Unity Systems Engineer

> 💡 Your assignment submission is for interviewing purposes only and will not be used on our products.

Objectives

a. Technical skills developing for Unity using C#

b. Code readability

c. Creativity

The Assignment

For this assignment, you'll create a procedural graph creation tool and turn it into an interactable bar graph to help students calculate mean median and mode by allowing them to click and drag on specific bars from the chart and move them around changing their order.
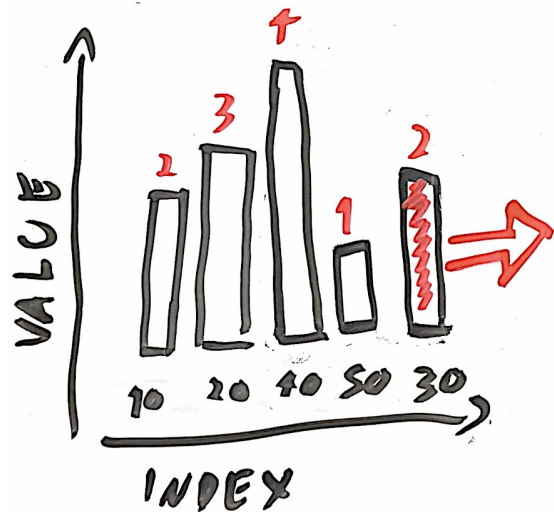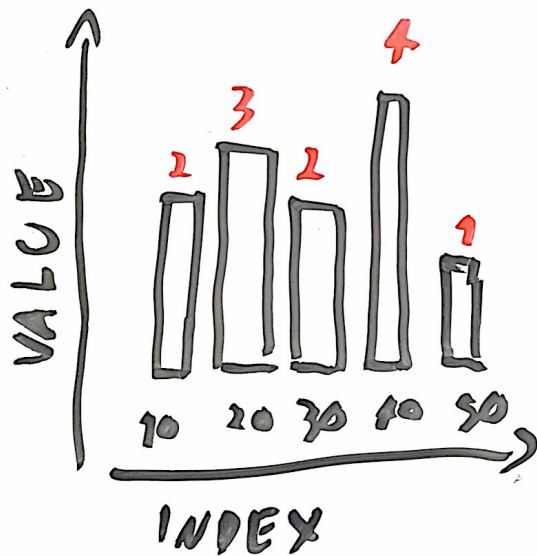
Specifications:

- Create a Unity tool that creates a 2D grid to be used for interactive graphs like the one below.

- Allow users to move the bars by clicking on them and dragging them left or right (typically this would be done as a VR grabbable)

  - Create and use an `IMoveable` interface for your moveable objects

  - The bars should only move side-to-side and not up and down

- The other bars should reorder as the user is moving their selected bar so the graph doesn't ever rest with missing or overlapping bars on any given spot.

- The non-selected bars should move smoothly as they are re-ordered

- Add a button that resets the bars to their original order

- The bars should include an index number (a number that identifies the bar on the x-axis which should move with it)

- The bar should include a value number (a number above the bar that identifies its value on the y-axis)

- The bars should display the given data

Index	Value
10	2
20	3
30	2
40	4
50	1

Example

The drawing shows the graph pre-interaction, and post-interaction (moving bar 30 to the right by 20 indices)

Bar graph pre-movement

Bar graph after moving bar 30 (with value 2) to the right-most end. As a result bars 45 and 50 were re-adjusted to the left of bar 30

Technical Requirements

- Create a new Unity Package containing all the assets and code needed to run your interactive on Unity version 2021.3.16f1 (you'll deliver this Unity package by putting it in a zip folder and sending it to a Prisms team member).

- Create a scene called "Bar Graph Assignment" where a Prisms team member can play your interactive and add it to your package.

- Use only packages provided by Unity.

- Feel free to add to the interactive any ideas you have that would help a user use this graph to extract the mean, median, and mode

Deliverable

When done, send an email to luis@prismsvr.com containing a link to a `.zip` of your Unity package which should run on Unity version 2021.3.16f1.

For any clarifications please email luis@prismsvr.com