CEMA
Health Management System Presentation
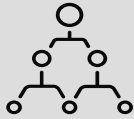
Approach, Design and Solution

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Introduction

Purpose: A basic health information system for managing clients and health programs.

Objectives:

★ Create and manage health programs

★ Register new clients and enroll them to different programs

★ Search and view client profiles

★ Expose data via a secure API

Approach

RAD Methodology

Create and deploy software applications quickly, adapting to new inputs along the process

Modularity

Independent, self-contained modules to allow managing and scalability

API-first Approach

Priority on designing and documenting the RESTful API to allow better structure and reusability
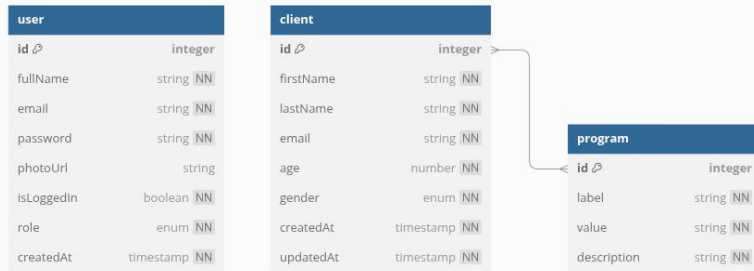
System Design

Entities:

❖ User (Doctor)
❖ Client
❖ Program (Health program)

Relationships:

❖ A client can be enrolled in multiple programs
❖ A single program can have multiple clients

Entity Relationship Diagram

Solution

Frontend: Modern dashboard made with Vue.JS

Backend: Secure REST API server made by NestJS

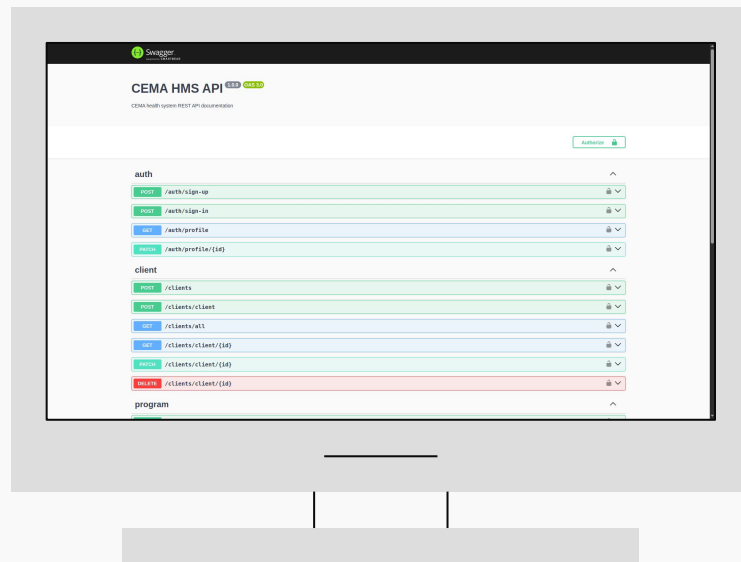**Database**: Relational Database made with PostgreSQL

Users

API

Database

API Exposure

Valid JWTs used for authorization

Key features:

★ Create health programs
★ Register new clients
★ Enroll clients to programs
★ Search clients by name
★ Retrieve a client's profile and their enrolled programs - unprotected to allow access by unauthenticated users

Conclusion

The REST API is easy to integrate for consumption by different applications:

- Provides authentication and authorization right out of the box
- Modularized to allow easy scalability and management
- Works with PostgreSQL databases which provide extensive features for data retrieval and manipulation