



User Manual for ChainIDentity

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Index

User Manual for the ChainIDentity.....	3
1. Introduction	3
2. Initial Setup and Access.....	3
2.1 Accessing the Front-End Interface.....	3
2.2 Registering the First Government User	3
3. Authentication and Guest Access	4
3.1 Logging In.....	4
3.2 Guest Capabilities.....	5
4. User Interface Overview	5
4.1 Main Page and Search	5
4.2 Role-Based Permissions	6
5. Government Dashboard	7
5.1 Viewing All Registered Users.....	7
5.2 Registering a New User	7
6. Digital Identity Service.....	8
6.1 Personal Dashboard	8
6.2 Linking Objects and Records.....	9
7. Birth Certificate Service	10
7.1 Creating a Birth Certificate	10
7.2 Accessing the Certificate	11
8. Scholar Curriculum Service.....	12
8.1 Assigning Student Identity	13
8.2 Adding Academic Records.....	13
8.3 Student and Guest Access	14
9. Summary and Future Integration	14
Appendix — Figures.....	15

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.

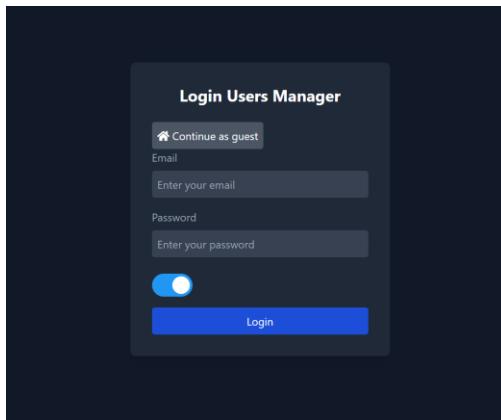


Figure 1. Dark mode enable.

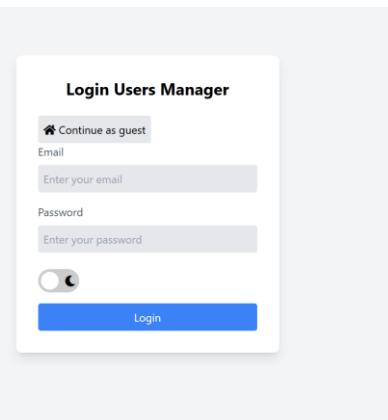


Figure 2. Light mode enable.

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.

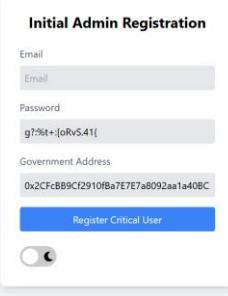


Figure 3. Government initial form.

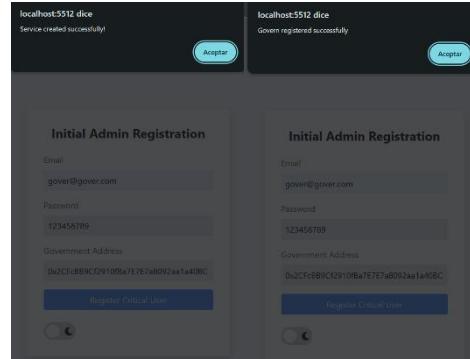


Figure 4. Successful registration.

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.

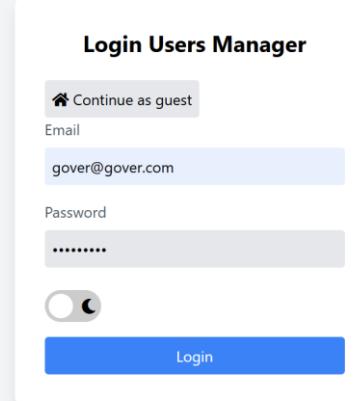


Figure 5. Login form of Users system.

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.

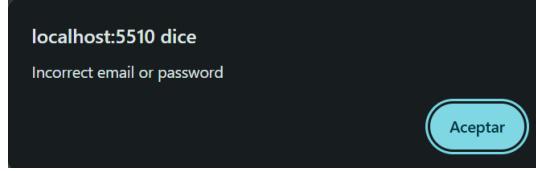


Figure 6. Login fail attempt.

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.

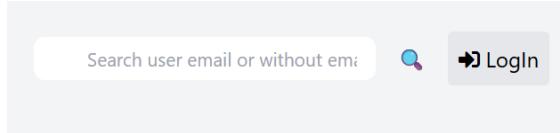


Figure 7. User search bar.

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

4. User Interface Overview

4.1 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 8 and Figure 9). 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 10).

A screenshot of a web-based application. At the top left, it says "Users consult information". On the right, there is a user profile section with "user1@user1.com", a magnifying glass icon, a "LogOut" button, and a toggle switch. Below this, there is a table with two columns: "Info" and "User Result". The "Info" column lists "Type", "Digital Identity Address", and "Creator". The "User Result" column shows the corresponding values: "User", "0x3C6554C094916899981B8824db8066912cd62A6A", and "0x2FcBB9Cf2910fBa7E7a8092aa1a40BC5BA341".

Figure 8. Information obtained from user1@user1.com

The screenshot shows a user profile for a token address. At the top right, there are links for 'Logout' and a dark mode switch. Below the header, a table displays 'User Result' with columns 'Info' and 'Value'. The table contains three rows: 'Type' (User), 'Digital Identity Address' (0x3C6554C094916899981B8824db8066912cd62A6A), and 'Creator' (0x2CFCBB9Cf2910fBa7E7a8092aa1a40BC5BA341).

Figure 9. Information obtained from user1@user1.com using the token address.

The screenshot shows a search interface for user contract info. A search bar at the top right contains the placeholder 'Search user email or without em:'. Below the search bar, a table lists 'User Contract Info' with columns 'User Contract Info' and 'Value'. It includes three entries: 'owner' (0x2CFCBB9Cf2910fBa7E7a8092aa1a40BC5BA341), 'nameToken' (Users), and 'government' (0x2CFCBB9Cf2910fBa7E7a8092aa1a40BC5BA341).

Figure 10. Information displayed from the empty search bar.

If the user is an admin or official government, on the left interface menu expands (Figure 11) to include access to:

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

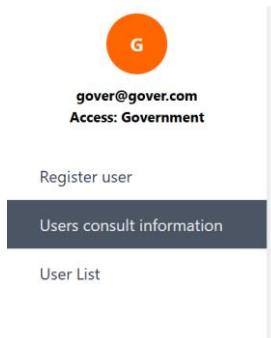


Figure 11. Extended menu.

4.2 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	✓	✗	✗	✗	✗

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

Table 1. Comparison between the different roles.

5. Government Dashboard

5.1 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 12.



Users consult information				
	Email	User Address	Type	Digital Identity Address
gover@gover.com	gover@gover.com	0x2CfcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341	Government	0x00
user1@user1.com	user1@user1.com	0x32d680Aa90D45B6778Ba0fE9Af3d3578dcB4a83	User	0x3C6554C094916899981B8824db8066912cd62A6A
user2@user2.com	user2@user2.com	0x207Ee448397059BA705629674b2F8c90f1CA594b	User	0x1Ac17a150dce22fe23aDd1088D0c6b694Fe0eD1F
admin@admin.com	admin@admin.com	0x9702Af51cA5ebC04446A615846A51180Fb1598	Admin	0x4072b13B1D007a4cb24349829416d3b7976792B7

Figure 12. User List

5.2 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 13.



Register new users
Please fill in the following details:

Email
user3@user3.com

Password
@>NdIdBdeQI!_w:&

User Address
0x1B46a9Af29aa1C4b493E55A8aa2c03FAf54b7236

User Type
User

Creator Address
0x2CfcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341

Register User

Figure 13. Registration form.

The user types are characterized by the options shown in Figure 14. 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.

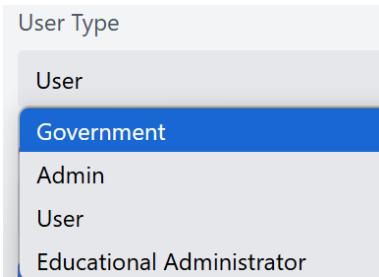


Figure 14. User types.

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 15 for a sample of successful registration.

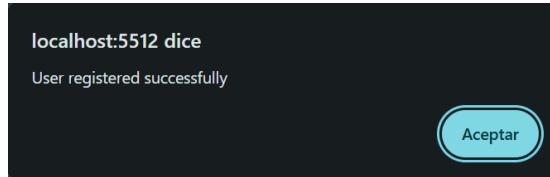


Figure 15. Successful registration alert.

5.3 Consult user information

The user consultation operates as described in Section 4.1, referring to the main page, and in Section 4.2, which explains the key differences between other users and the government.

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.

Figure 16. Search section for digital identity.

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.

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.

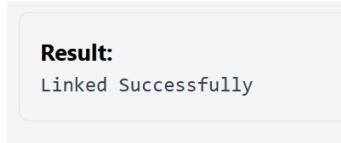


Figure 19. Linked Successfully.

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	0x2CfcBB9Clz910fBa7E7E7a8092aa1a40BC5BA341	Government	New
user1@user1.com	0x32d680Aa90D45B6778Ba0FE9Af3d3578dcB4a83	User	New
user2@user2.com	0x207Ee4483970598A705629674b2F8c9Df1Ca594b	User	New
admin@admin.com	0x9702Afc51cA5ebCd44464E615846A51180Fb1598	Admin	
user3@user3.com	0x1B46a9Af29aa1C4b493E55A8aa2c03FAf54b7236	User	New
up@up.edu.mx	0x295865c0e1BfE88A898068aab9608fb277BF257D	Educational Administrator	New

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 titled "Create Service". The form fields are as follows:

- Name: [empty input field]
- Father's Last Name: [empty input field]
- Mother's Last Name: [empty input field]
- Sex: Male (selected in a dropdown)
- Day: [empty input field]
- Month: [empty input field]
- Year: [empty input field]

Figure 22. Birth Certificate form.

7.2 Accessing the Certificate

Users can view their own birth certificate, both public and private fields. Figure 23.

Guests can only view public data — e.g., name and birth date. Figure 24.

Governments can view all data. Figure 25.

The screenshot shows a modal dialog titled "Change Address". The form fields are as follows:

- Name: Brandon
- Father's Last Name: Hernandez
- Mother's Last Name: Cortez
- Sex: Male
- Day: 24
- Month: 10
- Year: 2001
- State: Jalisco

Figure 23. Users form view.

The screenshot shows a modal dialog titled "Change Address". The form fields are as follows:

- Name: admin
- Father's Last Name: adminFLN
- Mother's Last Name: adminMLN
- Sex: Male
- Day: Unauthorized
- Month: Unauthorized
- Year: Unauthorized
- State: Unauthorized

Figure 24. Guests form view.

The screenshot shows a modal dialog titled "Change Address". The form fields are as follows:

- Mother's Last Name: Hernandez
- Sex: Female
- Day: 2
- Month: 5
- Year: 1998
- State: Jalisco
- Municipality: Guadalajara
- Date of Creation: 17/6/2025, 2:40:24 p.m.

Figure 25. Governments view.

This behavior is represented in Figure 26, Figure 28, and Figure 29, showing the different viewing. And the government extra function in Figure 27.

Complete Name	Contract Address	Owner Address		
admin adminFLN adminMLN	0x156d33fe728c0cfeeb1e34084ec3a7fb38e85b29	0x9702Af51cA5ebCd44464E615846A511B0f1598	<input checked="" type="checkbox"/> Edit an Address	<input type="button" value="View"/>
Brandon Hernandez Cortez	0x16a822f1730cc585cb4644ba568861b07746fa9a	0x207Ee4483970598A705629674b2F8c9Df1CA594b	<input checked="" type="checkbox"/> Edit an Address	<input type="button" value="View"/>
Juan Carlos Hernandez	0x81c22c57e848c6de7b0b77ac66258bf93ad34595	0x22d680Aa90D45B6778Ba0ffE9Af3d3578dcB4a83	<input checked="" type="checkbox"/> Edit an Address	<input type="button" value="View"/>

Figure 26. Governments main view.

Figure 27. Edit address function.

Complete Name	Contract Address	Owner Address	
Brandon Hernandez Cortez	0x16a822f1730cc585cb4644ba568861b07746fa9a	0x207Ee4483970598A705629674b2F8c9Df1CA594b	<input type="button" value="View"/>

Figure 28. Users main view.

Complete Name	Contract Address	Owner Address	
admin adminFLN adminMLN	0x156d33fe728c0cfeeb1e34084ec3a7fb38e85b29	0x9702Af51cA5ebCd44464E615846A511B0f1598	<input type="button" value="View"/>
Brandon Hernandez Cortez	0x16a822f1730cc585cb4644ba568861b07746fa9a	0x207Ee4483970598A705629674b2F8c9Df1CA594b	<input type="button" value="View"/>
Juan Carlos Hernandez	0x81c22c57e848c6de7b0b77ac66258bf93ad34595	0x22d680Aa90D45B6778Ba0ffE9Af3d3578dcB4a83	<input type="button" value="View"/>

Figure 29. Guests main 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
0x81c225c7e848c6de7b0b77ac66258bf93ad34595

University permitted address
0x295865c0e1BfE88A898068aab9608fb277BF257D

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

Student ID	Complete Name	Curriculum Address	Achievements
0244582	Brandon Hernandez Cortez	0x65364614b26bb4a95160e441f42ccbbedff1b1d7	Select Achievement ▾
0289547	Juan Carlos Hernandez	0x5e1d28914b9dd1987cf031e7483455d033a5f6d7	Select Achievement ▾

Add Achievement Details Add Achievement

Logout

up@up.edu.mx
Access: Educational Administrator
Create Scholar Curriculums

Student Curriculums

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				
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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Appendix — Figures

Figure 1. Dark mode enable.	Figure 2. Light mode enable.	3
Figure 3. Government initial form.	Figure 4. Successful registration.	4
Figure 5. Login form of Users system.		4
Figure 6. Login fail attempt.		5
Figure 7. User search bar.		5
Figure 8. Information obtained from user1@user1.com		5
Figure 9. Information obtained from user1@user1.com using the token address.		6
Figure 10. Information displayed from the empty search bar.		6
Figure 11. Extended menu.		6
Figure 12. User List		7
Figure 13. Registration form.		7
Figure 14. User types.		8
Figure 15. Successful registration alert.		8
Figure 16. Search section for digital identity.		9
Figure 17. Information obtained from Birth Certificate information in the digital identity address.		9
Figure 18. Token Linker.		9
Figure 19. Linked Successfully.		10
Figure 20. New certificate stored on the digital identity.		10
Figure 21. User list, to create a new certificate.		10
Figure 22. Birth Certificate form.		11
Figure 23. Users form view.		11
Figure 24. Guests form view.		11
Figure 25. Governments view.		11
Figure 26. Governments main view.		12
Figure 27. Edit address function.		12
Figure 28. Users main view.		12
Figure 29. Guests main view.		12
Figure 30. Create a scholar curriculum form.		13
Figure 31. Achievements section.		13
Figure 32. Add achievement form.	Figure 33. Achievement from filled.	13
Figure 34. Achievements updated.		14
Figure 35. Achievement details example.		14
Figure 36. Scholar curriculum home, Students view.		14
Figure 37. Scholar curriculum home, Guests view.		14