Coding Challenge

The goal of this coding challenge is to get an impression whether you are able to handle the basics of the technology stack you are likely to encounter.

Please use TypeScript as your programming language and D3 as the charting library for the front-end and Python Flask for the server component.

Share your work through a public github repository that contains all the information for us to run and evaluate your code.

Player Table

You are given a file that contains a number of soccer players as an array of JSON objects. Your task is to create a web app that lists up these soccer players in a plain HTML table.

Server Component

Write a Flask server which serves the file above from a REST API with the following support:

- /players/{name} - returns a player and all the player attributes
- /players/ - returns all players and their attributes
- /countries/ - returns all countries with a list of players from those countries
- /clubs/ - returns all clubs with a list of players playing for those clubs
- /attributes/ - returns a list of all attribute names

You will use some of these end-points in the client component. Please add a simple demonstration of example queries to your client for all of these endpoints, independent of whether you use them in the application or not. We suggest you include links that return the JSON response.

Client Component

Access the API to retrieve the list of players and the corresponding attributes. and render the following columns:

- Name
- Nationality
- National Position
- Club
- Height
- Preferred Foot
- 2-3 other attributes of your choice

Also show a dropdown with a list of remaining attributes. The dropdown should allow the addition of the attribute as a column to the table.
Clicking on the column header should sort the table according to the attribute (should also work for the above attributes)
Also design a sensible option to allow removal of attributes from the table.

The plain HTML table will look like this:

Name	Nationality	National Position	Club	Height	Preffered_Foot
Alexis Sánchez	Chile	LW	Arsenal	169 cm	Right
Ángel Di María	Argentina	LW	PSG	180 cm	Left
Antoine Griezmann	France	CAM	Atlético Madrid	176 cm	Left
Arjen Robben	Netherlands	RW	FC Bayern	180 cm	Left
Arturo Vidal	Chile	CDM	FC Bayern	180 cm	Right
Bernd Leno	Germany	Sub	Bayer 04	190 cm	Right
Coutinho	Brazil	RW	Liverpool	171 cm	Right
Cristiano Ronaldo	Portugal	LS	Real Madrid	185 cm	Right
David Alaba	Austria	LM	FC Bayern	180 cm	Left
David Silva	Spain	LM	Manchester City	173 cm	Left
De Gea	Spain	GK	Manchester Utd	193 cm	Right
Diego Costa	Spain	ST	Chelsea	188 cm	Right
Diego Godín	Uruguay	LCB	Atlético Madrid	185 cm	Right
Eden Hazard	Belgium	LF	Chelsea	173 cm	Right
Gareth Bale	Wales	RS	Real Madrid	183 cm	Left
Gianluigi Buffon	Italy	GK	Juventus	192 cm	Right
Giorgio Chiellini	Italy	LCB	Juventus	187 cm	Left
Gonzalo Higuaín	Argentina	Sub	Juventus	184 cm	Right
Henrikh Mkhitaryan	Armenia		Manchester Utd	177 cm	Right

Style the table using CSS or (SCSS).

Skills Distribution and Player Detail View

Next, create visualizations for the distributions of skills among all players using a visualization technique of your choice (histograms, dot plots, or violin plots are examples) for the attributes selected from the dropdown. You only need to consider numerical and categorical variables.

Place these visualizations to the right of the table.

Finally, please add interaction: when a row is selected by clicking a table in the row, highlight that row and visualize the skills of the selected player directly in the distributions you created earlier. Also show the name of the player on top of the visualizations.

Please make sure that your implementation follows good software engineering practices and that your source code is documented.