admin	0xA072b13B1D007a4cb24349829416d3b797679287

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 admin or Government) visually shown in Figure 9.



The screenshot shows a registration form titled "Register new users". It includes fields for Email (user3@user3.com), Password (@>NdIdBdeQ[.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. The top right features a "LogOut" link and a toggle switch.

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.

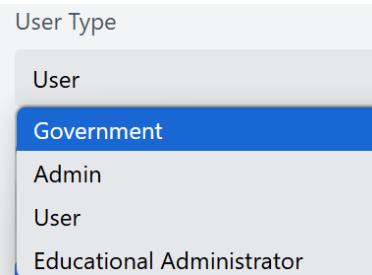


Figure 10. User types.

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.

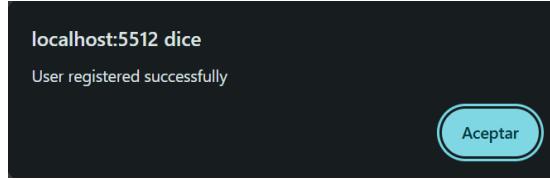


Figure 11. Successful registration alert.

4.3 Consult user information

The user consultation operates as described in Section 5.1, referring to the main page, and in Section 4.2, which explains 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	0x2CfcBB9Cf2910fBa7E7a8092aa1a40BC5BA341

Figure 12. Information obtained from user1@user1.com

Info	User Result
Type	User
Digital Identity Address	0x3C6554C094916899981B8824db8066912cd62A6A
Creator	0x2CfcBB9Cf2910fBa7E7a8092aa1a40BC5BA341

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

User Contract Info	Value
owner	0x2CfcBB9Cf2910fBa7E7a8092aa1a40BC5BA341
nameToken	Users
government	0x2CfcBB9Cf2910fBa7E7a8092aa1a40BC5BA341

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

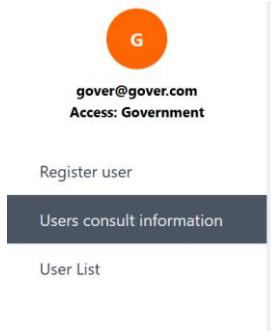


Figure 15. Extended menu.

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.

The screenshot shows a web-based application titled "Token Information". Under the heading "Search a Digital Identity Tokens", there is a "Digital Identity Address" input field containing the value "0x3C6554C094916899981B8824db8066912cd62A6A". Below it is a "Token to Search Address" input field with the placeholder "Select a token". A blue "Search" button is located at the bottom right of this section. The entire interface is contained within a light gray box labeled "Token Information".

Figure 16. Search section for digital identity.

The screenshot shows the same "Token Information" interface after a search. The "Result:" section displays the following details:
 More Info -> [Click Here](#)
 Token Name -> BirthCertificate
 Government of the token -> 0x2FcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341

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

6.2 Linking Objects and Records

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.

The screenshot shows a "Token Linker" interface. It starts with a user profile icon and the text "user1@user1.com Access: User". Below this is a "Consult Token information" link and a "Link Tokens" button. The main form is titled "Token Information" and contains the following fields:
Token linker
 Token Address: 0x81c22c57e848c6de7b0b77ac66258bf93ad34595
 Digital Identity Address: 0x3C6554C094916899981B8824db8066912cd62A6A
 Owner of token *Needs to be the same token as the owner in the token to add: 0x32d680Aa90D45B677B8a0fE9Af3d3578dcB4a83
 A blue "Submit" button is located at the bottom right.

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, as shown in Figure 20.

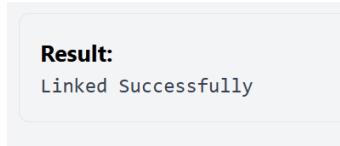


Figure 19. Linked Successfully.

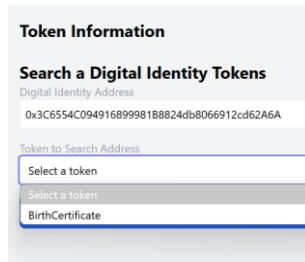


Figure 20. New certificate stored on the digital identity.

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

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.

Create Birth Certificates for Users			
Email	User Address	Type	
gover@gover.com	0x2FcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341	Government	<button>New</button>
user1@user1.com	0x32d680Aa90D45B6778Ba0fE9Af3d3578dcB4a83	User	
user2@user2.com	0x207Ee44B397058A705629674b2F8c9Df1CA594b	User	
admin@admin.com	0x9702Af51cA5ebCd44464E615846A511B0Fb1598	Admin	
user3@user3.com	0x1B46a9A129aa1C4b493E55A8aa2c03FAf54b7236	User	<button>New</button>
up@up.edu.mx	0x295865c0e1BFEB8A898068aab9608f6277BF257D	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 this process, 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.

The screenshot shows a modal dialog box titled "Create Service" with the sub-tittle "User Address". Inside the dialog, there are several input fields:

- Name
- Father's Last Name
- Mother's Last Name
- Sex: Male
- Day
- Month
- Year

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.

The screenshot shows a web page titled "Birth Certificate Addresses". The page has a header with a user icon, the email "gover@gover.com", and the text "Access: Government". On the left, there is a sidebar with a "User List" button. The main content area has a title "Birth Certificate Addresses" and a subtitle "Contracts. Please use this page to view clients' Birth Certificates.". Below this is a table with the following data:

Complete Name	Contract Address	Owner Address	Edit Address	View
admin adminMLN adminMLN	0x156d33fe7280cfeebe34084ec3a7fb38e85b29	0x702Af51tA5ebCd44464E615846A511B0Fb1598	<input checked="" type="checkbox"/> Edit an Address	<input type="checkbox"/> View
Brandon Hernandez Cortez	0x16a822f1730c585cb4644ba568861b07746fe9a	0x207Ee4483970598A705629674b2f8c90f1CA594b	<input checked="" type="checkbox"/> Edit an Address	<input type="checkbox"/> View
Juan Carlos Hernandez	0x01c22c57e848c6de7b0b77ac66258bf93ad34595	0x32d680Aa90D04566778a0fFE9Af3d3578dcB4a83	<input checked="" type="checkbox"/> Edit an Address	<input type="checkbox"/> View

Figure 23. Governments main view.

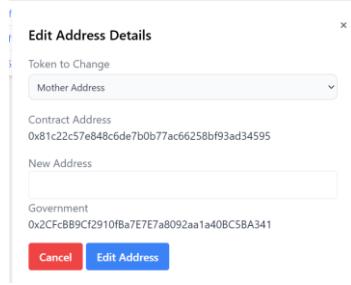


Figure 24. Edit address function.

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 birth date. Figure 28.

Figure 28. Guests form view.

Governments can view all data. Figure 29.

Figure 29. Governments 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.

8.1 Assigning Student Identity

Institutions may, search for a student using their birth certificate token, confirm identity, assign a unique Student ID contract, also only verified individuals (i.e., those with valid birth certificates) can become students. Figure 30.

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

Student ID
0289547

Birth Certificate Address
0x81c22c57e848c6de7b0b77ac66258bf93ad34595

University permitted address
0x295865c0e1BfE88A898068aab9608f8277BF257D

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

Logout

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

Figure 32. Add achievement form.

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 33. Achievement form filled.

In the same section, the available achievements can be viewed and updated 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				LogOut	Logout
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				Login	Logout
Search for a Curriculum					
Student ID or Complete Name					
0244582	Brandon Hernandez Cortez	0x65364614b26be4a95160ce441f42cbbeddf1b1d7	Select Achievement	Achievement Details	
			Select Achievement Race UP		
Search					
Student ID	Complete Name	Curriculum Address	Achievements		
0289547	Juan Carlos Hernandez	0x6e1d28914b8dd1987cf031e7483455d033a5f6d7	Select Achievement	Achievement Details	

Figure 36. Scholar curriculum home, Students view.

Check and add achievements to students				LogOut	Logout
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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