ASSIGNMENT REPORT

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Dataset Used:

I have visualized data for the licenses of business operating in the state of NYC. For this purpose, I merged two datasets. Legally Operating Businesses and License Applications available on NYC open data site.

Following were the attributes used:

DCA License Number: License Number
Business Name: Name of the Business asking for License
Status: Status of the application currently
ApplicationorRenewal: Is the application new or for renewal
LicenseStatus: Status of the License currently
LicenseCategory: Category of License
Zip: Area code of the License application
LicenseType: Type of License
ApplicationCategory: Category of application
City: City of the License application
EndYear: Year when DCA reviewed the application
EndMonth: Month when DCA reviewed the application
EndDay: Day when DCA reviewed the application
StartYear: Year when DCA received the application
StartMonth: Month when DCA received the application
StartDay: Day when DCA received the application
LicenseCreationDateStartYear: Start year of the issued License
LicenseCreationDateStartMonth: Start month of the issued License
LicenseCreationDateStartDay: Start day of the issued License
LicenseExpirationDateEndYear: End year of the issued License
LicenseExpirationDateEndMonth: End month of the issued License
LicenseExpirationDateEndDay: End day of the issued License

Visualization Used:

Following were the various type of Visualizations used for the attributes mentioned above.
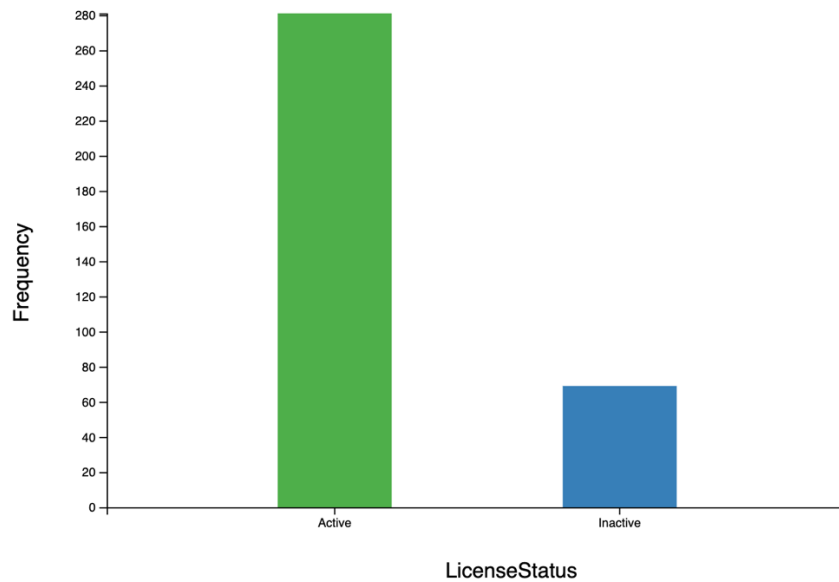- Pie Chart: By default, all attributes have been shown in Pie chart.
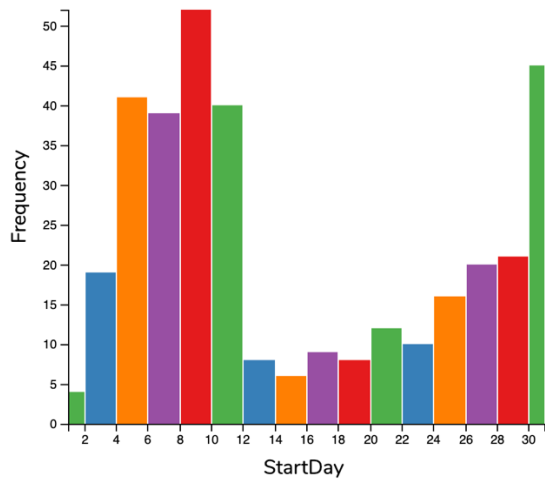
End Month
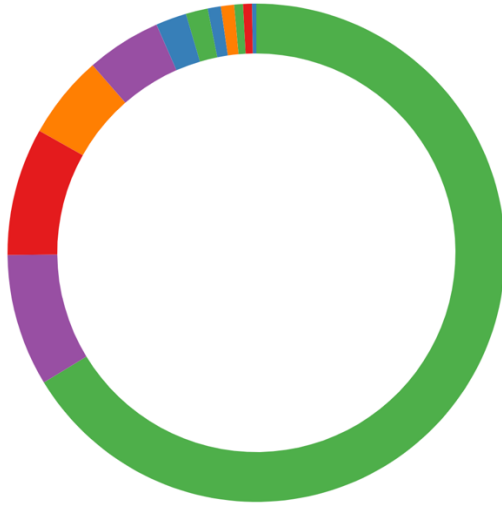
- Bar Chart: All Categorical attributes are shown in Bar chart, unless they are large number. In which case, they are only shown in Pie Chart.

License Status

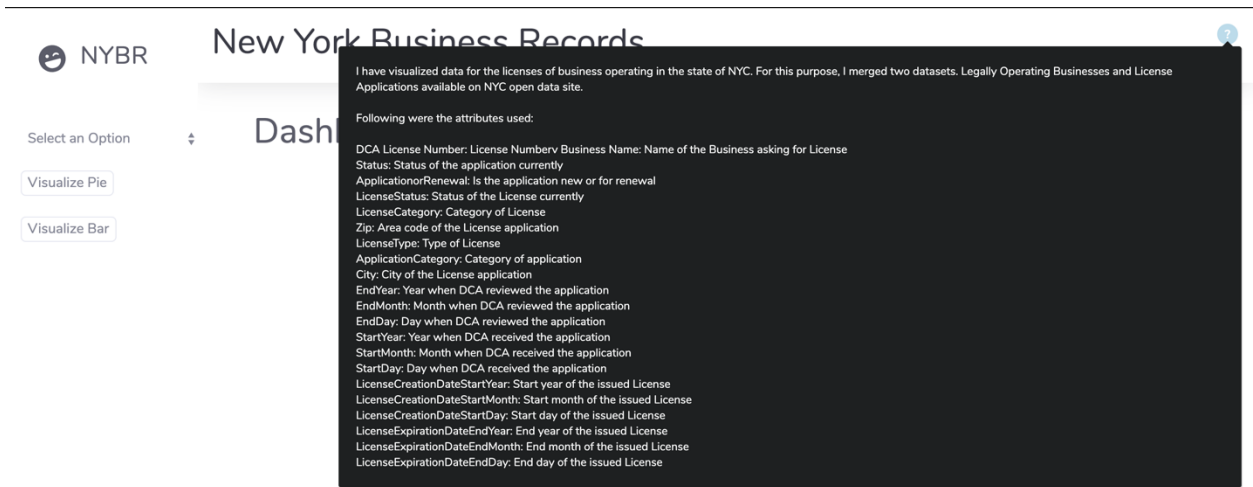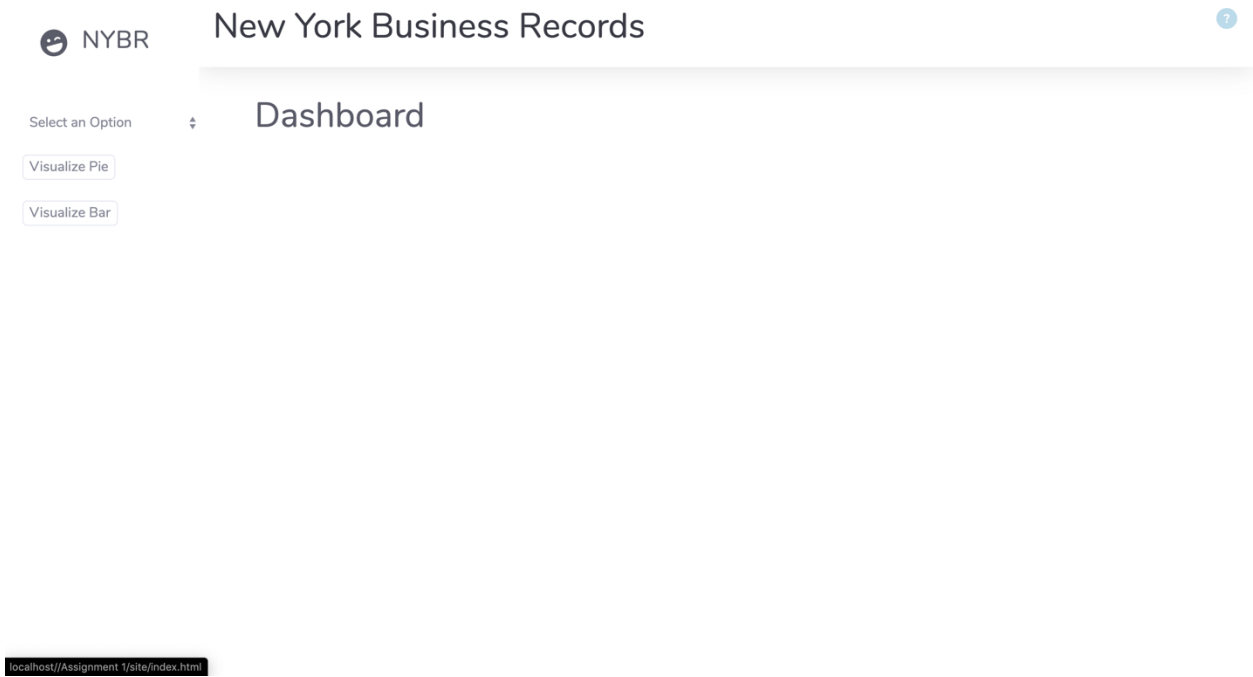- Histogram: All Numerical attributes are shown in a Histogram along with varying bin size.
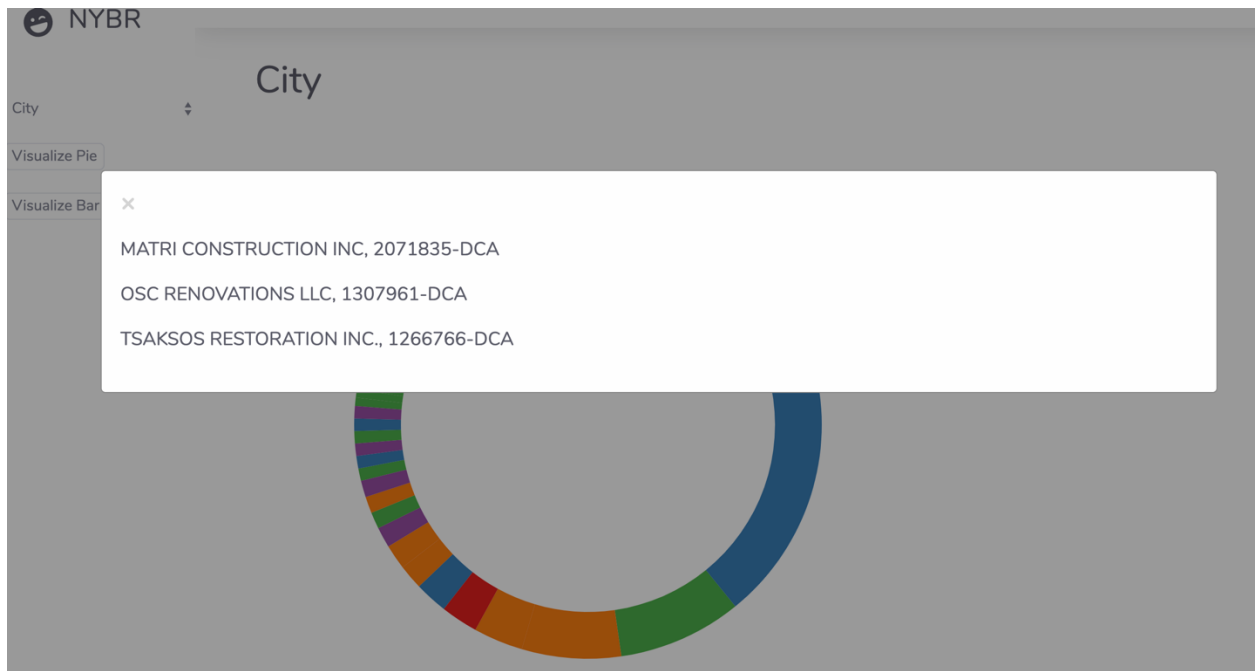
Start Day

Features:

Following are the features in my project:

- Elegant Presentation of all the data and webpage, along with info page.

New York Business Records

😄 NYBR

Select an Option ⇕

Visualize Pie

Visualize Bar

Dashboard

?

localhost//Assignment 1/site/index.html

New York Business Records

😄 NYBR

Select an Option ⇕

Visualize Pie

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Dash

?

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- Interactive Pie Chart: On click of a field on pie chart, you can see all the Business along with the License number of that business.

- Interactive Bar Graph: On mouse hover, the current value of that bar is shown.
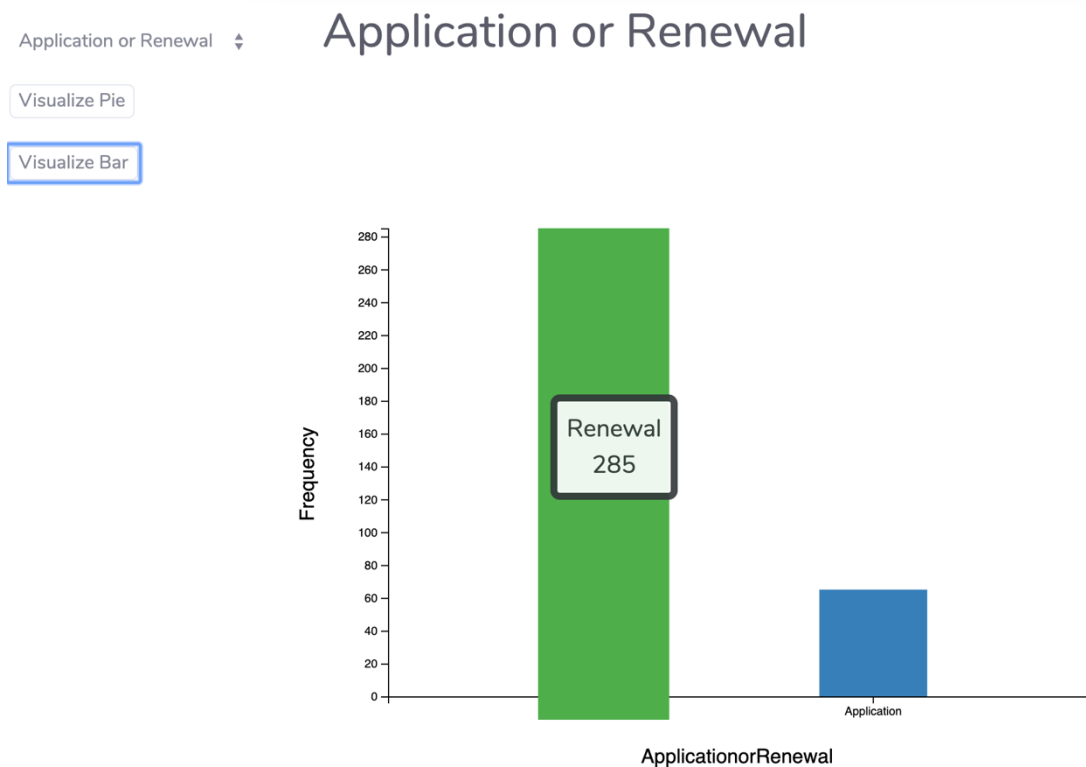
- Interactive Histogram: I have provided a slider along with the histogram to change the bin size according to need. Feel free to play with it.
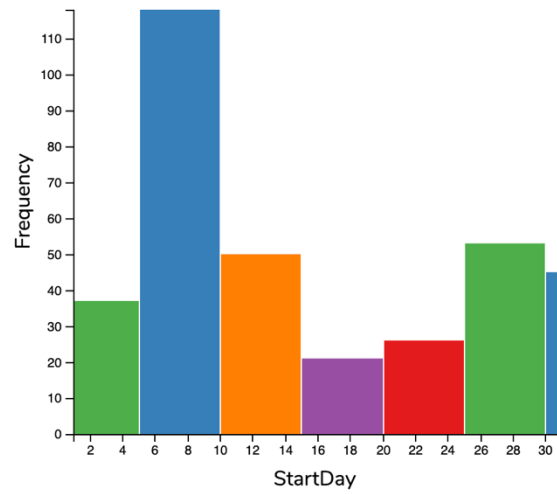

- Disabled button when large amount of data is present for better representation.

Code Snippets:

Pie Chart:

```javascript
var svg = d3.select("svg"),
    width = svg.attr("width"),
    height = svg.attr("height"),
    radius = Math.min(width, height) / 2 - 100,
    g = svg.append("g").attr("transform", "translate(" + width / 2 + "," + height / 2 + ")");

var pie = d3.pie();

var arc = d3.arc()
    .innerRadius(radius)
    .outerRadius(radius + 50);
var arcOver = d3.arc()
    .innerRadius(radius - 30)
    .outerRadius(radius + 50);

var div = d3.select("body")
    .append("div")   // declare the tooltip div
    .attr("class", "tooltip-donut")              // apply the 'tooltip' class
    .style("opacity", 0);

var arcs = g.selectAll("arc")
    .data(pie(data))
    .enter()
    .append("g")
    .attr("class", "arc")
```

Bar Chart:

```javascript
g.selectAll(".bar")
    .data(data)
    .enter().append("rect")
    .attr("class", "bar")
    .attr("fill", function (d, i) {
        return color(i);
    })
    .attr("x", d => xScale(d.indz))
    .attr("y", d => yScale(d.count))
    .attr("width", xScale.bandwidth())
    .attr("height", d => height - yScale(d.count))
    .on("mouseover", function (d) {
        div.transition()
            .duration(500)
            .style("opacity", 0);
        div.transition()
            .duration(200)
            .style("opacity", .9);
        div.html(
            d.indz +
            "<br/>" + d.count)
            .style("left", (d3.event.pageX) + "px")
            .style("top", (d3.event.pageY - 28) + "px")
        var xPos = +d3.select(this).attr("x")
        var wid = +d3.select(this).attr("width")
        var hei = +d3.select(this).attr("height");
        d3.select(this).attr("x", xPos - 10).attr("width", wid + 20).attr("height", hei + 20);
    })
```

Histogram:

```javascript
var histogram = d3.histogram()
    .value(function (d) {
        return d.date;
    })
    .domain(x.domain())
    .thresholds(x.ticks(nBin));

var bins = histogram(data);

y.domain([0, d3.max(bins, function (d) {
    return d.length;
})]);
yAxis
    .transition()
    .duration(1000)
    .call(d3.axisLeft(y));

// Join the rect with the bins data
var u = svg.selectAll("rect")
    .data(bins)
```

Usage:

- Need a server to have these files.
- Open /site/index.html to start the application.
- The csv files are kept in the main folder to view.

Video Link:

https://youtu.be/_hwrO8oIVOw