The web application will be built using the MERN stack, which includes MongoDB as the database, Express and Node.js for the backend, and React for the frontend. Python will be used for ETL tasks to transform the data from CSV files into a suitable format for visualization.

We used the MERN stack to create a home, a registration, a login, and a graph page. Users can sign up, log in for an account by providing their personal information, such as name, email, and password. They can also go to the graph page and display the desired graphs.

For the creation of the different webpages, we used HTML, CSS, and Bootstrap.

We implemented server-side validation using Node.js and Express to ensure the user input is valid and secure.

We store the user registration data securely in a MongoDB database.

When creating the graphs we accessed the data from a CSV file via a Python script using the pandas library. When accessing the different values in the CSV files, we will get the required information and we will use matplotlib and seaborn to create the desired graph.

That graph is saved as an image on the server files, which is afterward returned via a GET HTTP request sent by the server. This GET request uses the child\_process library to access the script that creates the image of the graph.

The web browser calls this request and when it gets the image it sends it to the appropriate “img” component on the website, which will hold the graph, and updates it with the most recent data. For this to happen, we will be using a React useState variable that will take the information sent from the HTTP request and store it in the useState variable which will be linked to the src value of the image component on the web browser.