

ARTG5330 Visualization Technologies

Assignment 3-A

Due: Thursday March 5

Description

The purpose of this exercise is to further familiarize you with the joins and the enter/exit/update pattern. You will also examine the nuances of animated transitions.

Task 1: Overview and Planning

The data in question contains a partial list of top medal-winning teams in the 1900, 1960, and 2012 Summer Olympics. Your job is to build an interactive visualization that ranks the top 5 teams and displays their medal counts as scaled circles.

The pre-packaged code already shows how 1) you sort, rank and extract the top 5 teams for a given year, and 2) how DOM elements should be structured. If done correctly, you will not need to write very much code besides re-shuffling existing code.

Note:

- Note how we use the `.data()` method of JQuery and the “data-year” attribute of the `<button>` elements.
- Note how the `draw()` function receives two arguments: an array of the top 5 winning teams, and the year we are interested in. Both arguments will become handy.

Task 2: Implement Enter / Exit / Update

The existing `draw()` function is not written to take advantage of the enter / exit / update pattern. As we jump from year to year, the top 5 list will constantly change, and we need to anticipate adding, removing, and updating the teams we visualize.

Some Tips for Organizing Code:

- The enter set should take care of appending new DOM elements, as well as any initial property setting not covered by the update set.
- The exit set should be removed. As we’ll see later, it’s often nicer to have an animated “drop out” effect for the to-be-removed elements. By stringing together `.transition()` and `.remove()`, we can run an animation on the exit set before removing it.
- The update set should take care of all property changes across updates. In our case, 4 things need to change: 1) the overall position of the `<g>` elements, 2) the size of the circles, 3) the “y” position of the team names, and 4) the medal count.

Task 3: Animated Transitions

This is closely related to Task 2. For visual clarity, we need to implement two sets of animated transitions.

Note:

- The enter set should “drop down” from the top and “fade in” (using the “opacity” property);
- The exit set should “drop out” and “fade out”.