Health System Solution

A Comprehensive Client and Program Management System

Presented By: Angera Silas

Approach

Goal

Featres

Provide a solution for managing health programs and clients.

- Create health programs.
- Register new clients.
- Enroll clients in programs.
- Search for clients.
- View client profiles.
- Expose client profiles via APIs.
- View program details
- View enrollments

Design

System Architecture

The system is divided into 3 major parts thats database, frontend and backend.

Frontend:

- Flutter
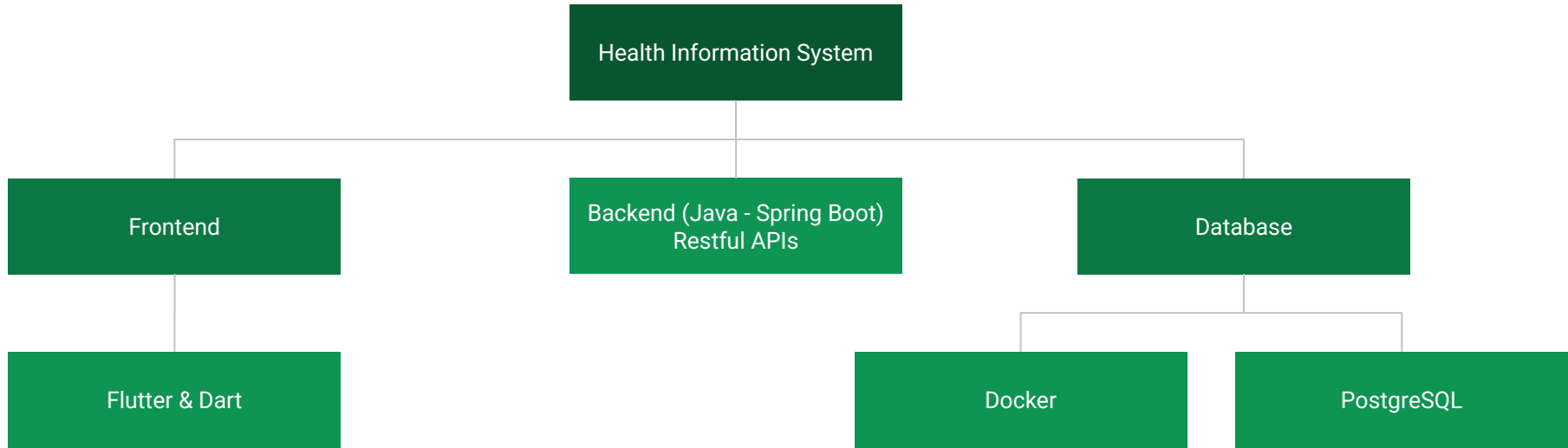- Cross-platform support (Web, Mobile, Desktop).

Backend:

- Spring Boot
- RESTful APIs for client and program management.

Database:

- PostgreSQL
- Stores client and program data.

Integration:

- Exposes APIs for external systems.

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                          ┌─────────────────────────────┐
                          │  Health Information System   │
                          └─────────────────────────────┘
          ┌──────────────────────────┼──────────────────────────┐
┌──────────────────┐    ┌─────────────────────────────┐    ┌──────────────────┐
│     Frontend     │    │ Backend (Java - Spring Boot) │    │     Database     │
│                  │    │        Restful APIs          │    │                  │
└──────────────────┘    └─────────────────────────────┘    └──────────────────┘
        │                                               ┌──────────┴──────────┐
┌──────────────────┐                          ┌──────────────────┐  ┌──────────────────┐
│  Flutter & Dart  │                          │      Docker      │  │    PostgreSQL    │
└──────────────────┘                          └──────────────────┘  └──────────────────┘
```

Workflow Overview

Step-by-step process:

1. Doctor Registers to the system
2. Doctor logs into the system.
3. Doctor creates a health programs.
4. Doctor registers a new client.
5. Doctor enrolls the client in one or more programs.
6. Doctor searches for a client and views their profile.
7. Doctor views Individual Programs and enrollments made on them.
8. External systems retrieve client profiles via APIs.

Solution

Key Features & Prototype Demonstration

My solution directly addresses client and program management needs through intuitive UIs and secure APIs.

Health System

Welcome to the Health System

Explore our features to manage health programs, register clients, and more.

- ✅ Manage health programs like TB, Malaria, HIV.
- ✅ Register and manage clients.
- ✅ Enroll clients in programs.
- ✅ View detailed client profiles.

Click Login if you already have an account.

→] Login

Click Register to Create a New account.

▦ Register

Doctor Registration
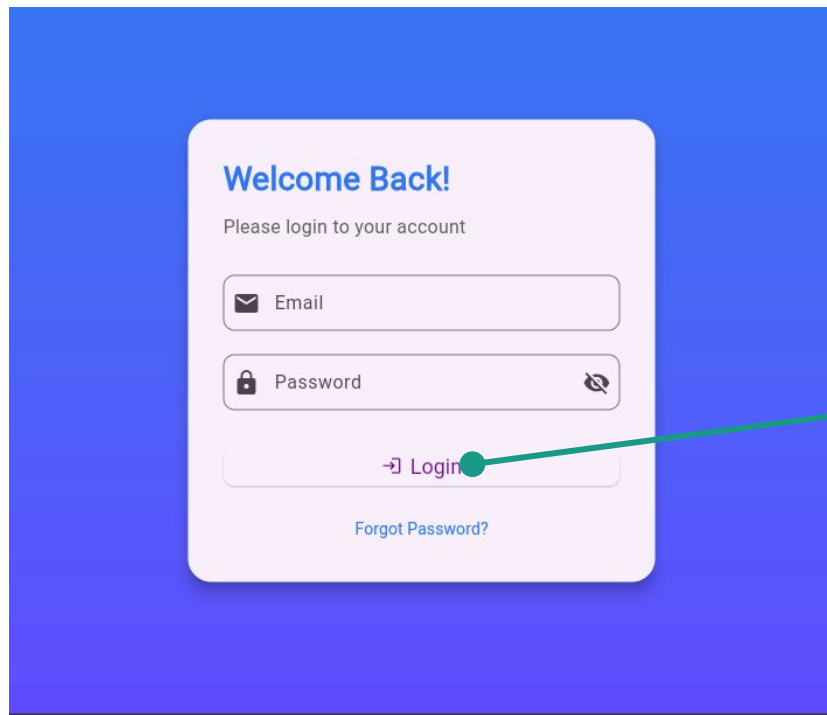
Create an Account

Please fill in the details below

Fullname

Email

Mobile No.

Specialization

Date Of Birth

Gender

Password

Confirm Password

Enter Details and Submit to complete the Registration Process

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Login Page

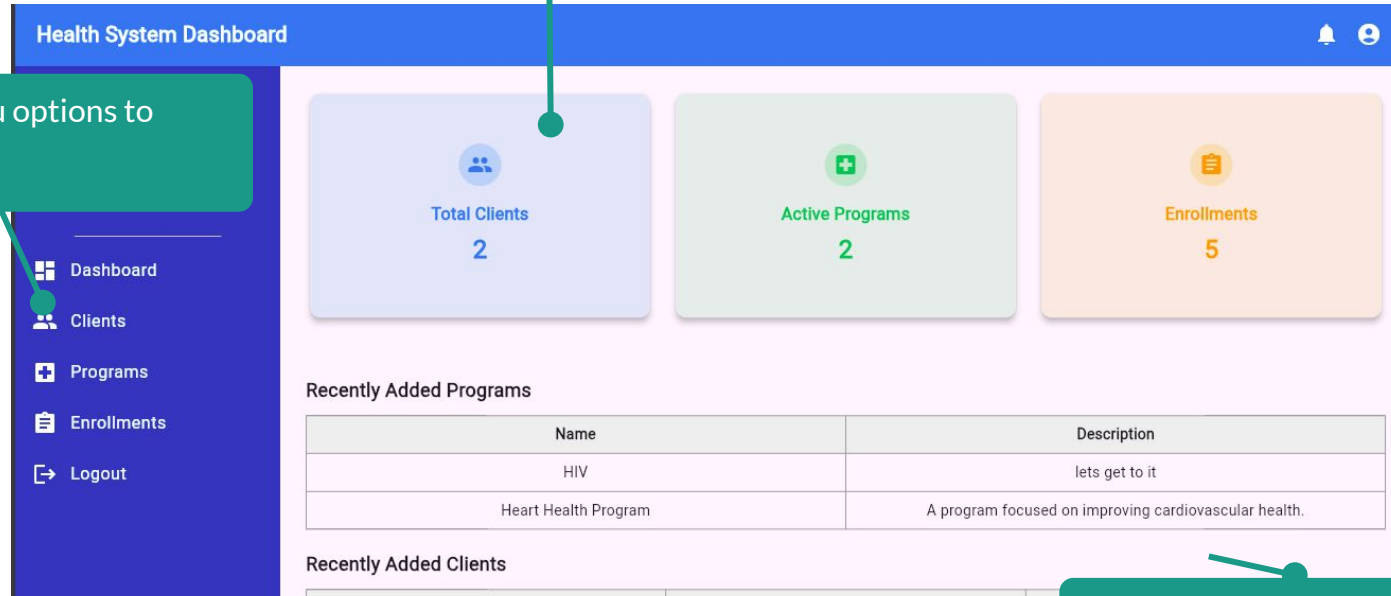**Welcome Back!**

Please login to your account

Email

Password

Login

Forgot Password?

Enter Details and Submit to access the DashBoard

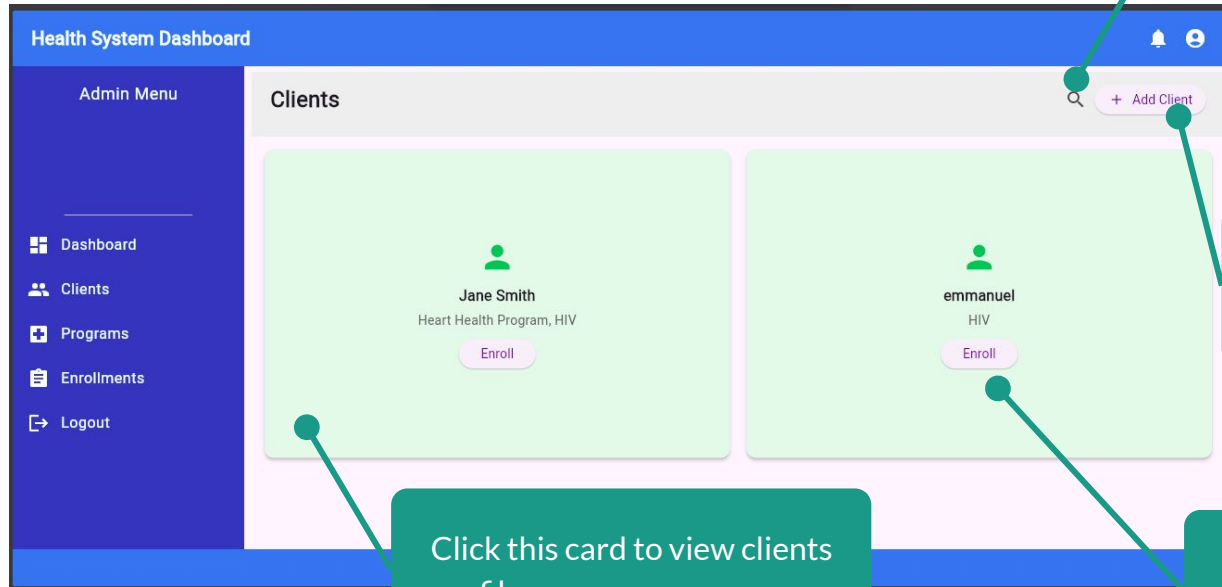The cards shows summaries data from the database

Click the menu options to navigate

Dashboard

Clients

Programs

Enrollments

Logout

Total Clients

2

Active Programs

2

Enrollments

5

Recently Added Programs

Name	Description
HIV	lets get to it
Heart Health Program	A program focused on improving cardiovascular health.

Recently Added Clients

The tables shows recently added programs and clients

Manage Clients

Click the search icon to search for specific client details

Health System Dashboard

Admin Menu

- Dashboard
- Clients
- Programs
- Enrollments
- Logout

Clients

Q + Add Client

Jane Smith
Heart Health Program, HIV

Enroll

emmanuel
HIV

Enroll

Click the Add Client button to Register a new client .

Click this card to view clients profile.

Click Enroll button to enrol a specific client to programs.

Manage Clients

Select the programs and enroll a specific client.

Enroll in Programs

Heart Health Program (ID: 1) ☐

Cancel   Enroll

Add New Client

Name

Email

Phone

Date of Birth (YYYY-MM-DD)

Gender (Male/Female)

Physical Address

Street

Cancel   Add

After clicking the add client button this form will popup for you to fill and add a new client to the system
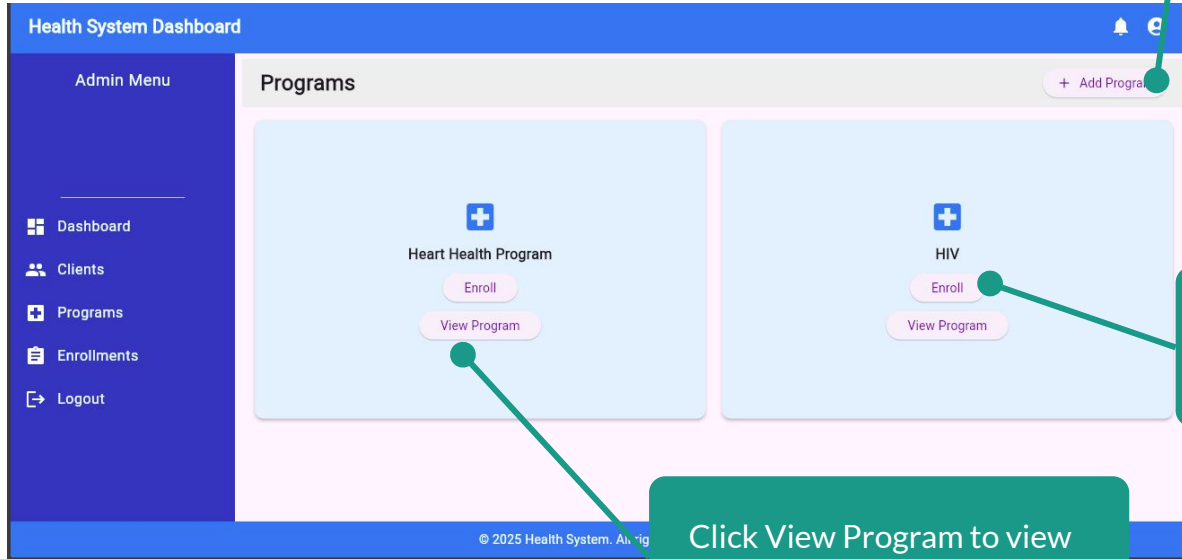
Search Clients

🔍 Enter Name   Submit

No results found

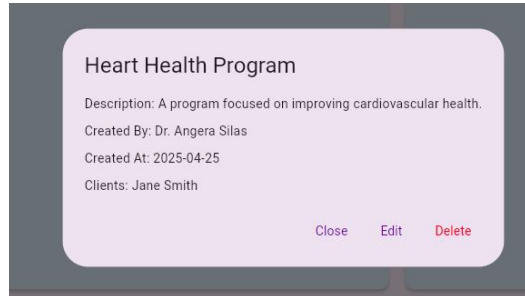Search for a specific client using this form.

Manage Programs

Click the add program Button to add new Program

Admin Menu

Dashboard
Clients
Programs
Enrollments
Logout

Programs

+ Add Program

Heart Health Program
Enroll
View Program

HIV
Enroll
View Program

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Click the enroll button to enroll clients to a specific program

Click View Program to view details for a specific program.

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Manage Programs

Heart Health Program

Description: A program focused on improving cardiovascular health.
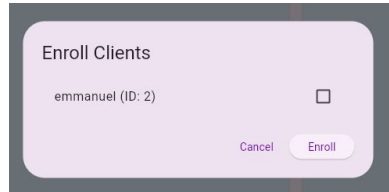
Created By: Dr. Angera Silas

Created At: 2025-04-25

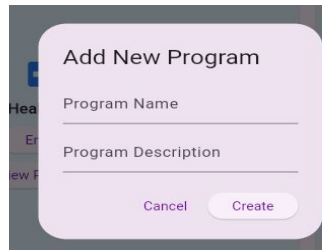Clients: Jane Smith

Close   Edit   Delete

Program Details

Enroll Clients

emmanuel (ID: 2) ☐

Cancel   Enroll

A form used to enroll clients to a specific program
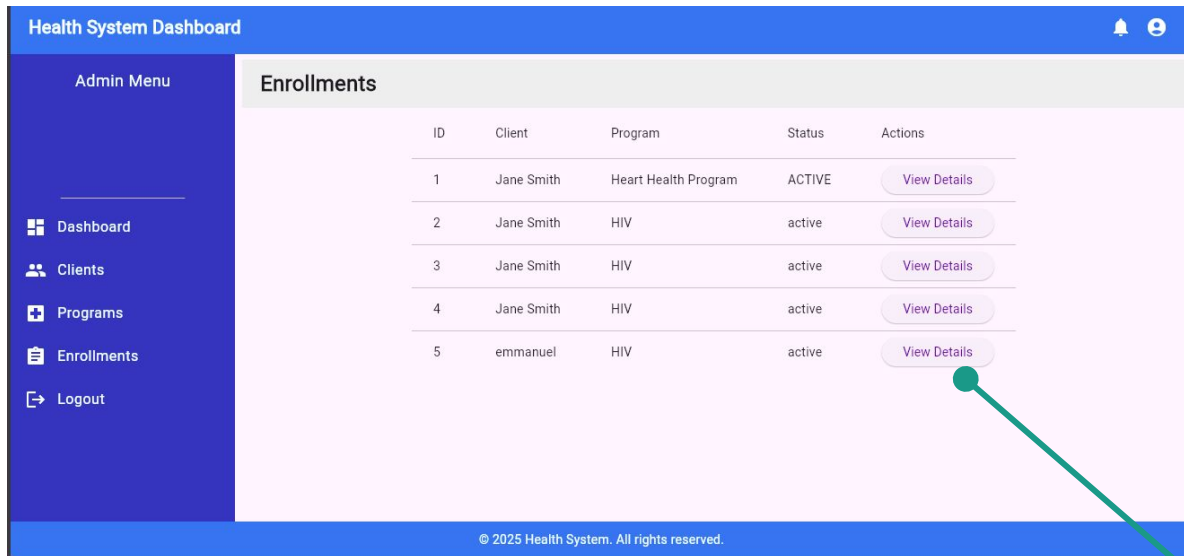
Add New Program

Program Name

Program Description

Cancel   Create

A form used to add new programs to the system

View Enrollments

Health System Dashboard

Admin Menu

- Dashboard
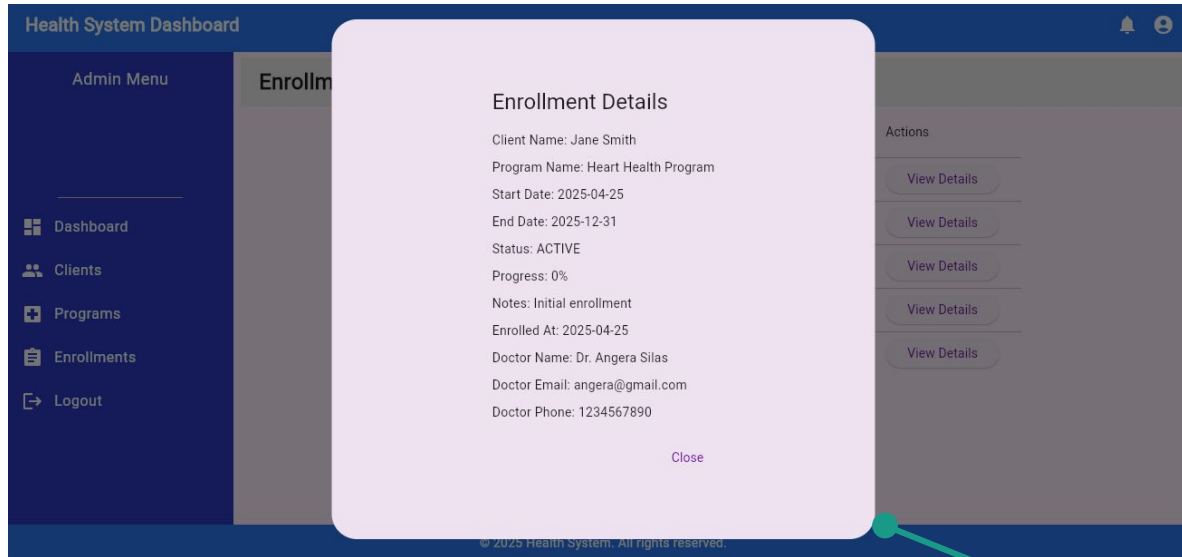- Clients
- Programs
- Enrollments
- Logout

Enrollments

ID	Client	Program	Status	Actions
1	Jane Smith	Heart Health Program	ACTIVE	View Details
2	Jane Smith	HIV	active	View Details
3	Jane Smith	HIV	active	View Details
4	Jane Smith	HIV	active	View Details
5	emmanuel	HIV	active	View Details

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Click view details button to get more information about a client enrollment.

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View Enrollments

Health System Dashboard

Admin Menu

- Dashboard
- Clients
- Programs
- Enrollments
- Logout

Enrollm...

Actions

View Details

View Details

View Details

View Details

View Details

Enrollment Details

Client Name: Jane Smith

Program Name: Heart Health Program

Start Date: 2025-04-25

End Date: 2025-12-31

Status: ACTIVE

Progress: 0%

Notes: Initial enrollment

Enrolled At: 2025-04-25

Doctor Name: Dr. Angera Silas

Doctor Email: angera@gmail.com

Doctor Phone: 1234567890

Close

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Details about a specific enrollment.

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API Design

Some of the Endpoints Include:

➔ POST /api/programs/create

➔ POST /api/client-details/create

➔ POST /api/enrollments/create

➔ GET /api/client-details/by-name/{name}

➔ GET /api/client-details/full-info/{clientId}

➔ To get details of clients publicly use /api/client-details/full-info

Thank you!.