

Java Program to view Patient Data.

Summary of features

As we are using a **Model View Controller** inspired design, our model is where we will be transforming the data and preparing it to be displayed on the website.

Through model, we invoke a **servlet** which allows us to **communicate with JSP's**, we then *dynamically create a list of patient data that can be displayed*.

Additionally, in our search classes we can search through the dataset by keyword related to name and last name.

This displays all data about the patients in a messy format.

Additionally, I was able to list all the patient names in the csv by concatenating the first and last names that were given in the csv file, displaying this into the

Class Design:

We use the *class, Column, Data Frame and Data Loader* in our project instantiate and construct our list of lists with columns and rows.

Firstly, let's look at the Column class, where we create an object Column, which is basically a list containing all rows for example ID. This class contains security features such as creating copies of the rows to protect the internal list.

Data Frame is a list of these columns.

I made my data Frames dynamic using Data Loader, where depending on the csv, the headers can change, and different objects are created.

In the model, it has similar methods to that which could be contained in the data Frame; however, it is simply different where model is aimed at transferring data to be displayed and data frame manipulates it so different actions could be done to it.

We purposefully separated Model, JSP and Servlet to match out Model View Controller functionalities.

Additionally, the abstraction used in column and Data Frame encapsulates how the data is handled and it what forms. This makes dealing with data much simpler.

Evaluation and improvements

My overall quality of work is a 50-59%, as I have reached most of the requirements making a web application in java where one can access and view his data, and search through it efficiently. It is dynamic allowing it to work with any dataset no matter the size, this was my main vision for this project.

I have used encapsulation with Column and Data frame classes

Potential improvements would be to have a cleaner table like formatting of data, which was attempted as you can see in all Patient Data.jpg.

A keyword search for each patient category would have been more effective and useful. Additionally, implementing a Data Factory class so Model gets an instance of a data Loader would have been considered better OO practices.