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17.04.2025

Milestone 2

COM-480

Objectives

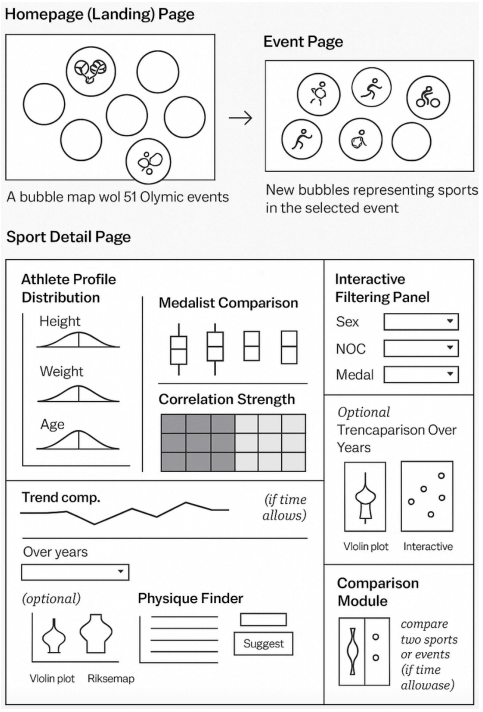
We aim to explore how various athlete attributes influence their performance. Specifically, we're interested in identifying correlations between physical traits such as height, weight, age and an athlete's chances of winning in a discipline. We'll also examine how these relationships differ across sports and highlight which attributes have the greatest impact. In addition, we plan to showcase how these trends have evolved over time, from the early days of the Olympic Games to the present.

Content

On the homepage, we plan to represent the different Olympic games using interactive bubbles, inspired by bubble chart visualizations (like *Bubbles, they bounce! Introducing bubble charts | Flourish*). Each bubble will display the official logo of the Olympic games for that year enhancing visual recognition.When a user clicks on a game it will zoom-in revealing the disciplines.

By clicking on a specific discipline, the user will access a dedicated page featuring interactive visualizations. There, they will be able to explore and analyze potential correlations between athletes' physical characteristics (such as height, weight, and age) and their chances of winning a medal in that particular sport.

Sketches



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Tools

For this project, we will be using Svelte as the core framework. To create the dynamic bubble-based interface on the homepage, I will integrate D3.js and the d3-force module for the bubbles layout. Navigation and zoom transitions will be handled using Svelte's built-in transitions and SvelteKit routing. For the data visualization pages that analyze athlete performance, we will use Plotly.js for plots, as well as Chart.js through the svelte-chartjs wrapper for other standard charts. The entire interface will be styled using Tailwind CSS.

Ressources

To support this project, several courses were interesting such as the courses on D3.js. Although Svelte has not been directly covered in the curriculum, the foundational JavaScript courses were relevant to navigate the official Svelte documentation. Finally, we believe the graph theory courses will offer valuable insights for designing meaningful relationships between the bubbles such as linking Olympic Games, sports disciplines, and various attributes.

Implementation Procedure

The implementation of the project can be divided into three distinct areas, each of which can be developed independently. One part focuses on the visual representation of the Olympic Games and disciplines using the bubbles. Another part is dedicated to analyzing each sport discipline by exploring how athletes' physical characteristics relate to performance outcomes, which involves deeper data exploration and choosing the type of visualisation that would make sense. Lastly, a third area ensures visual consistency across the website by establishing shared design rules and plot standards through CSS implementations.

Additional Ideas

Customizable Avatars

To add a playful aspect to our website, we would like to implement avatars that users can customize. Once customized, the avatar's attributes could be highlighted on the graphs. This way, users can better visualize their own chances of performing as an athlete.