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Pavlov Patient Database

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Choices! Counseling Services Database

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Abstract

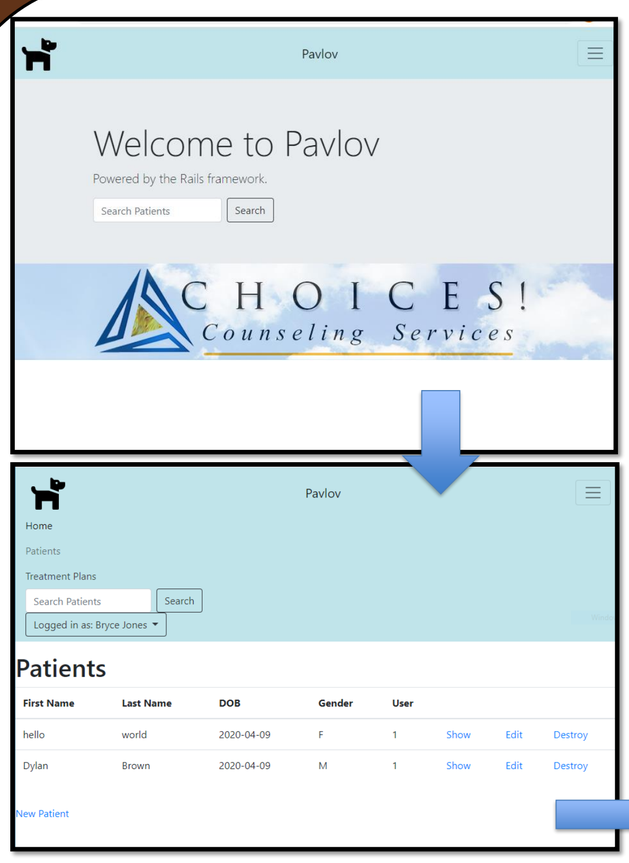
- This project is implementing and deploying a functional patient database with customizable treatment plans and progress notes for Choices!, a counseling service center.
- To build this application and support the various requirements, several frameworks were considered for this project including Django, Flask, and Ruby on Rails.
- Existing libraries within Rails allow for a choice of several database engines; MySQL, Postgresql, MongoDB, and NoSQL were considered. MySQL was adopted as a result of the extensive documentation and for continuity with the previous solution. The Ruby on Rails suite was selected for reasons of existing familiarity for the team.
- Front-end requirements were met with a combination of HTML and Javascript, linked to a Bootstrap 5 framework in order to streamline user accessibility.
- A key quality desired by the customer was ease-of-use, to encourage higher efficiency and easy adoption by the stakeholders.
- In the process of development, secure data handling also emerged as a further and highly-desired attribute.

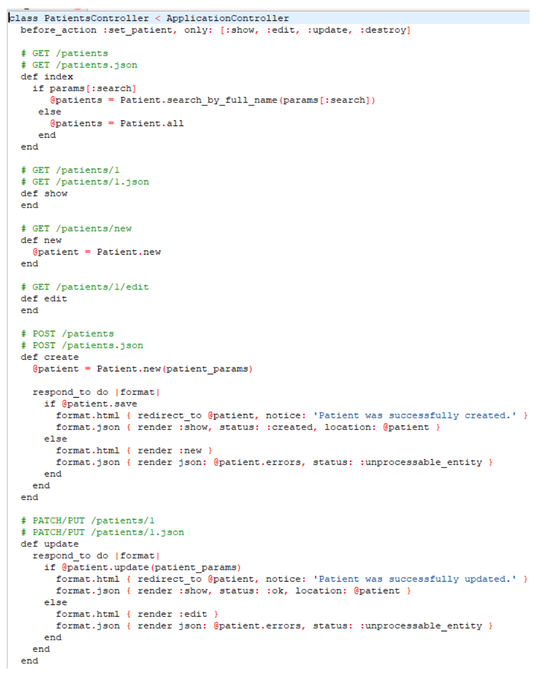
Platforms and Tools

- Ruby on Rails (with MySQL database)
- JavaScript
- HTML 5
- Bootstrap 5

https://www.javascript.com/ https://html.com/ https://getbootstrap.com/

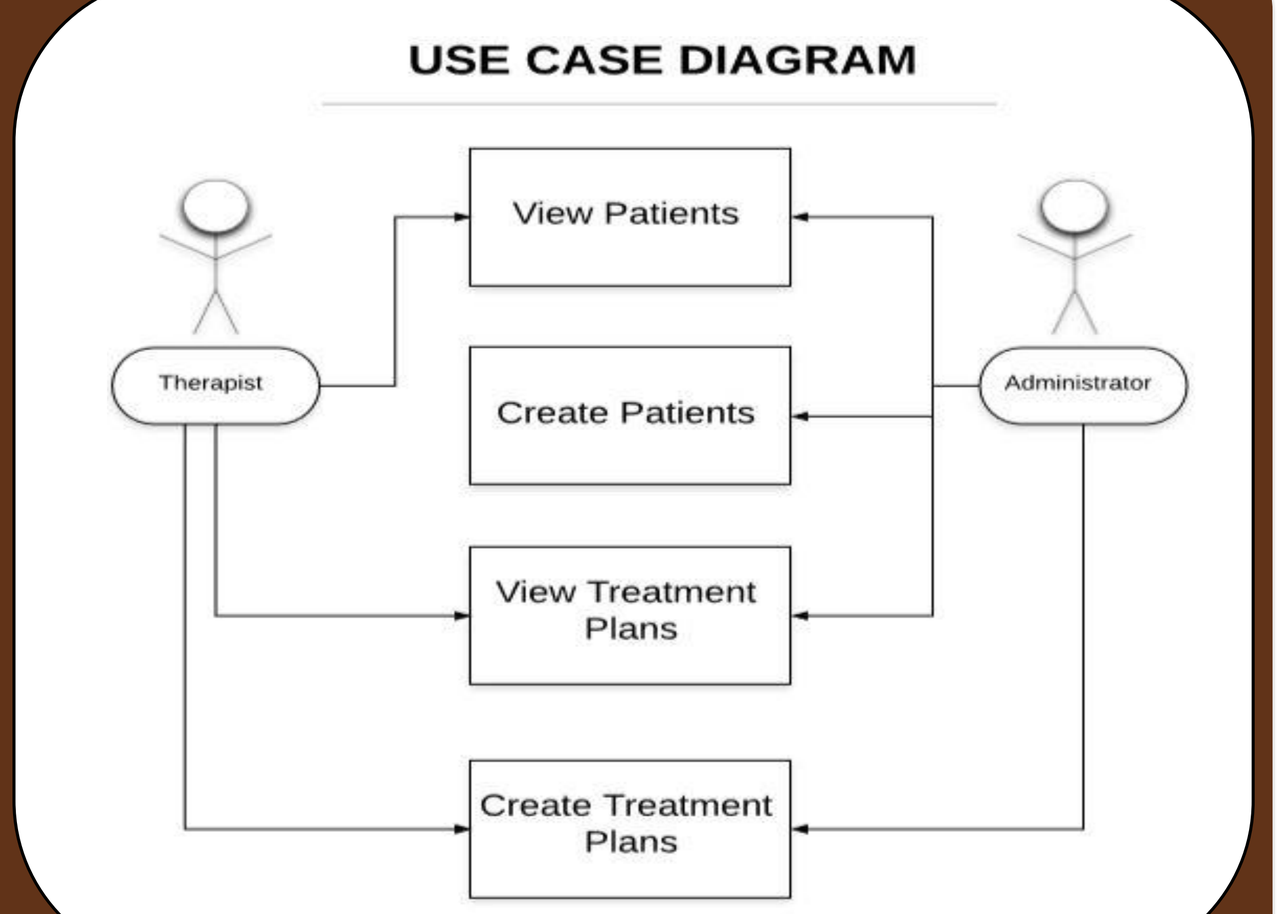
https://rubyonrails.org/ https://www.mysql.com/





```
class PatientsController < ApplicationController
  before_action :set_patient, only: [:show, :edit, :update, :destroy]

  # GET /patients
  # GET /patients.json
  def index
    if params[:search]
      @patients = Patient.search_by_full_name(params[:search])
    else
      @patients = Patient.all
    end
  end

  # GET /patients/1
  # GET /patients/1.json
  def show
  end

  # GET /patients/new
  def new
    @patient = Patient.new
  end

  # GET /patients/1/edit
  def edit
  end

  # POST /patients
  # POST /patients.json
  def create
    @patient = Patient.new(patient_params)

    respond_to do |format|
      if @patient.save
        format.html { redirect_to @patient, notice: 'Patient was successfully created.' }
        format.json { render :show, status: :created, location: @patient }
      else
        format.html { render :new }
        format.json { render json: @patient.errors, status: :unprocessable_entity }
      end
    end
  end

  # PATCH/PUT /patients/1
  # PATCH/PUT /patients/1.json
  def update
    respond_to do |format|
      if @patient.update(patient_params)
        format.html { redirect_to @patient, notice: 'Patient was successfully updated.' }
        format.json { render :show, status: :ok, location: @patient }
      else
        format.html { render :edit }
        format.json { render json: @patient.errors, status: :unprocessable_entity }
      end
    end
  end
```

The first image is the Welcome Page to the Pavlov database, the second image is the Patients screen to view, edit, delete and search. The third image is the code for the Patients screen.



Additional Features

- Created google forms that are able to be uploaded for treatment plans
- Login in screen with password

Challenges

- System was built to be a potential successor to a currently deployed solution, but source code and design/specifications were unavailable
- Circumstances including the COVID-19 situation required rapid changes to team practices due to dispersal of team and move to network-based communications
- Some features required significantly more complexity and customization capability than originally anticipated; individual treatment plan templates in particular required architectural changes

Future Work

- Added ability to create progress notes based on information previously recorded in the creation of patients and treatment plans
- Implementing the real data from the counseling database into the system to be used
- Authorizing access to real users in the counseling staff
- Added security in accessing data for both viewing and manipulating for patient confidentiality

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