

# The Ardú Project

## Functional Specification

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CARLOW

At the heart of South Leinster

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# Purpose

The purpose of this document is to provide an overview of the functional and non-functional requirements of the Ardú system. Core functionality is outlined for all system components.

It is designed to guide system development and aid in design, including:

- Database modelling
- Web application architecture
- Application functionality
- Administrative toolset
- Use cases

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## 1 Introduction

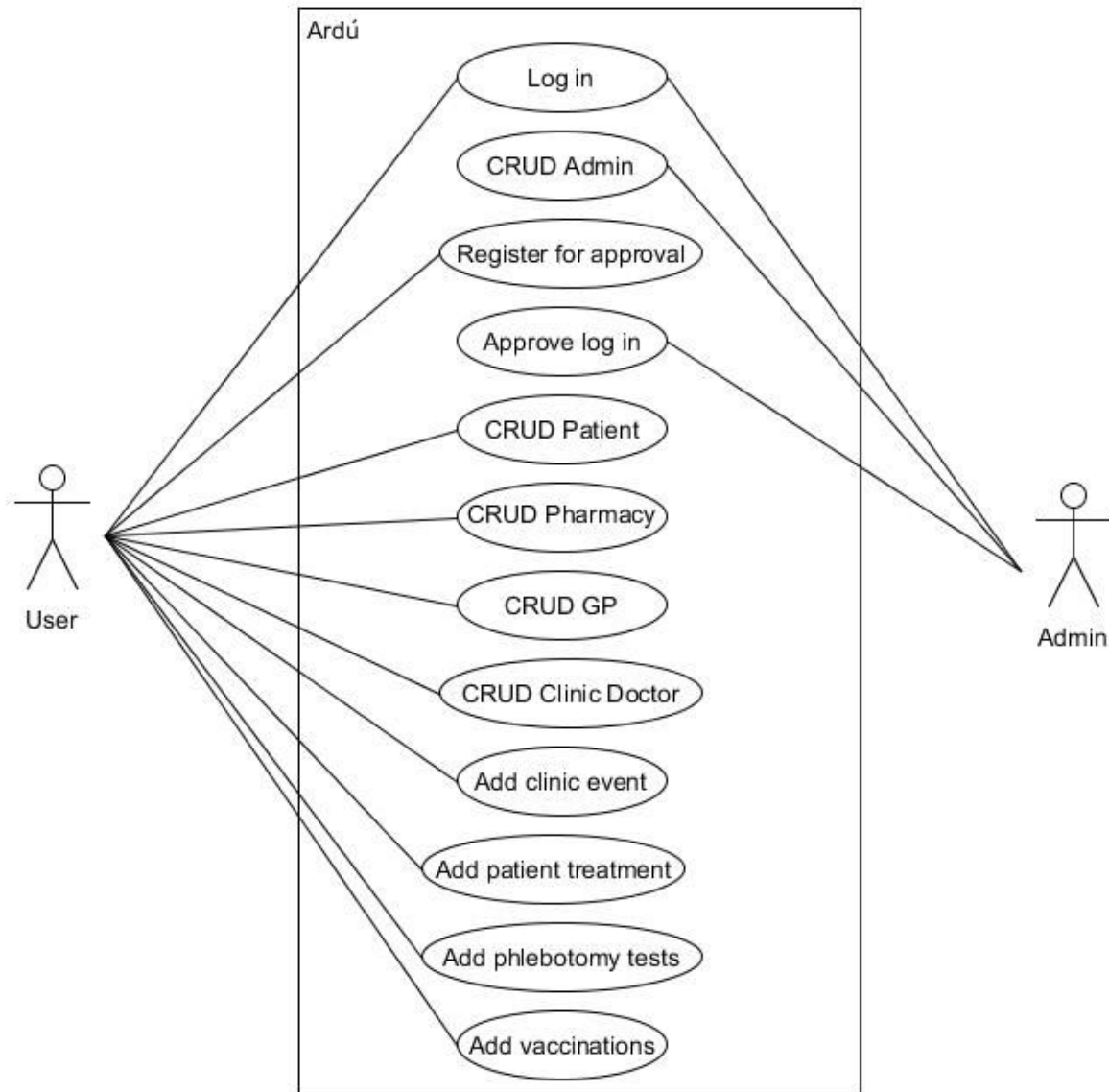
This document will highlight the technical aspects of the Ardú clinical data management system. The Ardú project's intended users will consist of faculty inside St. Dymphna's Hospital, Carlow. More accurately, faculty working inside of the substance misuse clinic, Ardú. This project may also serve well to other clinics offering such health services as rehabilitation. The desired product is an application which will successfully manage a clinic's data.

## 2 Application Overview

This application is intended to replace the manual process of handwritten records in small to medium healthcare clinics. The current manual processes have three main problem factors to solve; Cost, Lost productivity and Accessibility.

The proposed scalable design provides multiple users manage clinic data all in one place on the cloud.

### 3 Use Case Diagram



### 4 Brief Use Cases

**Use case name:** *Login User/Admin*

**Actors:** User, Admin

**Use case description:** This use case begins when a User/Admin wishes to log into the application. The application displays a login form for the User/Admin to enter their login

credentials. The User/Admin enters his/her information. This use case ends when the User/Admin is logged into the application.

**Use case name:** *CRUD Admin*

**Actors:** Admin

**Use case description:**

*Create:*

This use case begins when an existing Admin wishes to make another Admin account. The admin selects the option to create a new admin account. Information for the account is entered. The application asks the Admin to confirm the creation of this new account. The Admin confirms by selecting the correct option. The application confirms account creation.

*Read:*

This use case begins when an Admin wishes to view his/her details. The application displays a list of information for the Admin's account.

*Update:*

This use case begins when an Admin wishes to update his/her details. The application displays the Admin's details. The Admin selects the information he/she wishes to update. The Admin makes changes to his/her details. The application asks the Admin for confirmation of the updates. The Admin confirms the updates. The application records the changes.

*Delete:*

This use case begins when an Admin wishes to delete their account. The application displays the Admin's details, the Admin selects the delete account option. The application asks for Admin confirmation to delete. The Admin confirms this option. The application removes the reference of this account.

**Use case name:** *Register for approval*

**Actors:** User

**Use case description:** This use case begins upon first time registration for a User. The User selects the option to register, then fills in his/her credentials into a form. The application will ask the User for confirmation then alerts the User that this is a first time registration and a request for approval has been sent to an Admin. This use case ends when the system waits on an Admin's approval of the new User.

**Use case name:** *Approve log in*

**Actors:** Admin

**Use case description:** This use case begins as a notification alert on an Admin's navigation bar. The alert will notify the Admin of a new User wishing to access the application. The Admin will have a view of the information typed by the User and he/she can then decide to accept or decline the requested approval. This use case ends when the Admin accepts or declines a User's request.

**Use case name:** *CRUD Patient*

**Actors:** User

**Use case description:***Create:*

This use case begins when the User wishes to make a new Patient record. The User selects an option to create a new record. The application displays a form which the User fills out and confirms. This use case ends when the application adds the new Patient record to the database and displays confirmation to the User.

*Read:*

This use case begins when the User wishes to view Patient records. The application displays a list of all Patient records and a more detailed view can be accessed by selecting the Patient he/she wishes to view.

*Update:*

This use case begins when the User wishes to update a Patient record. The User will select the option to edit a Patient record. The application displays the Patient record. The User selects the information he/she wishes to update. The User makes the changes to the Patient record. The application asks the User to confirm updates. The User accepts confirmation. The application records the changes.

*Delete:*

This use case begins when the User wishes to archive a Patient record. The User will select the option to dump a Patient record. The application displays a full list of the Patient details. The User selects the accept option and the application then prompts the User for confirmation. The User confirms this option. The application removes reference of the Patient record.

**Use case name:** *CRUD Pharmacy***Actors:** User**Use case description:***Create:*

This use case begins when a User wishes to create a new Pharmacy record. The User selects an option to create a new record. The application displays a form for the User to fill out and confirms. This use case ends when the application adds the new Pharmacy record to the database and displays confirmation to the User.

*Read:*

This use case begins when a User wishes to view a Pharmacy record. The application displays a list of all Pharmacies and a more detailed view can be accessed by selecting a Pharmacy record he/she wishes to view.

*Update:*

This use case begins when a User wishes to update a Pharmacy record. The User will select the option to edit a Pharmacy record. The application displays the Pharmacy record. The User selects the information he/she wishes to update. The User accepts confirmation. This use case ends when the application records the changes.

*Delete:*

This use case begins when a User wishes to remove a Pharmacy record. The User will select the option to remove a Pharmacy record. The application displays the full list of information attached to the selected Pharmacy. The User selects the accept option and the application then

prompts the User for confirmation. The User confirms this option. The application removes the reference of the Pharmacy record.

**Use case name:** *CRUD General Practitioner*

**Actors:** User

**Use case description:**

*Create:*

This use case begins when a User wishes to create a new General Practitioner record. The User selects an option to create a new record. The application displays a form which the User will complete and confirms. This use case ends when the application adds the new General Practitioner record to the database and displays confirmation to the User.

*Read:*

This use case starts when a User wishes to read a General Practitioner's record. The application displays a full list of GP records and a more detailed view can be accessed by selecting a GP record he/she wishes to view.

*Update:*

This use case begins when a User wishes to update a General Practitioner's record. The application displays a list of GP records. The User selects the record he/she wishes to update. The User makes the changes to the GP record. The application asks the User to confirm the updates. The User confirms the updates. The application records the changes.

*Delete:*

This use case begins when a User wishes to remove a General Practitioner's record. The User will select the option to remove a GP record. The application displays a full list of information attached to the selected GP. The User selects the option to accept and the application prompts the User for confirmation. The User confirms this prompt. The application removes the reference of the GP record.

**Use case name:** *CRUD Clinic Doctor*

**Actors:** User

**Use case description:**

*Create:*

This use case begins when a User wishes to create a new Clinic Doctor record. The User selects an option to create a new record. The application displays a form which the User will complete and confirms. This use case ends when the application adds the new Clinic Doctor record to the database and displays confirmation to the User.

*Read:*

This use case starts when a User wishes to read a Clinic Doctor's record. The application displays a full list of Clinic Doctor records and a more detailed view can be accessed by selecting a Clinic Doctor's record he/she wishes to view.

*Update:*

This use case begins when a User wishes to update a Clinic Doctor's record. The application displays a list of Clinic Doctor's records. The User selects the record he/she wishes to update.

The User makes the changes to the Clinic Doctor record. The application asks the User to confirm the updates. The User confirms the updates. The application records the changes.

*Delete:*

This use case begins when a User wishes to remove a Clinic Doctor's record. The User will select the option to remove a Clinic Doctor's record. The application displays a full list of information attached to the selected Clinic Doctor. The User selects the option to accept and the application prompts the User for confirmation. The User confirms this prompt. The application removes the reference of the Clinic Doctor record.

**Use case name:** *Add clinic event*

**Actors:** User

**Use case description:** This use case begins when a User wishes to update the events on a Patient record. The User selects a Patient record he/she wishes to add clinic events to. The User selects the event/s he/she wishes to add and the User will save the changes to the database by selecting the accept option. This use case ends when the changes were successfully saved to the database.

**Use case name:** *Add patient treatment*

**Actors:** User

**Use case description:** This use case begins when a User wishes to add treatment information to a Patient record. The User selects a Patient. The User then completes a form and selects the option to save. This use case ends when the changes were successfully saved to the database.

**Use case name:** *Add phlebotomy tests*

**Actors:** User

**Use case description:** This use case begins when a User wishes to add blood sample test results to a patient record. The User selects a Patient. The User then completes a form and selects the option to save. This use case ends when the changes were successfully saved to the database.

**Use case name:** *Add vaccinations*

**Actors:** User

**Use case description:** This use case begins on the condition of the results from phlebotomy tests. The User will select a Patient. The User then completes a form and selects the save option. This use case ends when the changes were successfully saved to the database.

## 5 Detailed Use Cases

**Use Case: Login User/Admin**

**Actors:** Admin, User



**Brief Description:** This use case begins when the User/Admin wishes to log into the application.

#### **Main Success Scenario**

1. The User/Admin enters their email and password into the application
2. The application verifies the User/Admin's credentials
3. The application confirms the login
4. The application displays the main application window

#### **Alternatives**

- 2a. The login details are invalid
1. The application displays an error
  2. The User/Admin is redirected to the login screen
- 3a. First time attempt of login for User
1. A request for approval is sent to a system Admin

### **Use Case: CRUD Admin: Create**

**Actors:** Admin

**Brief Description:** This use case begins when an Admin wishes to create another admin account.

#### **Main Success Scenario**

1. The Admin enters the details of the new Admin
2. The application verifies the Admin's credentials
3. The application adds the new Admin to the database
4. The application confirms new account creation

#### **Alternatives**

- 2a. The login details are invalid
1. The application displays an error
  2. The Admin is redirected to the Admin creation screen

### **Use Case: CRUD Admin: Read**

**Actors:** Admin

**Brief Description:** This use case begins when an Admin wishes to read the information of his/her account or another Admin.

**Main Success Scenario**

1. The Admin selects his/her account or another Admin account they wish to see
2. The application displays a form of information on the selected Admin account

**Use Case: CRUD Admin: Update**

**Actors:** Admin

**Brief Description:** This use case begins when an Admin wishes to update the information of his/her account.

**Main Success Scenario**

1. The Admin selects option to update their information
2. The Admin must verify his/her credentials
3. The application saves the changes to the database
4. The application confirms the changes have been saved

**Alternatives**

- 2a. The Admin credentials are invalid
1. The application displays an error
  2. The Admin is redirected to the update screen

**Use Case: CRUD Admin: Delete**

**Actors:** Admin

**Brief Description:** This use case begins when an Admin wishes to delete his/her account.

**Main Success Scenario**

1. The Admin selects the delete option on his/her account
2. The Admin must verify his/her credentials
3. The application confirms and deletes the Admin

**Alternatives**

- 2a. The login credentials are invalid
1. The application displays an error
  2. The Admin is redirected to their account information screen

**Use Case: Register for approval**

**Actors:** User, Admin

**Brief Description:** This use case begins upon first time registration of a User account.

#### **Main Success Scenario**

1. The User selects the option to register
2. The User enters his/her credentials
3. The application alerts the User that a request for approval has been sent to Admins
4. An Admin accepts the request
5. The User can now log into the application

#### **Alternatives**

- 2a. The credentials entered already exist
1. The application displays an error
  2. No request is sent to Admins
  3. The User is redirected to the registration page

#### **Use Case: Approve log in**

**Actors:** Admin

**Brief Description:** This use case begins when a User has submitted a request for approval registering for the application.

#### **Main Success Scenario**

1. An Admin will receive a notification on his/her application navigation bar
2. The Admin will select his/her notifications
3. The Admin will accept a User's request for approval
4. The User can now successfully log into the application

#### **Use Case: CRUD Patient: Create**

**Actors:** User

**Brief Description:** This use case begins when a User wishes to create a new Patient record.

#### **Main Success Scenario**

1. The User completes a new Patient record form
2. The application validates the form data
3. The application saves the information to the database
4. The application confirms the User of the new record

**Alternatives**

3a. A network issue occurred

1. The system displays an error message
2. The system will attempt to reload the new Patient record form

**Use Case: CRUD Patient: Read**

**Actors:** User

**Brief Description:** This use case begins when a User wishes to view a Patient record.

**Main Success Scenario**

## 6 Conclusion

In conclusion, this document outlines the core functionalities of the Ardú project. Using a combination of brief use cases and detailed use cases of both functional and non-functional requirements.