NY Baby Names, 2011

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Introduction

- We worked is baby names in NYC for the year 2011
- The variables associated with this data set are
  - Baby Name
  - Gender
  - Ethnicity
  - Rank
  - Count
- There are total of 5889 records in the raw data

Data PreProcessing

- The data records are huge and had a good chance of duplicate records
- It was quite visible that the record had duplicate values on the first glance
- We have fixed it by using 'JAXB' java API for xml binding and removed the duplicate values
- Missing values among the records are also checked

Data PreProcessing Contd..

- The processed data contained
  - 1963 distinct records
  - 1206 distinct names
  - Ranked between 1 to 97
  - 4 ethnic groups
    - White Non-Hispanic(654 Records)
    - Hispanic(618 Records)
    - Black and Hispanic(384 Records)
    - Asian and Pacific Islander(307 Records)
  - Total by Gender
    - Female(1004 Records)
    - Male(959 Records)

Exploration View: Introduction

- Goals
  - Graphical navigation of the dataset
  - Customizable environment for exploration
  - Provoke the user to draw conclusions

- Interface Considerations
  - Malleable physical system
  - Object permanence
  - Base to advanced use case progression

Exploration View: Design

1. The Base Unit: Bubbles

2. Group Layouts

3. Environment
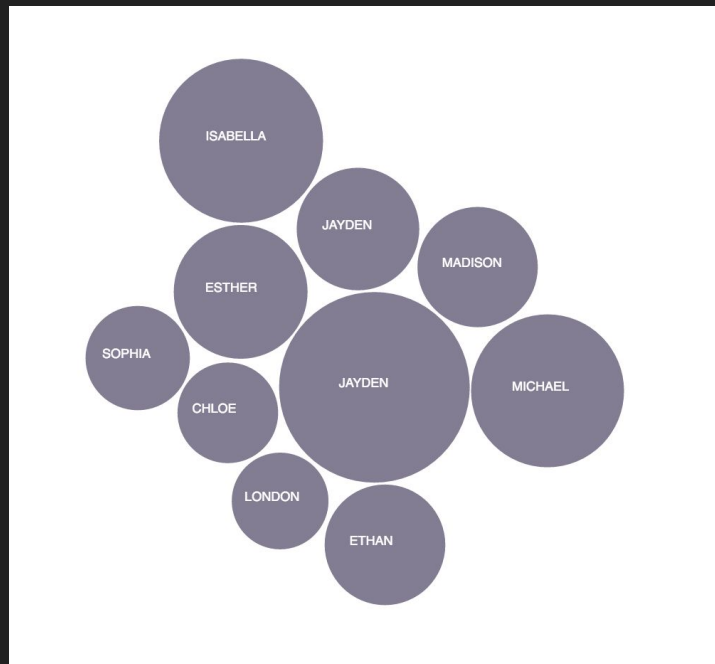
Exploration View: Layout Implementation

```javascript
var nodes = svg.selectAll("g").data(data);

nodes.exit().remove();

var gravityEnter = nodes.enter().append("g");

var innerG = gravityEnter.append("g");

var circles = innerG.append("circle")
    .attr("class", "node")
    .attr("r", 2)
    .style("fill", function (d) { return filler(d, fidx, fill);  });

innerG.append("text")
    .attr("dx", parseInt(-25*scale))
    .attr("fill", "white")
    .attr("font-size", parseInt(STANDARD_FONT_SIZE * (1/(scale))))
    .text(function(d) { return d.NM; });
```

# Exploration View: Animation Implementation

```javascript
function animateCollision(frame, dx, dy, circle, text, env) {

    circle.absX += parseFloat(dx);
    circle.absY += parseFloat(dy);

    setTimeout(function() {
        var current = getCurrentTranslation(circle);
        var x = parseFloat(current.x) + dx;
        var y = parseFloat(current.y) + dy;
        circle.setAttribute("transform", "translate(" + x + "," + y + ")");
        text.setAttribute("transform", "translate(" + x + "," + y + ")");
    }, frame * FRAMES_PER_SECOND);
}
```

Analysis View

- Most popular names in ethnicity or combination of ethnicity
  - Top 10, 20, 30, and 40
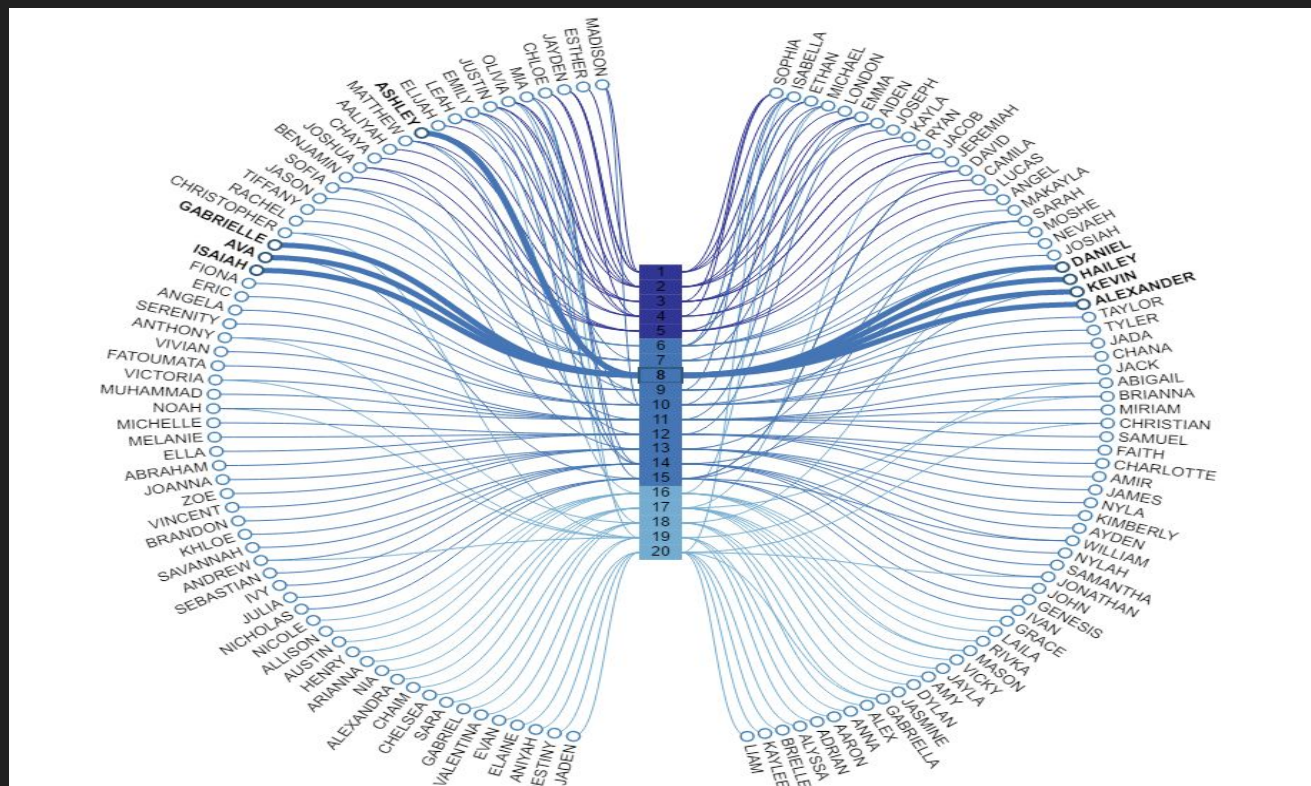- Popup vs always visible tooltips
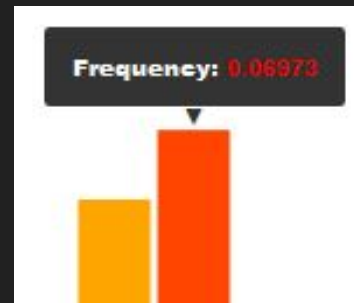
Standing vs sideway bars
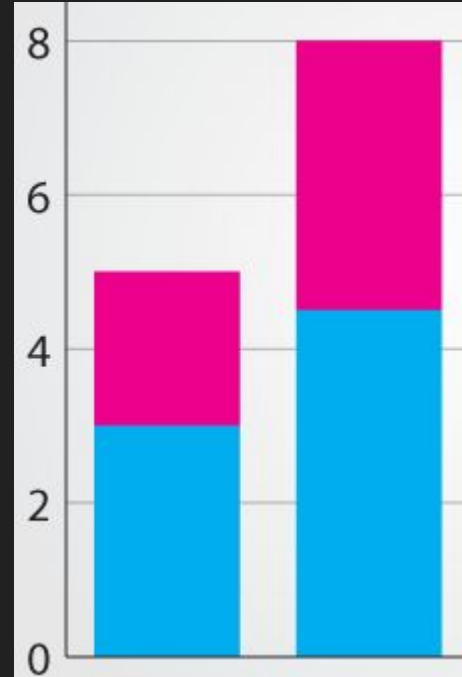
Color:

- Gender: Traditional color (blue, pink)
- Ethnicity: Neutral color, colorblind friendly

Popular Names by Rank

Popular Names by Rank

- We have used 'concept map' visualization here
- It is used to visualize the popular names across all ethnic groups and gender
- Each Name could have minimum of one rank and upto 4 ranks
- This is because each ethnic group has separate ranking