

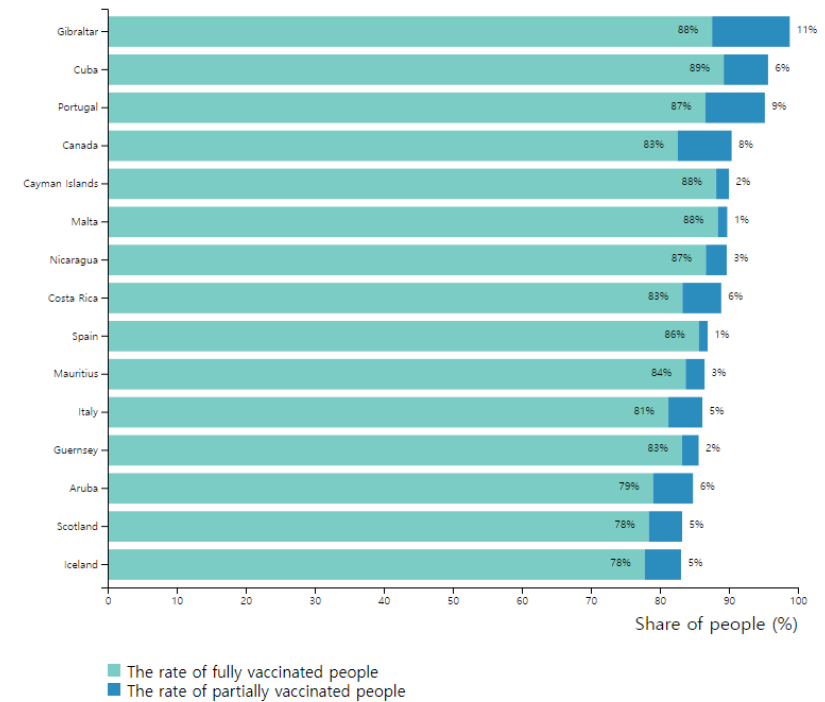
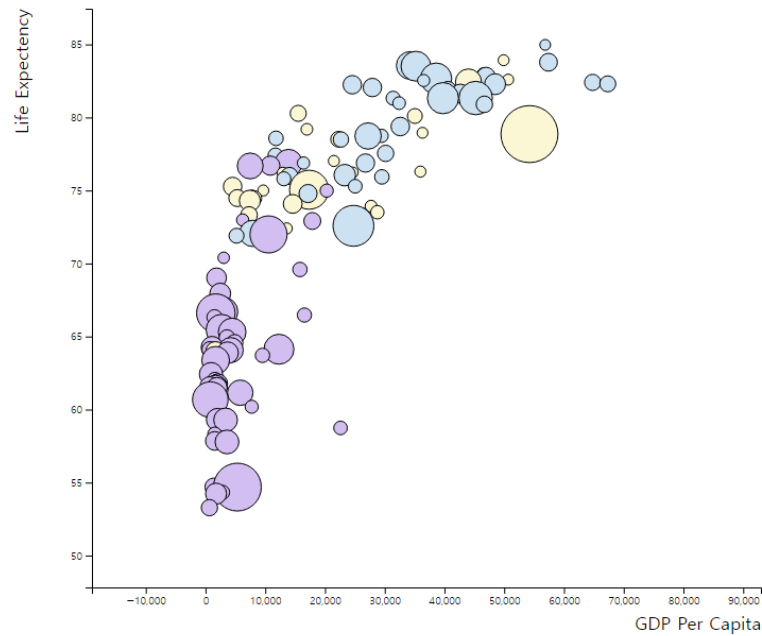
Information Visualization

Coding Session 3

2024.05.08.

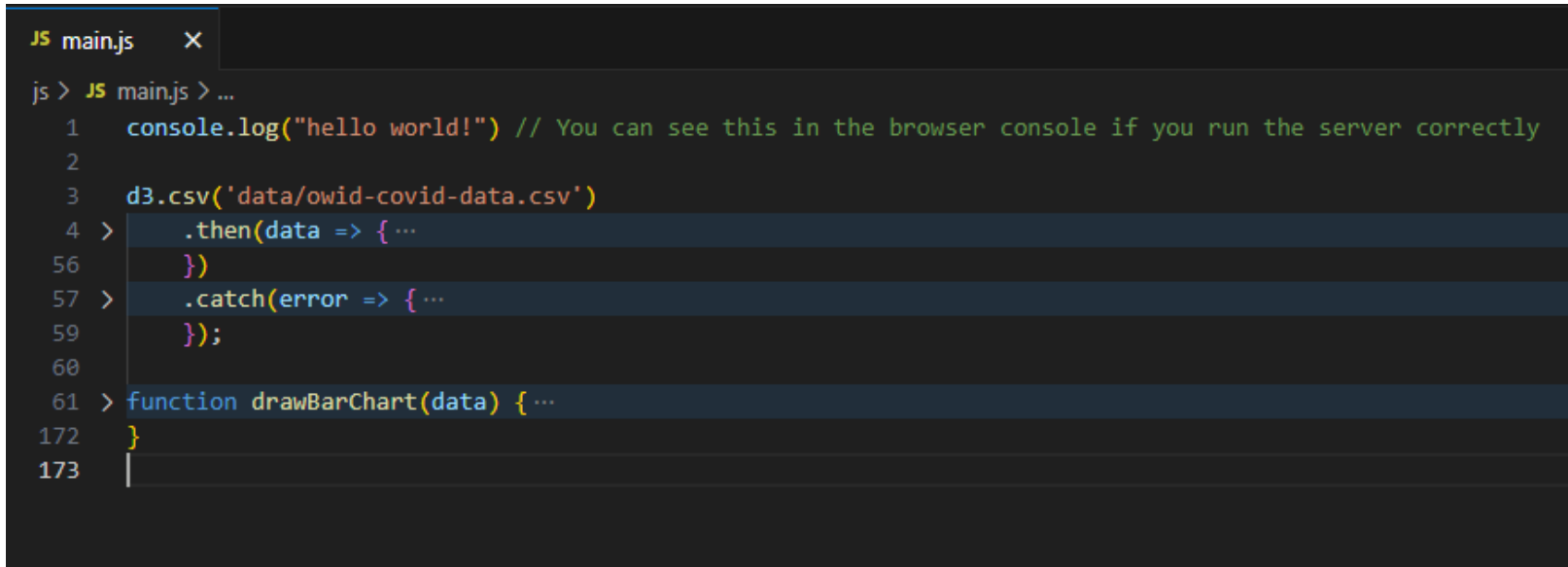
Seongouk Kim

Today's goal



Linked Interaction for Dashboard!

Code migration



```
JS main.js X
js > JS main.js > ...
1 console.log("hello world!") // You can see this in the browser console if you run the server correctly
2
3 d3.csv('data/owid-covid-data.csv')
4 > .then(data => { ...
56 }
57 > .catch(error => { ...
59 });
60
61 > function drawBarChart(data) { ...
172 }
173 |
```

One Vis in One .js file

Multiple Vis in One .js will be messy!

Code migration

```

v js
  JS barchart.js
  JS bubblechart.js
  JS index.js
  JS main.js
> node_modules
<> index.html

```

```

session3Sample > <> index.html > html
1  <!-- Don't edit code here! -->
2
3  <!DOCTYPE html>
4  <html lang="en">
5
6  <head>
7    <script src="https://d3js.org/d3.v7.min.js"></script>
8    <link rel="stylesheet" href="styles.css" />
9    <title>D3 Bubble Chart</title>
10 </head>
11
12 <body>
13
14     <div id="charts">
15         <div id="bubblechart"></div>
16         <div id="barchartcontainer">
17             <div id="barchart"></div>
18             <div id="barlegend"></div>
19         </div>
20     </div>
21
22     <script src="js/barchart.js"></script>
23     <script src="js/bubblechart.js"></script>
24     <script src="js/main.js"></script>
25
26 </body>
27
28 </html>

```

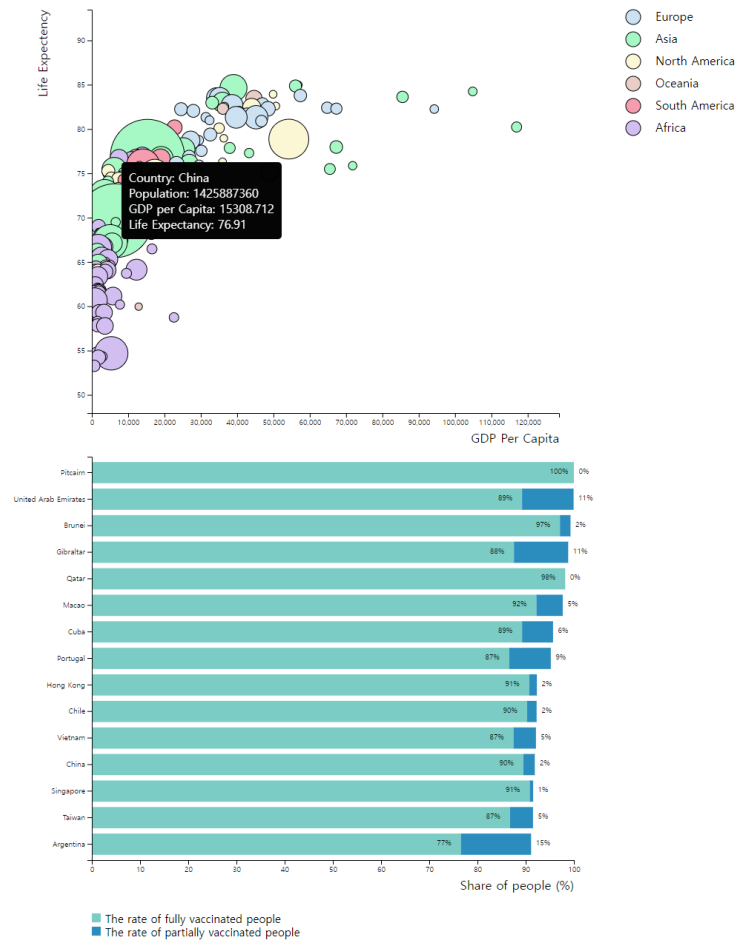
Code migration

```
session3Sample > js > JS bubblechart.js > ...
1  class BubbleChart {
2
3  >   initData() { ...
54
55   }
56 >   drawBubbleChart(data) { ...
275
276   }
```

```
session3Sample > js > JS barchart.js > ...
1  class barChart {
2
3   constructor() {
4     this.data = null;
5     this.currentContinentList = null;
6   }
7
8  >   initData() { ...
69
70   }
71 >   drawBarChart(data) { ...
185
186   }
187 }
188
```

```
session3Sample > js > JS main.js > ...
1  const bubble = new BubbleChart();
2  const bar = new barChart();
3
4  bubble.initData();
5  bar.initData();
6
```

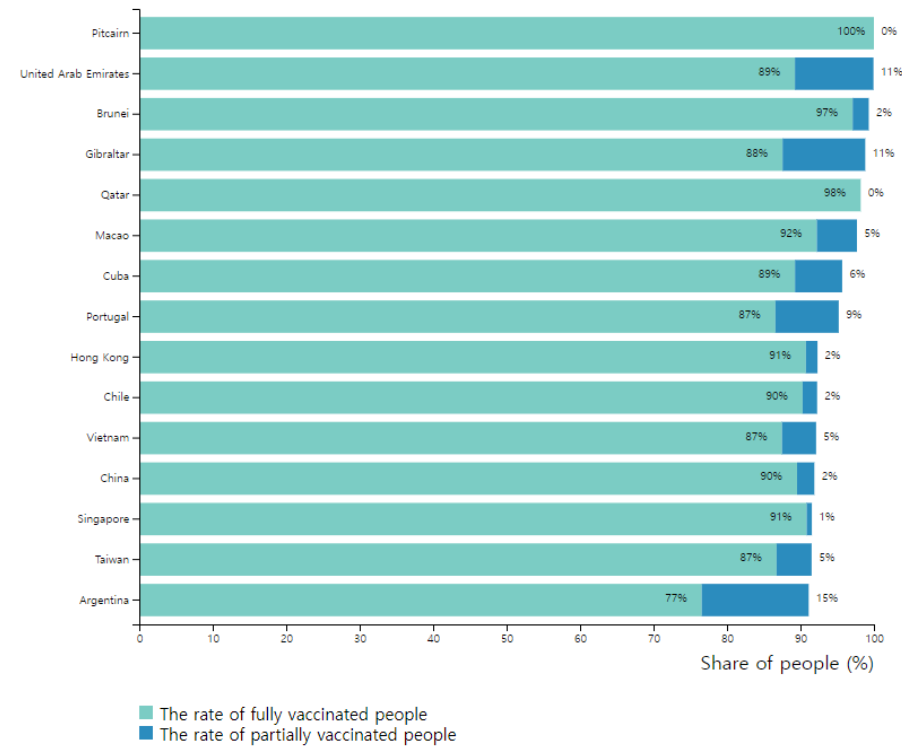
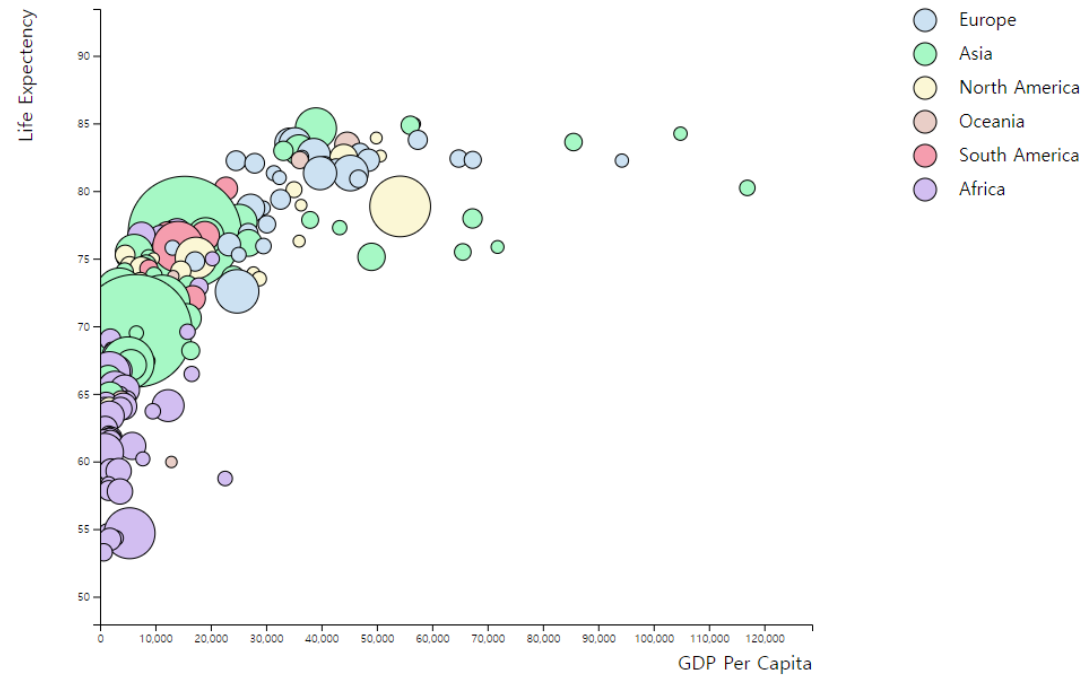
After Code migration



Change Arrangement

```
session3Sample > # styles.css > #bubblechart
1  #barchartcontainer {
2    display: flex;
3    flex-direction: column;
4  }
5
6  #charts {
7    display: flex;
8    flex-direction: row;
9  }
10
11
12  #bubblechart,
13  #barchartcontainer {
14    flex-grow: 1;
15  }
```

Change Arrangement



Linked Interaction

```

session3Sample > js > .js main.js > ...
6
7 function filterBarData(continent) {
8
9     // Check target continent is in the list
10    const index = bar.currentContinentList.indexOf(continent)
11    // If it's in, delete it
12    if (index > -1) {
13        bar.currentContinentList.splice(index, 1)
14    }
15    // If not, append it
16    else {
17        bar.currentContinentList.push(continent)
18    }
19
20    const filteredData = bar.data.filter(d => {
21        return bar.currentContinentList.includes(d.continent)
22    })
23
24    // Get latest datum of each country
25    var processedData = []
26    var countryList = []
27    for (var d of filteredData) {
28        if (!countryList.includes(d.location)) {
29            processedData.push(d)
30            countryList.push(d.location)
31        }
32    }
33
34    // Sort by total rate and slice Top 15 elements
35    processedData = processedData.sort((a, b) => (b.people_fully_vaccinated + b.people_partially_vaccinated) - (a.people_fully_vaccinated + a.people_partially_vaccinated)).slice(0, 15)
36    console.log(processedData)
37
38    // draw the stacked bar chart
39    bar.drawBarChart(processedData, countryList);
40
41 }

```

```

function toggleContinent(event, d) {

    // Parse continent into class name
    var continentSplit = d.split(' ')

    console.log(d)
    var className = continentSplit.join('.');

    // Get current opacity
    var currentOpacity = d3.selectAll(".bubbles." + className).style("opacity")

    // Change the opacity: from 0 to 1 or from 1 to 0
    d3.selectAll(".bubbles." + className)
        .transition()
        .duration(200)
        .style("opacity", currentOpacity == 1 ? 0 : 1)
        .style("pointer-events", currentOpacity == 1 ? "none" : "auto")

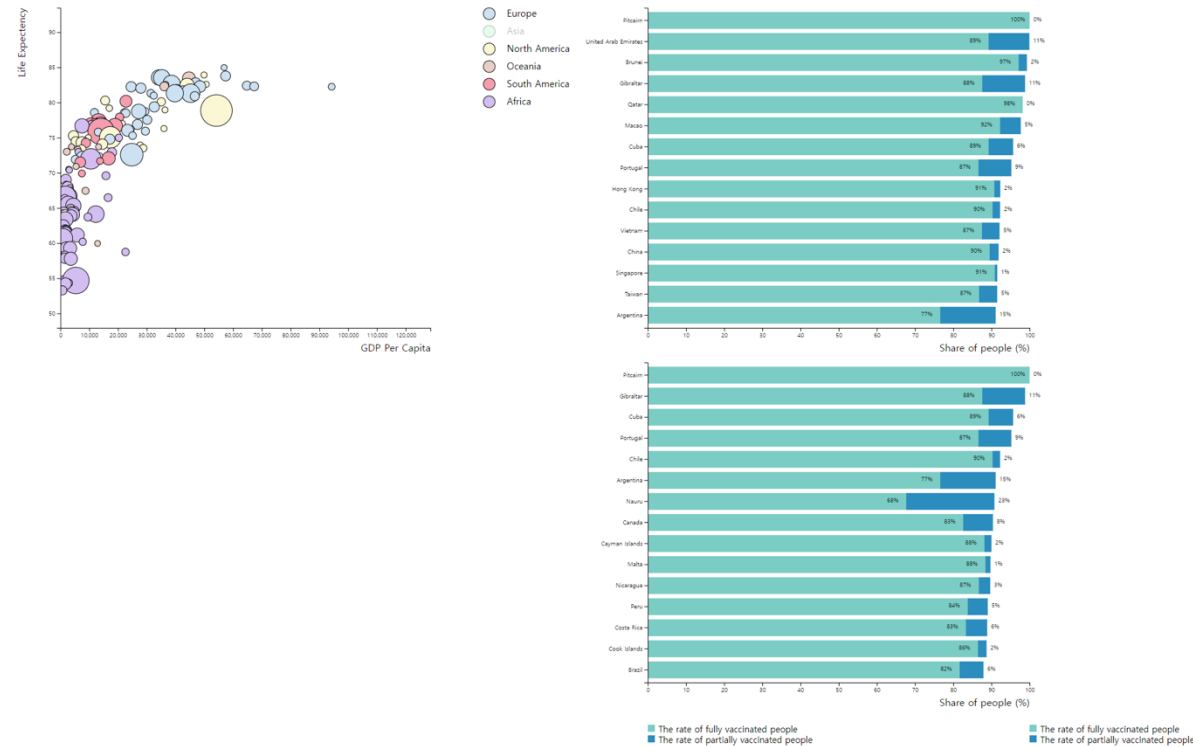
    d3.select(".legend." + className)
        .transition()
        .duration(200)
        .style("opacity", currentOpacity == 1 ? 0.3 : 1)

    d3.select(".legendtext." + className)
        .transition()
        .duration(200)
        .style("opacity", currentOpacity == 1 ? 0.3 : 1)

    // Filter bar chart data
    filterBarData(d)
}

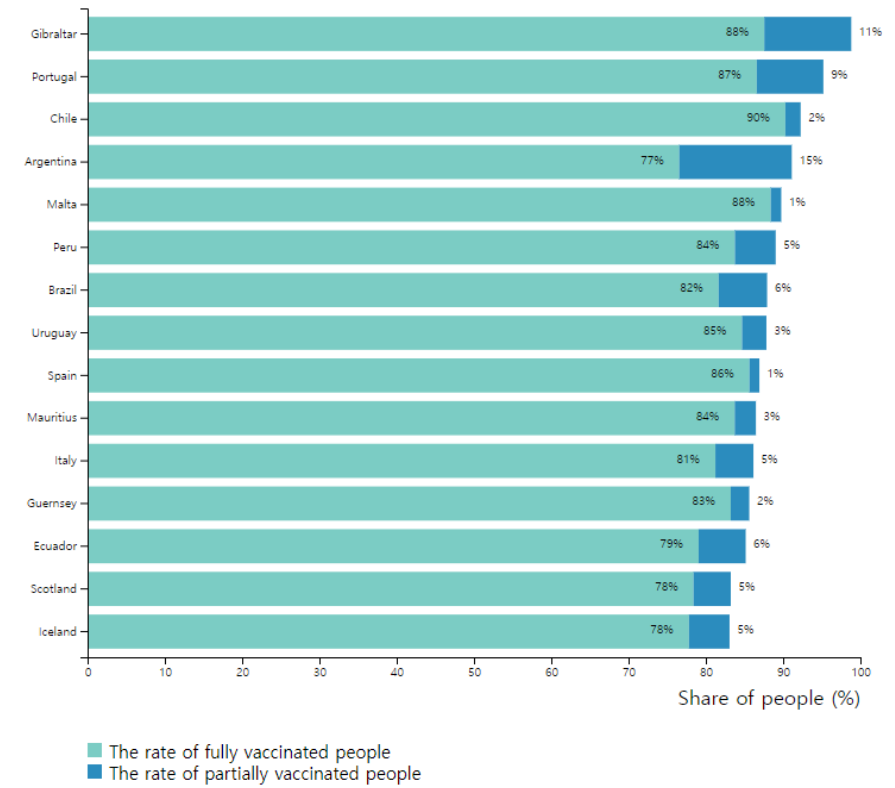
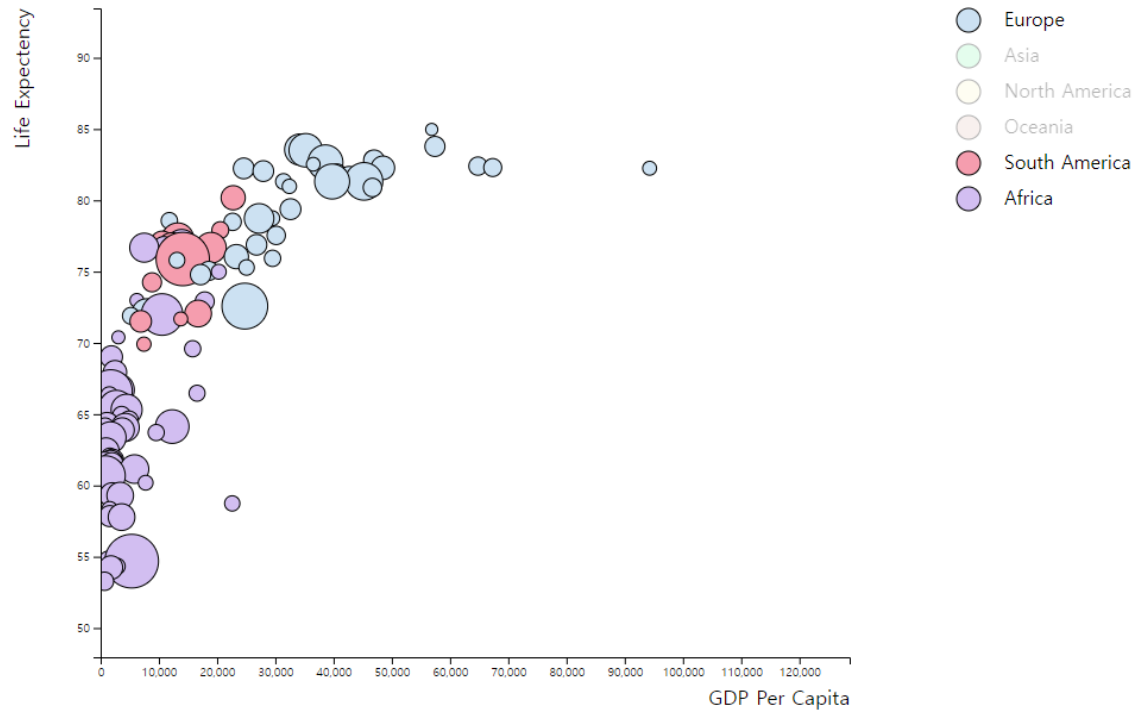
```

Linked Interaction



Don't forget to remove the previous shapes!!

Linked Interaction



Linked Interaction

```

session3Sample > js > JS bubblechart.js > ...
1  class BubbleChart {
274  }
275
276  enableHighlightBubble(event, d) {
277    // console.log(d.data.location)
278    d3.select("#bubblechart")
279      .select("svg").selectAll("circle")
280      .select(function (b) { return b.location === d.data.location ? this : null; })
281      .clone()
282      .raise()
283      .attr("class", "bubbleHighlight")
284      .style('stroke', '#FF0000')
285      .attr("stroke-width", "4px")
286  }
287
288  disableHighlightBubble(event, d) {
289    // console.log(d.data.location)
290    d3.select("#bubblechart")
291      .select("svg").selectAll(".bubbleHighlight")
292      .remove()
293  }
294
295  }
296

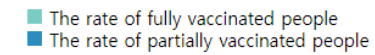
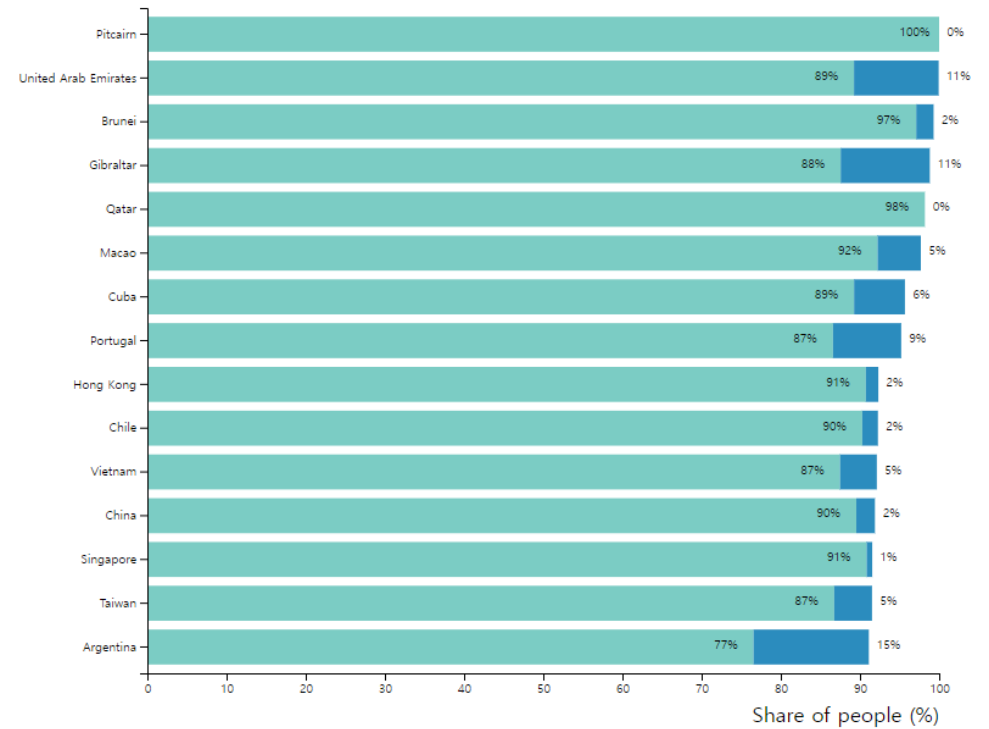
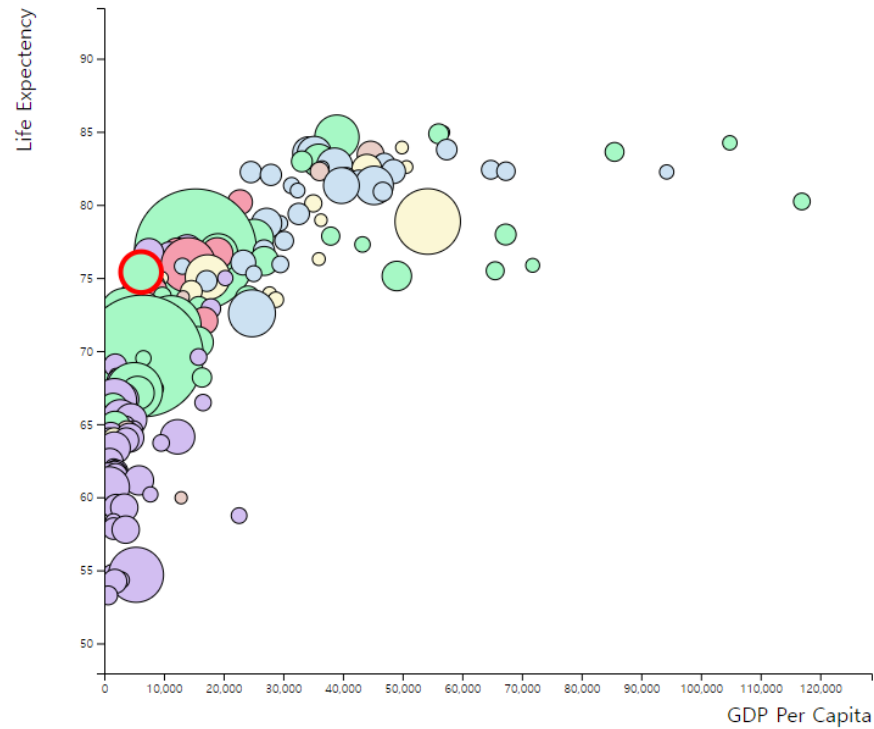
```

```

bar_enter.append("rect")
  .attr("x", function (d) { return xScale(d[0]); })
  .attr("y", function (d, i) { return yScale(locations[i]); })
  .attr("width", function (d) { return xScale(d[1]) - xScale(d[0]); })
  .attr("height", yScale.bandwidth())
  .on("mouseover", bubble.enableHighlightBubble)
  .on("mouseout", bubble.disableHighlightBubble)

```

Linked Interaction



Thank you!

HAiV