GOOGLE MAPS, GOOGLE CHARTS AND GOOGLE FONTS

Download file and follow along!

Lecture 5, Week 5

LAST TIME

❏ How JavaScript can change and update both HTML and CSS

❏ How JavaScript can calculate, manipulate and update data

❏ ES5 features

❏ HTML DOM (Document Object Model)

TODAY

❏ How to use google maps

❏ How to use google fonts

❏ How to use google charts

GOOGLE MAPS

Google Map is a Google API.

Add a <div> element where you want the map to display, and set the size of the map:

HTML PAGE (myhtml.html)

```html
<!DOCTYPE html>
<html>
<body>

<h1>My First Google Map</h1>

<div id="map" style="width:100%; height:400px;">My map will go here</div>
<script src="https://maps.googleapis.com/maps/api/js?key=YOUR_KEY&callback=myMap"></script>

</body>
<html>
```

JAVASCRIPT PAGE (map.js)

```javascript
function myMap() {
    var mapCanvas = document.getElementById("map");
    var mapOptions = {
        center: new google.maps.LatLng(51.5, -0.2),
        zoom: 10
    };
    var map = new google.maps.Map(mapCanvas, mapOptions);
}
```

The functionality of the map is provided by a JavaScript library located at Google:

```html
<script src="https://maps.googleapis.com/maps/api/js?key=YOUR_KEY&callback=myMap"></script> //always add this to either the head or body section.
```

CODE EXPLANATION

- The **mapCanvas** variable is the map's HTML element.

- The **mapOptions** variable defines the properties for the map.

- The **center** property specifies where to center the map (using latitude and longitude coordinates).

- The **zoom** property specifies the zoom level for the map (try to experiment with the zoom level).

- The **google.maps.Map** object is created with mapCanvas and mapOptions as parameters.

GOOGLE FONTS

Currently there are 1043 fonts available from Google:

A list of google fonts can be found in https://fonts.google.com/

Always add this to your head section when using google font :

```html
<link href='https://fonts.googleapis.com/css?family=fontName' rel='stylesheet'>
```

Font.html

```html
<!DOCTYPE html>
<html>
<head>
<link href='https://fonts.googleapis.com/css?family=ABeeZee' rel='stylesheet'>
<style>
body {
    font-family: 'ABeeZee';font-size: 22px;
}
</style>
</head>
<body>

<h1>ABeeZee</h1>
<p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit.</p>
<p>123456790</p>
<p>ABCDEFGHIJKLMNOPQRSTUVWXYZ</p>
<p>abcdefghijklmnopqrstuvwxyz</p>

</body>
</html>
```

GOOGLE PIE CHART

Start with a simple basic web page.

Add a <div> element with the id "piechart":

HTML PAGE (chart.html)

```html
<!DOCTYPE html>
<html>
<body>

<h1>My Web Page</h1>

<div id="piechart"></div>
<script type="text/javascript" src="https://www.gstatic.com/charts/loader.js"></script> // a reference to the Chart API at google.com
</body>
</html>
```

JAVASCRIPT PAGE (chart.js)

```javascript
<script type="text/JavaScript">
// Load google charts
google.charts.load('current', {'packages':['corechart']});
google.charts.setOnLoadCallback(drawChart);

// Draw the chart and set the chart values
function drawChart() {
  var data = google.visualization.arrayToDataTable([
  ['Task', 'Hours per Day'],
  ['Work', 8],
  ['Friends', 2],
  ['Eat', 2],
  ['TV', 2],
  ['Gym', 2],
  ['Sleep', 8]
]);

  // Optional; add a title and set the width and height of the chart
  var options = {'title':'My Average Day', 'width':550, 'height':400};

  // Display the chart inside the <div> element with id="piechart"
  var chart = new google.visualization.PieChart(document.getElementById('piechart'));
  chart.draw(data, options);
}
</script>
```