



## User Manual for the Digital Identity Project

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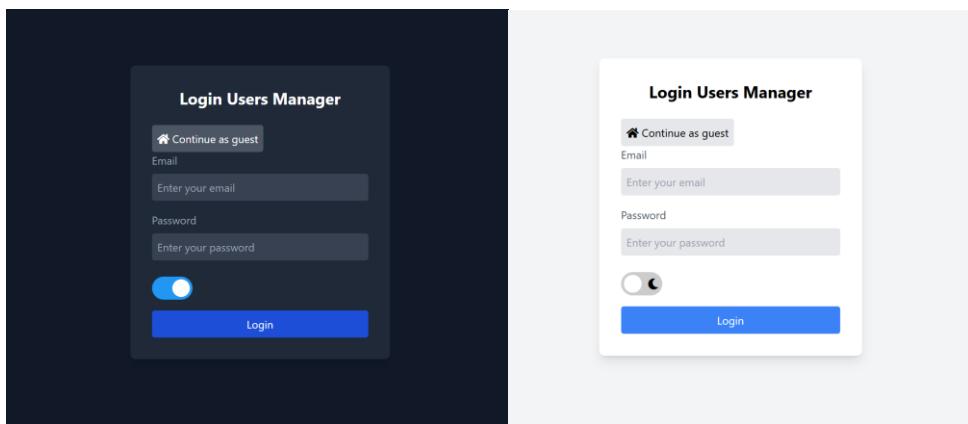
# User Manual for the Digital Identity Project

## 1. Introduction

The **Digital Identity Project** is a decentralized software platform designed for the **tokenization of physical objects and official records**. It utilizes blockchain smart contracts to link digital tokens with unique identities or real-world assets such as vehicles, birth certificates, or academic credentials. The platform ensures trust, transparency, and security among institutions and users.

This document serves as the **user-facing front-end manual**, intended to guide end-users, administrative staff, and government officials through the system interface and workflows. It assumes the system has been deployed and the back-end smart contract services are operational.

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.*

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## 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) - <http://<assigned-ip>:5512> (remote/production)

Navigate to `/registergovernment` to begin the system's initialization. This must be performed before any other function is available.

### 2.2 Registering the First Government User

At the `/registergovernment` endpoint, a form is presented with three input fields:

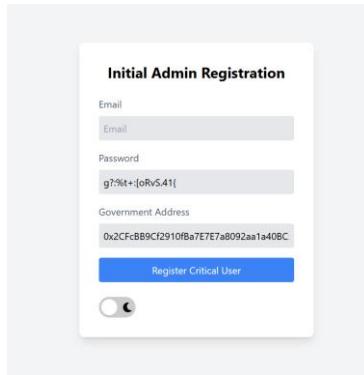
-Email

-Password

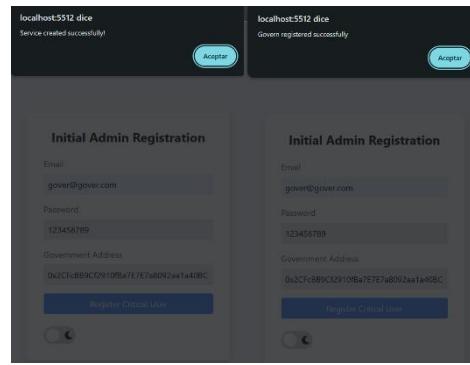
-**Token Identity** — e.g., 0x2CFcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341, obtained from Ganache or another blockchain wallet.

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

Fill out the fields and submit the form as shown in **Figure 3**. Once registration is completed, the system, will pops 2 alerts as shown in **Figure 4**, then- Disables access to /registergovernment and / routes. - Automatically redirects to the login page. This government user is essential to system functionality. Without it, no other service can operate.



*Figure 3. Government initial form.*



*Figure 4. Successful registration.*

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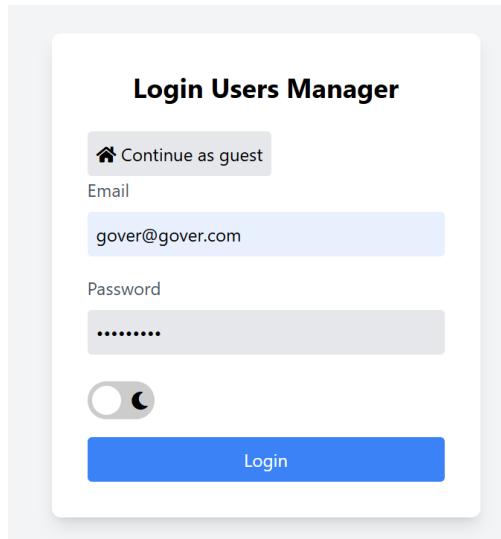
### 3. Authentication and Guest Access

#### 3.1 Logging In

Upon redirection, the login screen is displayed (**Figure 5**).

- Log in with their credentials.

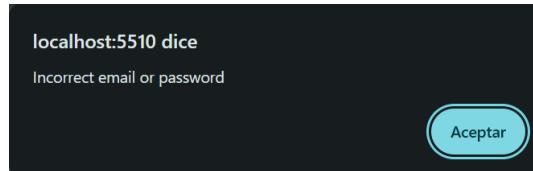
- Continue as **guest**.



**Figure 5.** Login form with "Continue as guest" option

Guests are offered read-only, public access.

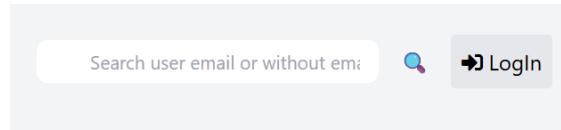
If the password or email is incorrect during login process the alert shown in **Figure 6** would appear in any service.



**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. This behavior is demonstrated in **Figure 7**.



**Figure 7.** User search bar.

Guests cannot: - View private data - Register new users - 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 is 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, retrieves public metadata stored on the user's contract — e.g., the name, token direction, or contract origin. This workflow is described 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**).

The screenshot shows a user interface titled "Users consult information". At the top right are fields for "user1@user1.com", a magnifying glass icon, "LogOut", and a toggle switch. Below this is a table with two columns: "Info" and "User Result". The "Info" column contains "Type", "Digital Identity Address", and "Creator". The "User Result" column contains "User", "0x3C6554C094916899981B8824db8066912cd62A6A", and "0x2CFCBB9Cf2910fBa7E7a8092aa1a40BC5BA341".

**Figure 8.** Information obtained from user1@user1.com

The screenshot shows a user interface titled "Users consult information". At the top right are fields for "0x32d680Aa90D45B677B8a0FFE9", a magnifying glass icon, "LogOut", and a toggle switch. Below this is a table with two columns: "Info" and "User Result". The "Info" column contains "Type", "Digital Identity Address", and "Creator". The "User Result" column contains "User", "0x3C6554C094916899981B8824db8066912cd62A6A", and "0x2CFCBB9Cf2910fBa7E7a8092aa1a40BC5BA341".

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

The screenshot shows a user interface titled "Users consult information". At the top right is a search bar with placeholder text "Search user email or without em:". Below this is a table with two columns: "User Contract Info" and "Value". The "User Contract Info" column contains "owner", "nameToken", and "government". The "Value" column contains "0x2CFCBB9Cf2910fBa7E7a8092aa1a40BC5BA341", "Users", and "0x2CFCBB9Cf2910fBa7E7a8092aa1a40BC5BA341". A note above the table says "Search user address or press Enter to see public methods when search bar is blank".

**Figure 10.** Information displayed from the empty search bar.

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

- A list of all users
- A user registration form



**Figure 11.** Extended menu.

## 4.2 Role-Based Permissions

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

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

**Table 1.** Comparison between the different roles.

## 5. Government Dashboard

### 5.1 Viewing All Registered Users

Government or Admin users gain access to the **Users Tab**, which contains a searchable table with registered users. Each row includes: - Email - Token Address

The government can browse the registry, as shown in **Figure 12**.

Users consult information				
Email	User Address	Type	Digital Identity Address	Logout
gover@gover.com	0x2CfcB89Cf2910Ba7E7E7a8092aa1a40BC58A341	Government	0x00	
user1@user1.com	0x32d680Aa90045B6778a0fE9Af3d3578d84a83	User	0x3C6554C094916899981B8824db8066912cd62A6A	
user2@user2.com	0x207Ee448397059BA705629674b2F8c9Df1CA594b	User	0x1Ac17a150dce22fef23aDd10B8D0c6b694F0eD1F	
admin@admin.com	0x9702Af51cA5ebCd44464E615846A51180Fb159B	Admin	0x4072b13B1D0007a4cb24349829416d3b7976792B7	

**Figure 12.** User List

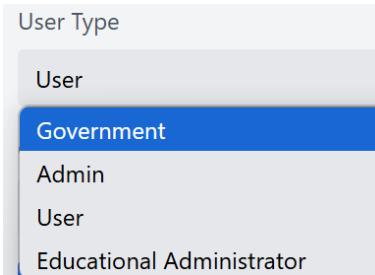
## 5.2 Registering a New User

In the **Registration Tab**, the administrator may create new users. The form contains: - Email - Password – User type - Token Direction - Creator (auto-filled from the logged-in admin or Government) visually shown in **Figure 13**.

The screenshot shows a registration form titled 'Register new users'. It includes fields for Email (user3@user3.com), Password (@>NdIdBdeQ{I\_w:&), User Address (0x1B46a9Af29aa1C4b493E55A8aa2c03FAf54b7236), and Creator Address (0x2FcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341). The 'User Type' dropdown is set to 'User'. A blue 'Register User' button is at the bottom.

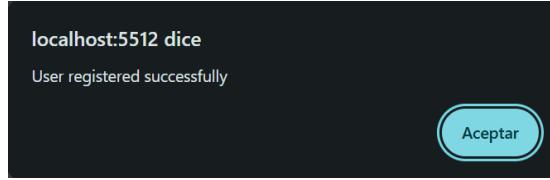
**Figure 13.** Registration form.

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 creates a new **Digital Identity Contract** assigned to that 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.

---

## 6. Digital Identity Service

### 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
- Search other public identities using token direction.

For example, by typing a friend's public token in the search bar (similar to the process in **Figure 7.**), a user can preview their public information. This interface is illustrated in **Figure 16.**

A screenshot of a web-based application. The title "Token Information" is at the top. Below it is a section titled "Search a Digital Identity Tokens" with a sub-section "Digital Identity Address" containing the text "0x3C6554C094916899981B8824db8066912cd62A6A". Below that is another section "Token to Search Address" with a sub-section "Select a token" containing the text "BirthCertificate". At the bottom is a large blue "Search" button.

**Figure 16.** Search section for digital identity.

A screenshot of the same web-based application showing the results of the search. The title "Token Information" is at the top. Below it is the "Search a Digital Identity Tokens" section with the "Digital Identity Address" "0x3C6554C094916899981B8824db8066912cd62A6A". Below that is the "Token to Search Address" section with the "Select a token" "BirthCertificate". At the bottom is a large blue "Search" button. Underneath the search button, the word "Result:" is followed by three lines of text: "More Info -> [Click Here](#)", "Token Name -> BirthCertificate", and "Government of the token -> 0x2FcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341".

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

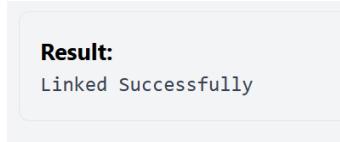
## 6.2 Linking Objects and Records

Users can link new tokens (representing physical objects or records) to their identity by submitting a form. The token might correspond to: - A car - A birth certificate - A diploma or achievement, etc. **Figure 18.**

The screenshot shows a user profile on the left with a circular icon containing a 'U', the email 'user1@user1.com', and the text 'Access: User'. Below it is a button 'Consult Token information' and a dark blue button 'Link Tokens'. To the right is a 'Token Information' section with a title 'Token linker'. It contains fields for 'Token Address' (0x81c22c57e848c6de7b0b77ac66258bf93ad34595), 'Digital Identity Address' (0x3C6554C094916899981B8824db8066912cd62A6A), and 'Owner of token' (0x32d680Aa90D45B677Ba0fFE9Af3d3578dcB4a83). A blue 'Submit' button is at the bottom.

**Figure 18.** Token Linker.

The form auto-validates the token and binds it to the user's identity. This enables decentralized ownership verification, when corrected link, on screen will appear the notification of "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.

The screenshot shows a 'Token Information' section with a title 'Search a Digital Identity Tokens'. It includes a 'Digital Identity Address' field (0x3C6554C094916899981B8824db8066912cd62A6A) and a 'Token to Search Address' section with a dropdown menu. The menu has three items: 'Select a token', 'Select a token', and 'BirthCertificate', with 'BirthCertificate' highlighted by a blue border.

**Figure 20.** New certificate stored on the digital identity.

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## 7. Birth Certificate Service

This service allows the government to issue **Digital Birth Certificates**.

## 7.1 Creating a Birth Certificate

Using the government interface, officials can:

- Select a user without a birth record
- Input personal data (full name, parents, birthplace, etc.)
- Assign token directions to the parents (if available) **Figure 21.**

Email	User Address	Type	
gover@gover.com	0x2Cf:BB9Cf2910fBa7E7E7a8092aa1a40BC5BA341	Government	New
user1@user1.com	0x32d680Aa90D45B6778a0fFE9Af3d3578dcB4a83	User	
user2@user2.com	0x207Ee448397059Ba705629674b2F8c9Df1CA594b	User	New
admin@admin.com	0x9702Afc51cA5ebCd44464E615845A51180Fb1598	Admin	
user3@user3.com	0x1B46a9Af29aa1C4b493E55A8aa2c03FAf54b7236	User	New
up@up.edu.mx	0x295865c0e1BfE88A898068aab9608f8277BF257D	Educational Administrator	New

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

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

The form is titled "Create Service". It contains the following fields:

- User Address: 0x2Cf:BB9Cf2910fBa7E7E7a8092aa1a40BC5BA341
- Name
- Father's Last Name
- Mother's Last Name
- Sex: Male
- Day
- Month

**Figure 22.** Birth Certificate form.

## 7.2 Accessing the Certificate

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

The screenshot shows a 'Change Address' form with the following data:

Field	Value
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.

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

The screenshot shows a 'Change Address' form with the following data:

Field	Value
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.

**Governments** can view all data. **Figure 25.**

The screenshot shows a 'Change Address' form with the following data:

Field	Value
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**.

The screenshot shows a 'Birth Certificate Addresses' page with the following data:

Complete Name	Contract Address	Owner Address	Action
admin adminFLN adminMLN	0x156d33fe728c0cfeebe1e34084ec3a7fb38e85b29	0x9702Af51A5ebC44464E615846A511B0Fb159B	<input checked="" type="checkbox"/> Edit an Address <input type="checkbox"/> View
Brandon Hernandez Cortez	0x16a822f1730cc585cb4644ba568861b07746fa9a	0x207Ee448397059BA705629674b2F8c9Df1CA594b	<input checked="" type="checkbox"/> Edit an Address <input type="checkbox"/> View
Juan Carlos Hernandez	0x81c22c57e848c6de7b0b77ac66258bf93ad34595	0x32d680Aa90D45B677B8a0fFE9Af3d3578dcB4a83	<input checked="" type="checkbox"/> Edit an Address <input type="checkbox"/> View

**Figure 26.** Governments main view.

The screenshot shows an 'Edit Address Details' dialog box with the following data:

Token to Change
Mother Address

Contract Address: 0x81c22c57e848c6de7b0b77ac66258bf93ad34595

New Address:

Government: 0x2CFcBB9Cf2910fBa7E7E7a8092aa1a40BC5BA341

**Cancel** **Edit Address**

**Figure 27.** Edit address function.

The screenshot shows a user interface for managing birth certificate addresses. At the top left is a user icon with the letter 'U' and the email 'user2@user2.com'. Below it, 'Access: User' and 'Birth Certificate Addresses' are displayed. On the right are 'Log Out' and a toggle switch. The main content area is titled 'Birth Certificate Addresses' with the sub-instruction 'Contracts. Please use this page to view clients' Birth Certificates.' A table lists three entries:

Complete Name	Contract Address	Owner Address
Brandon Hernandez Cortez	0x16a822f1730cc585cb4644ba568861b07746fa9a	0x207Ee448397059BA705629674b2F8c9Df1CA594b

A 'View' button is located at the bottom right of the table.

**Figure 28.** Users main view.

The screenshot shows a guest user interface for managing birth certificate addresses. It has a similar layout to Figure 28, with a user icon, 'Access: Guest', and a 'Log In' button on the right. The main content area is titled 'Birth Certificate Addresses' with the sub-instruction 'Contracts. Please use this page to view clients' Birth Certificates.' A table lists three entries:

Complete Name	Contract Address	Owner Address
admin adminFLN adminMLN	0x156d33fe728c0ceeb1e34084ec3a7fb38e85b29	0x9702Af51cA5ebCd4464E615846A511B0Fb1598
Brandon Hernandez Cortez	0x16a822f1730cc585cb4644ba568861b07746fa9a	0x207Ee448397059BA705629674b2F8c9Df1CA594b
Juan Carlos Hernandez	0x81c22c57e848c6de7b0b77ac66258bf93ad34595	0x32d680A90D458677B8a0FFE9Af3d3578dcB4a83

Each row has a 'View' button on the right.

**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.**

The screenshot shows a form titled 'Create Scholar Curriculum' with the sub-instruction 'Contracts. Please use this page to create Scholar Curriculums.' It contains four input fields:

- 'Student ID': Value 0289547
- 'Birth Certificate Address': Value 0x81c22c57e848c6de7b0b77ac66258bf93ad34595
- 'University permitted address': Value 0x295865c0e1BfE88A898068aab9608f8277BF257D
- A large blue 'Submit' button at the bottom.

**Figure 30.** Create a scholar curriculum form.

### 8.2 Adding Academic Records

School admins can add records such as: - Enrollments - Degrees or diplomas - Achievements (e.g., project awards) seen in **Figure 31** and the form in **Figure 32**. **Figure 33** demonstrates how an institution enters student data.

Student ID	Complete Name	Curriculum Address	Achievements
0244582	Brandon Hernandez Cortez	0x65364614b26be4a95160ce441f42cbbbeddf1b1d7	Select Achievement Race UP <a href="#">Achievement Details</a> <a href="#">Add Achievement</a>
0289547	Juan Carlos Hernandez	0x6e1d28914b8dd1987cf031e7483455d033a5f6d7	Select Achievement <a href="#">Achievement Details</a> <a href="#">Add Achievement</a>

**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 from 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.

Student ID	Complete Name	Curriculum Address	Achievements
0244582	Brandon Hernandez Cortez	0x65364614b26be4a95160ce441f42cbbbeddf1b1d7	Select Achievement Race UP <a href="#">Achievement Details</a> <a href="#">Add Achievement</a>
0289547	Juan Carlos Hernandez	0x6e1d28914b8dd1987cf031e7483455d033a5f6d7	Select Achievement <a href="#">Achievement Details</a> <a href="#">Add Achievement</a>

**Figure 34.** Achievements updated.

Achievement Details

Title  
Race UP

ID  
r185c005up

Details  
Winning the UP racing tournament

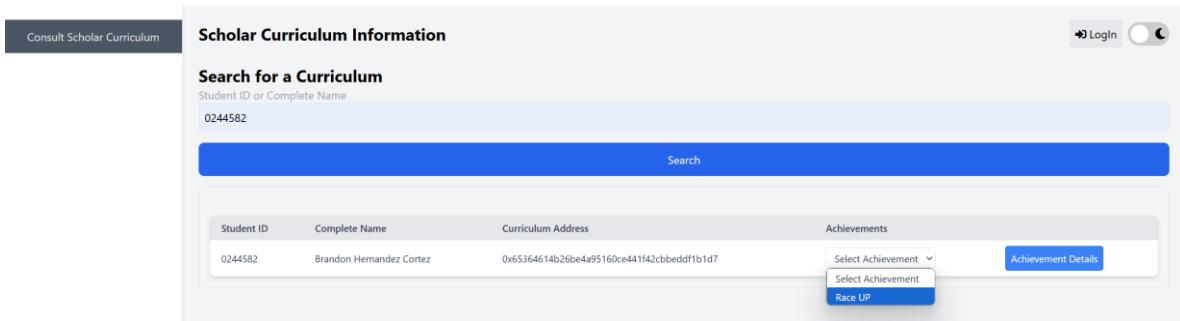
Date  
17/6/2025

[Cancel](#)

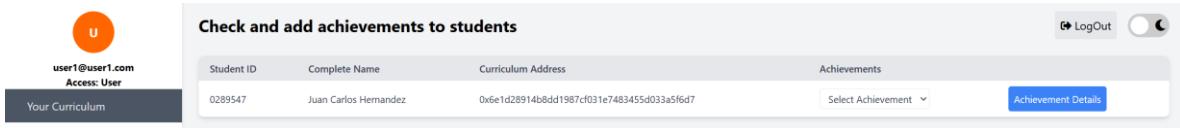
**Figure 35.** Achievement details example.

### 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**.



**Figure 36.** Scholar curriculum home, Students view.



**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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