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

USE CASE DIAGRAM

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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