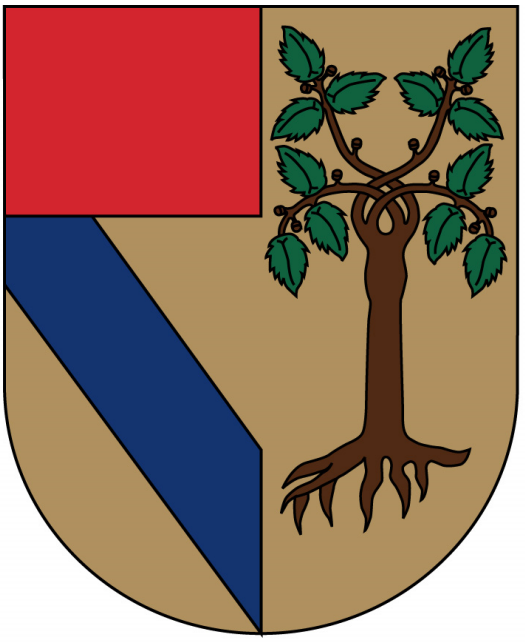


UNIVERSIDAD PANAMERICANA

PROJECT III: THE DASHBOARD

2 de junio de 2021

Simulation & Visualization

Felipe Lopez Valdez <0204021>
Sergio Velazquez Ramirez <0206168>
Juan Pablo Quintero Salazar <0209594>
Maria Jose Rosales Beltran <0208981>

Development log

The first challenge in the development of this project was to make the connection of the API, acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other, in this case, the excel file to the front end of the dashboard.

For this first challenge we used Node JS, which is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting, running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser.

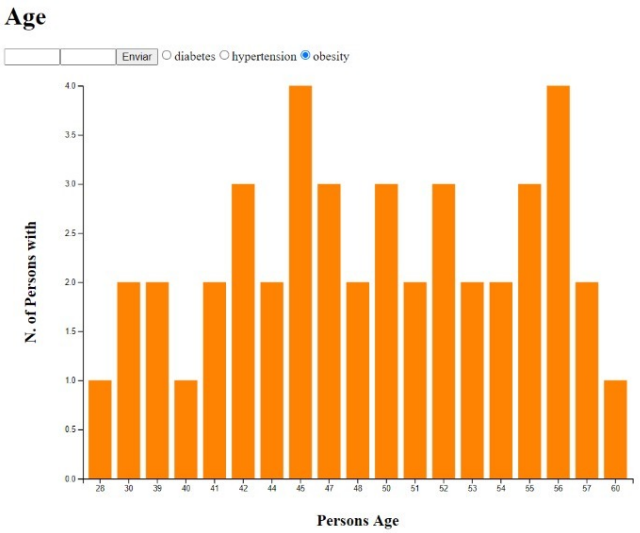
The second challenge in the development of this project was to generate the graphs out of the information that we got from the API, this data needed to be transformed in a more efficient way to better handle the statistics.

For this second challenge we used D3.js, which is a JavaScript library for manipulating documents based on data. D3 helps you bring data to life using HTML, SVG, and CSS. D3's emphasis on web standards gives you the full capabilities of modern browsers without tying yourself to a proprietary framework, combining powerful visualization components and a data-driven approach to DOM manipulation.

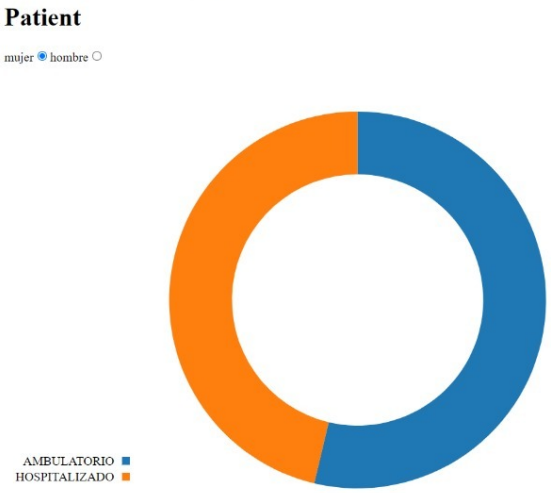
Another challenge in the development of this project, we needed to set up a server for the API to work and also a database to store the information and use it to make the graphs.

For this third challenge, as we mentioned earlier, for the server we used Node JS and for the database we used MongoDB, which is a document-oriented NoSQL database used for high volume data storage. Instead of using tables and rows as in the traditional relational databases, MongoDB makes use of collections and documents.

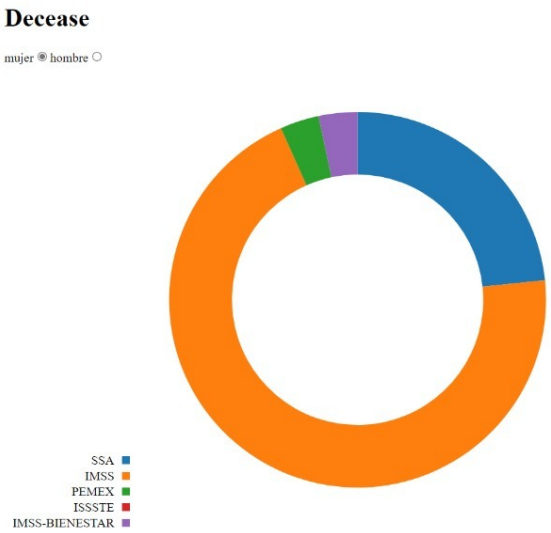
At least 4 stories that showcase and explain what information is getting displayed..



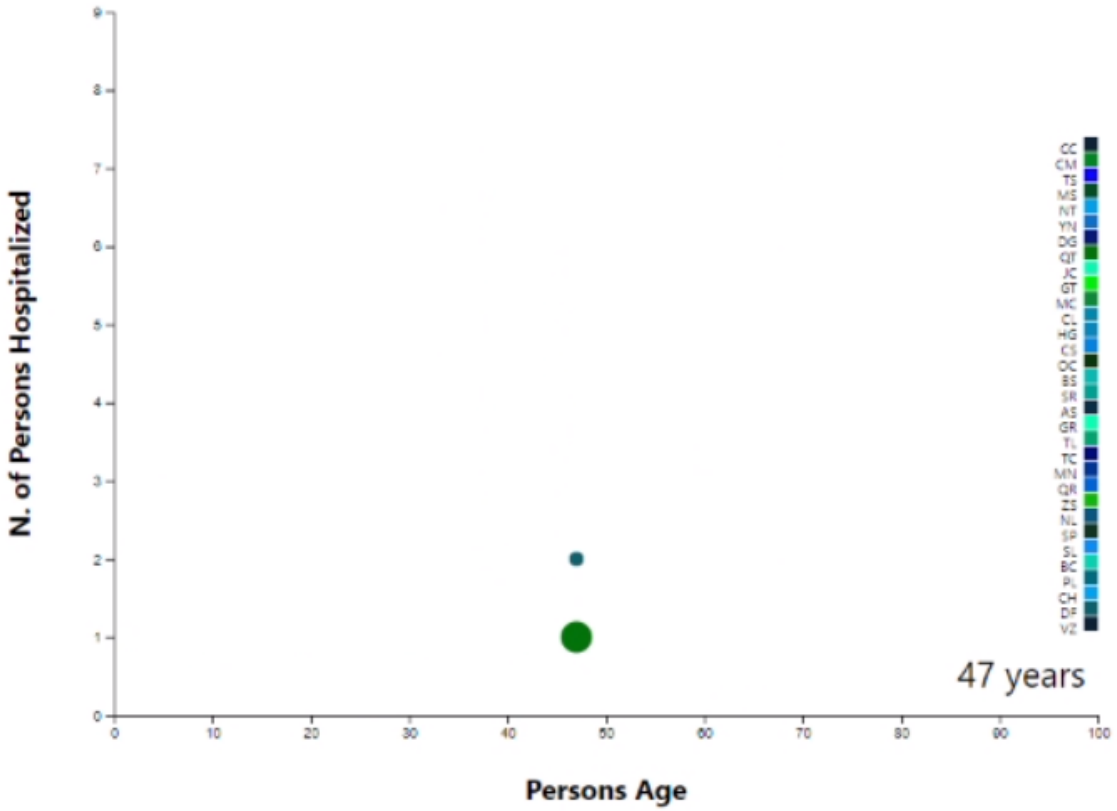
In this graph we collect the number of people with their ages that suffer from diseases, such as obesity, diabetes and hypertension.



In this graph we collect the status of each patient, “ambulatorio” or “hospitalizado”, and then represent the data in a donut chart, where the color orange represents “hospitalizado” and in color blue represents “ambulatorio”.



The graph Decease collects the number of persons in the institutions that provide health insurance, in the donut chart the color orange represents that the majority of people were part of the IMSS. Followed by SSA with the color blue. PEMEX and IMSS-Bienestar with green and purple respectively cover the least amount of people, also we noticed that anyone in the information given is part of ISSSTE.



The last graph shows the number of patients hospitalized and their age ordered by the state where patients live. The colors of the dots in the graph represent the states, each place is listed next to the corresponding color.