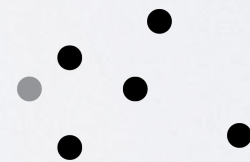




# WEB VISUALISATION TUTORIAL

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# OVERVIEW

- Tutorial Preparation
- Web Development Explanation
- Tutorial Package Explanation
- Tasks 1, 2, 3, 4, 5

# PREPARATION

- Make sure you have Node.js and npm working

`node -v`

`npm -v`



- Download zip from this link: [tinyurl.com/D3tutor](https://tinyurl.com/D3tutor)



# PREPARATION

- Let's install the dependencies

**npm install**

- Run the server

**node index.js**



# WEB NEEDS A SERVER





HOWEVER WE NEED  
SOMETHING LIGHTER





INTERACTIVE, IF IT'S POSSIBLE





```
1  const express = require('express')
2  const app = express()
3  const port = 3033
4
5  app.use(express.static('public'))
6  app.use('/public', express.static(__dirname + '/public'));
7
8  app.get('/', (req, res) => res.sendFile(__dirname + "/index.html"))
9
10 app.listen(port, () => console.log(`Example app listening on port ${port}!`))
```

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <meta charset="utf-8">
5      <title>D3 Tutorial</title>
6      <script type="text/javascript" src="https://d3js.org/d3.v4.min.js"></script>
7      <script src="https://d3js.org/d3-selection-multi.v1.min.js"></script>
8      <link href="./public/main.css" rel="stylesheet">
9      <script type="text/javascript" src="public/myD3app.js"></script>
10   </head>
11   <body>
12
13     <div id="map_div"></div>
14     <div id="text_div"></div>
15     <div id="barchart_div"></div>
16     <div id="heatmap_div"></div>
17
18   </body>
```



# ALMOST READY

- Run the application  
`node index.js`
- Check `localhost:3000`



# YOU SHOULD SEE THIS

## Graph of flu trends in Argentina

Data source: Google Flu Trends

Selected Region: null



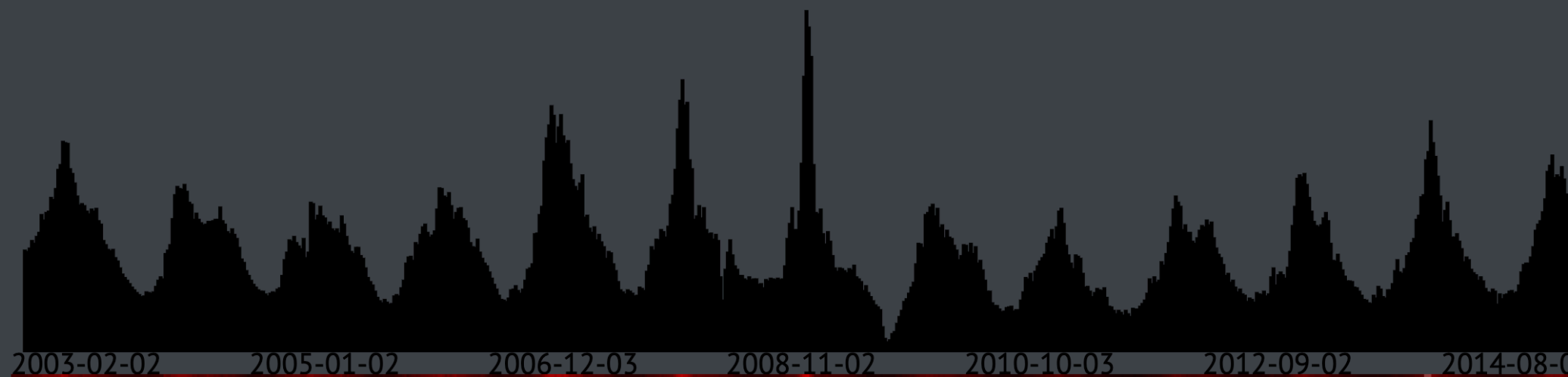
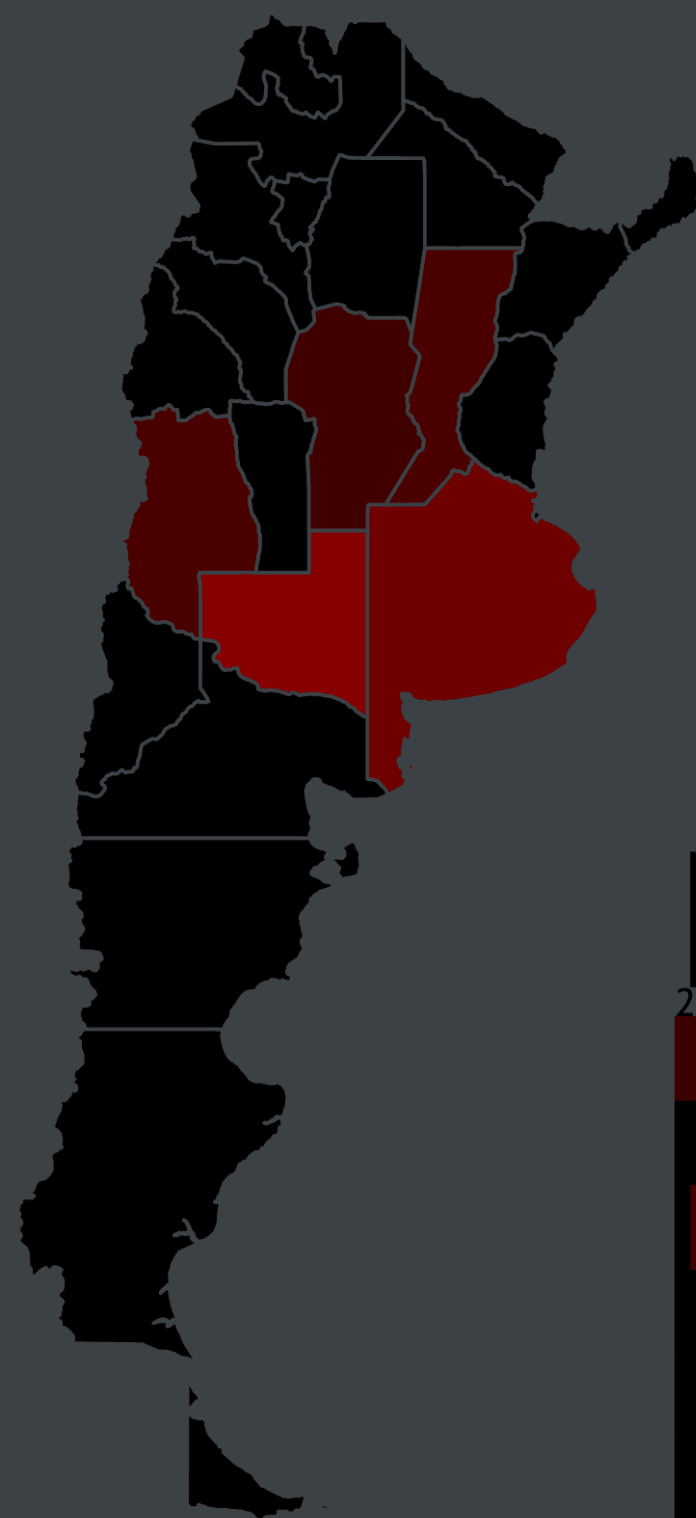


# OUR GOAL

## Graph of flu trends in Argentina

Data source: Google Flu Trends

Selected Region: La Pampa





# WHAT CAN D3.JS DO?

- Load CSV data
- Load graphics
- Draw SVG graphics, including primitives, texts, polygons

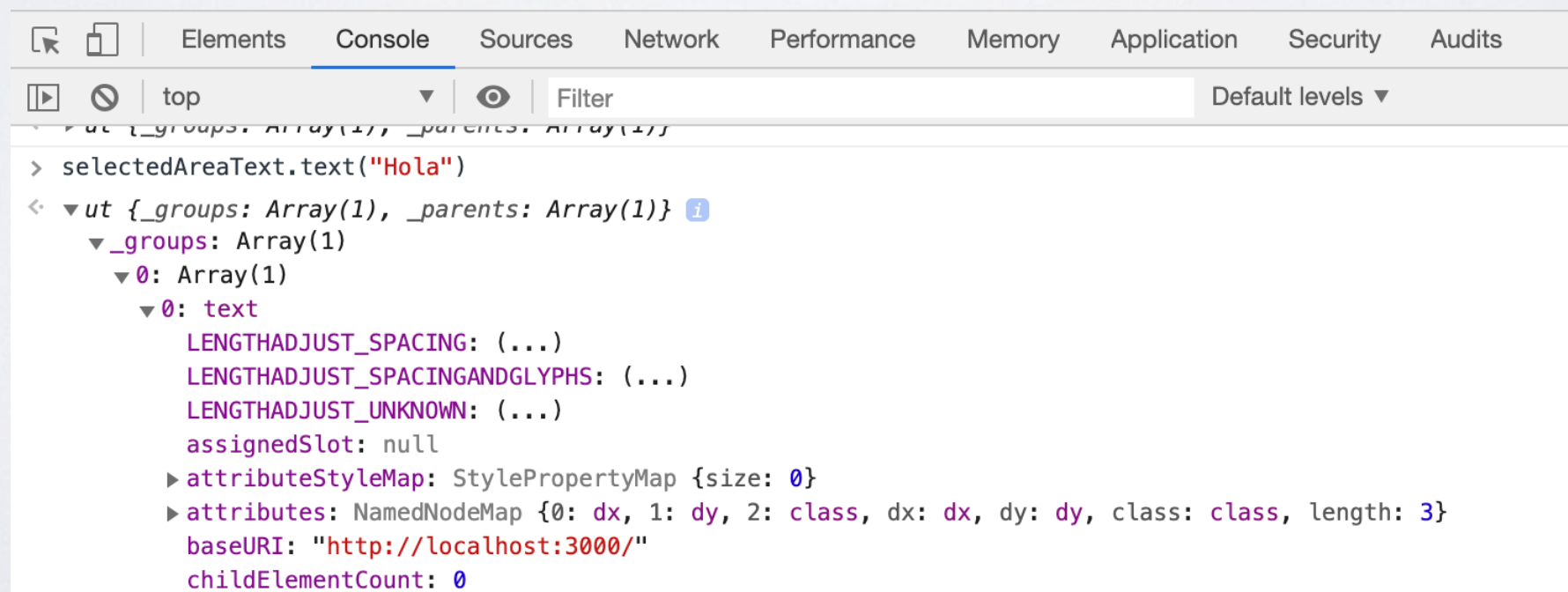


# WHAT YOU MIGHT APPRECIATE?

- Advanced Text Editor



- Browser console for trying/debugging





## Thread

♥ Emma Wedekind 🌐 liked



**Katerina Borodina**

@kathyra\_



after 10 years of being a ✨back-end girl ✨ I'm learning JS for the first time. wish me luck

12:10 AM · 14 Jun 19 · [Twitter Web Client](#)

1 Retweet 279 Likes



**Katerina Borodina** @kathyra\_ · 23h

what the fuck



13



4



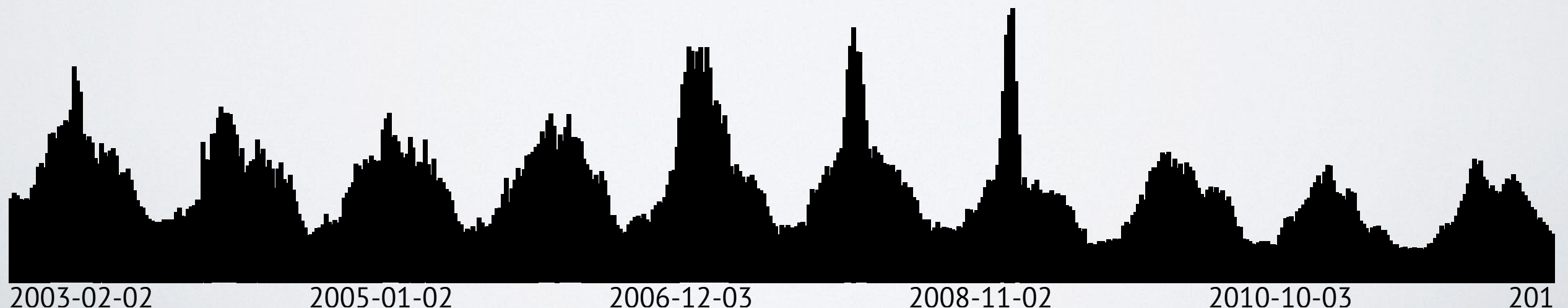
69





# TASK 1: BAR CHART

- Implement a bar chart of data accumulated from whole Argentina
- Find the highest value for normalisation
- Use Google/DuckDuckGO



# TASK 2: HEAT MAP

- Implement a heat map for all regions
- Choose whatever colour palette you want

Argentina  
Buenos Aires  
La Pampa  
Mendoza  
Santa Fe  
Córdoba



# TASK 3: INTERACTION

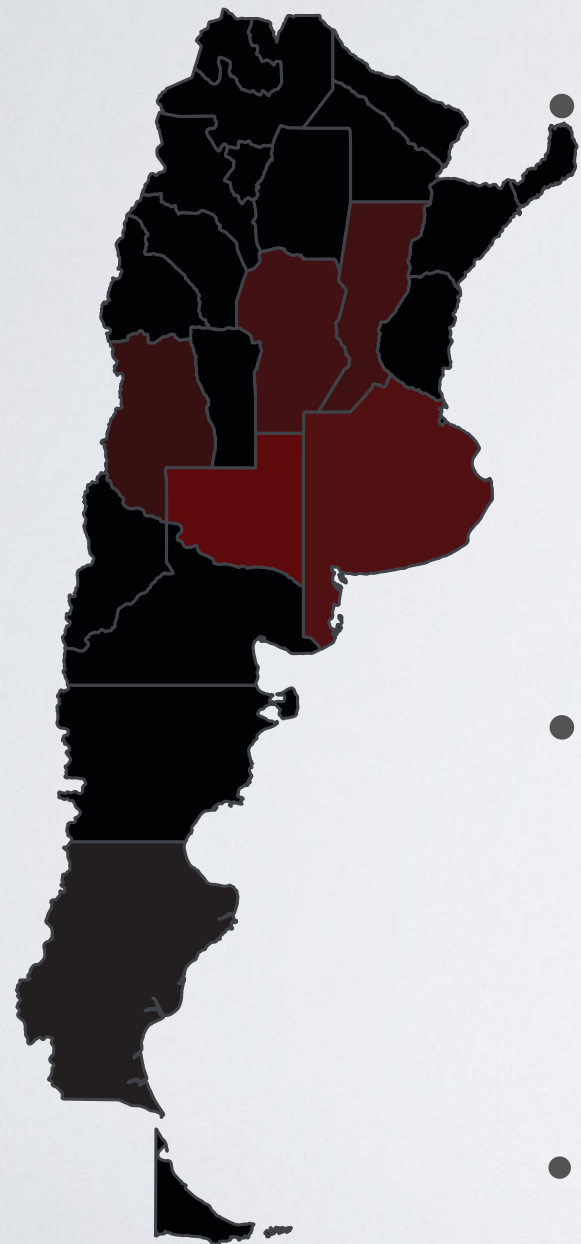
- Click on one of the regions in SVG map would change the Bar Chart
- Only 5 regions: Buenos Aires, La Pampa, Mendoza, Santa Fe, Córdoba; everything other(ARGxxxx) is Argentina

# TASK 4: ANIMATION

- Animate the transition of the Bar Chart graph
- Use the **transition()** d3 function on d3 object and define **duration**
- Actually this is the easiest part, just remember the name of the last selected region



# TASK 5: ADV. INTERACTION



- After clicking on the heat map, all regions with records should change color according to the selected date
- Use callback function  
`.on("click", function(){ mapClick(this) });`
- Create indicator in the Heat Map

# CONCLUSION

- Node.js and Express.js are super easy to use
- D3.js is a powerful JavaScript library for web visualization
- Steep learning curve for both