Milestone 2: Project Goal

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Data Visualization (COM-480)

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1   Introduction

The main focus of our project is to visualize the evolution of Olympic Games on the World Map. Through this visualization, we aim to see the evolution of participating/host countries, the evolution of sports played in each game, and how each country played in each sport.

The visualization will be divided in three main parts: a timeline, a map, and a list of sports played in each game. The timeline will enable readers to move back and forth throughout the time, and adjust the year (or game) they'd like to see in the visualization below. The map and list of sports played that year will change according to the timeline. This part will constitute our **Minimal Viable Product** and is detailed in Section 2

Additionally, and only if we have time, we will add interactivity between the listed sports and the map. By clicking on a sport the user will be able to adjust the information displayed to that event. Other filter such as gender may be provided too. More details can be found in Section 3.

Through this visual representation of the evolution of Olympic Games, we aim to naturally invoke readers to think of how global - or not global Olympic games are. From when women participated in Olympic games? From when the countries from specific continent participated in Olympic games? Why the game was cancelled in certain years? By answering such questions, users of our website will understand the interconnection between different countries around the world, various disparities around the world, in the year of COVID-19 pandemic and cancelled Summer Olympics.

2   Minimal Viable Product

On the top, we want to use a timeline and mark all the games that have been held. It will be divided in Summer and Winter Games. The summer ones will be in the upper part of the timeline and the winter ones in the lower part. Each marker will be filled with a different color, which will indicate the continent where the games where held. The idea is that when moving a cursor over the different years, the user will get information about the games and host city. See Figure **??**. In this timeline we will also show major disruptions along time that made cancel or postpone the Games such as World War I and II.

Moreover, additional information of the Games such as logo, edition, etc. will be displayed in a box under the timeline. Right below, we want to have a world map. The participants countries will be colored on map, so that users can see how many (or how few) of overall countries had participated each year. There might be several possible ways in coloring the participants countries, e.g. the number of athletes, the number of medals acquired, etc. The host city will also be marked on the map.

On the bottom, we would like to list the sports played in each game, and the top-tier countries that participated in each sport. This also reacts to the cursor on the timeline, which will make the size of the list itself a meaningful visualization factor. In general, as the cursor moves right, the number of listed sports will increase, which illustrates how complex the Olympic games have become throughout the history.

3   Adding interactivity

If we have enough time, we would want to make the text-boxes of sports clickable, so that they can work as filters for the map. For example, if the cursor is on the year 2000, 28 text-boxes with sports name will be displayed. If a user clicks on 'archery', the countries that participated in archery events in 2000 Summer Olympics will be shaded in the map above.

In addition, we would like to display detailed information on how each country did in each sport, by hovering/clicking on each country on the map. The details might include the number of medals won or the number of athletes, or any historical note that applies to the selected country in that year. The sport to be displayed is selected through the filter element that is mentioned above.

Lastly, on top of all this, we aim to add a gender filter to enable seeing only a selected gender of athletes. The possible selection of filter will be 'all', 'female', and 'male'. If a user click on 'female' filter, it will apply to all the elements that are mentioned above: the map, the list of sports and respective participating countries.

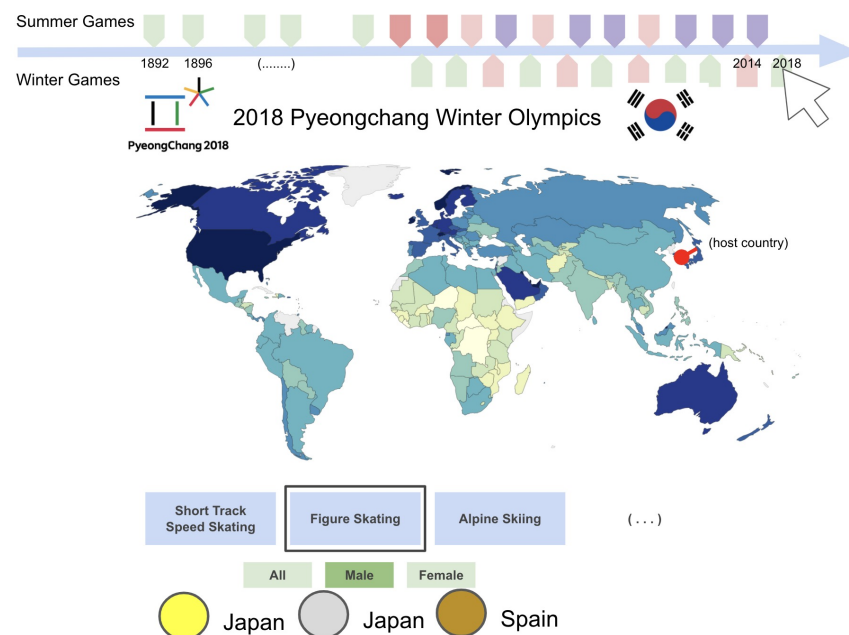A sketch of how we imagine the visualization can be seen in Figure 1.

Figure 1: Overall view of the website

Tools & lectures needed: Lectures about interactions and maps. We are planning on using a world map from D3 and a slider or brush for the timeline. Many other tools (tooltips, filtering...) from D3 will be needed to add the rest of the interactions.