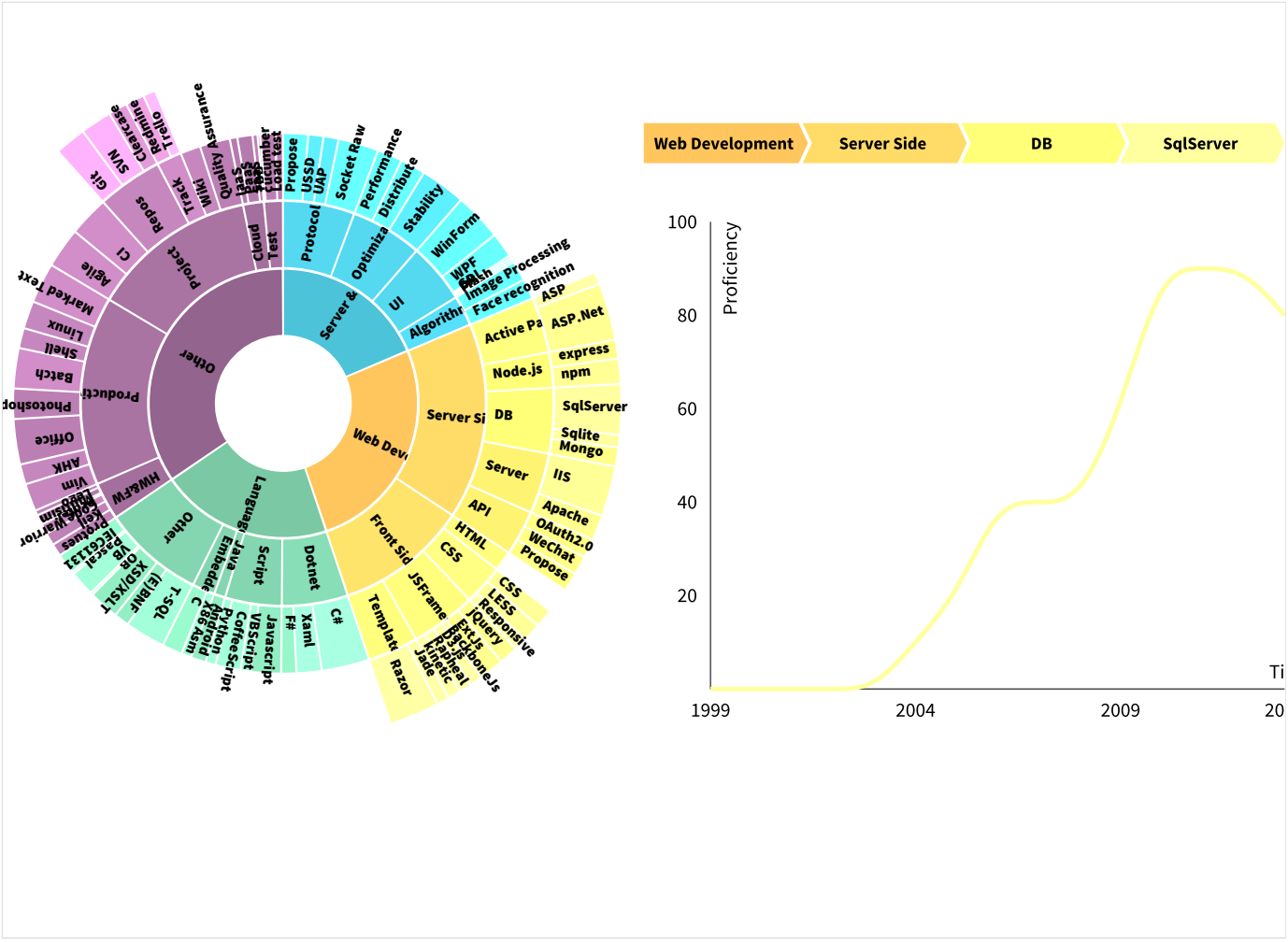
wizicer's block #f662a0b04425fc0f7489 September 21, 2014

Sunburst for your skill map



Extract from my work, you can a demo in live Combined sunburst and line chart, currently you must generate the data by yourself, I also uploaded the skills.xlsx file to help generate this file(`skillsdata.js`).

Open in a new window.

Features:

- [TODO]works with data that is in a CSV format (you don't need to pre-generate a hierarchical JSON file, unless your data file is very large)
- interactive breadcrumb trail helps to emphasize the sequence, so that it is easy for a first-time user to understand what they are seeing

If you want to simply reuse this with your own data, here are some tips for generating the `skillsdata.js` file:

- Fill in your data to skills.xlsx
- Select whole `W` column and copy
- Convert to js by using http://js2coffee.org/
- Save and overwrite to `skillsdata.js` file

Indeed, I'm greatly inspired by someone else, but now I can't find who he is and where his site located, maybe I'll add his site link here later, if you do, please let me know, thanks!

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Skills sunburst</title>
    <script src="http://d3js.org/d3.v3.min.js"></script>
    <link rel="stylesheet" type="text/css" href="skill.css"/>
  </head>
  <body>
    <div id="skills">
      <div id="skillmap">
        <div class="skills-wrapper">
          <div class="skills-sunburst"></div>
          <div class="skills-chart">
            <div id="skills-chart-breadcrumb"></div>
          </div>
        </div>
      </div>
    </div>
    <script type="text/javascript" src="http://cdnjs.cloudflare.com/ajax/libs/jquery/2.1.1/jquery.mi
    <script type="text/javascript" src="skillsdata.js"></script>
    <script type="text/javascript" src="skill.js"></script>
    <script type="text/javascript">
      // Hack to make this example display correctly in an iframe on bl.ocks.org
      d3.select(self.frameElement).style("height", "700px");
  </script>
  </body>
</html>
```

skill.css

```
body {
  font-family: 'Open Sans', sans-serif;
  font-size: 12px;
  font-weight: 400;
  background-color: #fff;
  width: 1000px;
  height: 700px;
  margin-top: 10px;
}
#skillmap .skills-wrapper {
  margin-top: 10px;
  overflow: auto;
}
#skillmap .skills-sunburst {
  float: left;
  width: 500px;
  margin-left: -80px;
}
#skillmap .skills-sunburst svg {
  font: 11px 'Source Sans Pro', sans-serif;
  font-weight: 900;
  cursor: pointer;
}
#skillmap .skills-chart {
  float: right;
  font-family: 'Source Sans Pro', sans-serif;
  font-size: 15px;
  margin: 80px 20px 0 0;
}
#skillmap .skills-chart .breadcumb-text {
  font-size: 13px;
  font-weight: 700;
}
#skillmap .skills-chart #skills-chart-line {
  fill: none;
  stroke-width: 3.5px;
}
#skillmap .skills-chart .axis path,
```

```
#skillmap .skills-chart .axis line {
  fill: none;
}
#skillmap .skills-chart .x-axis path,
#skillmap .skills-chart .y-axis path {
  stroke: #444;
  stroke-width: 1px;
  shape-rendering: geometricPrecision;
}
```

skill.js

```
function initchart() {
    var data = {
        _proficiency: [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0],
        children: null,
        value: 0,
        key: "",
        depth: 1
    };
    chart.refreshChart(data)
}
function mouseover(data) {
    chart.refreshChart(data);
    var c = getcrumbpath(data);
    i(c);
    d3
        .selectAll(".skills-sunburst path")
        .style("opacity", .3), sunburst
        .selectAll("path")
        .filter(function (a) { return c.indexOf(a) >= 0 })
        .style("opacity", 1)
}
function mouseleave() {
    d3
        .selectAll("path")
        .on("mouseover", null);
    d3
        .selectAll("path")
        .transition()
        .duration(1e3)
        .style("opacity", 1)
        .each("end", function () { d3.select(this).on("mouseover", mouseover) })
}
function getcrumbpath(a) {
    for (var temp = [], c = a; c.parent;) temp.unshift(c), c = c.parent;
    return temp
}
function initbreadcrumb() {
    d3
        .select("#skills-chart-breadcrumb")
        .append("svg:svg")
        .attr("width", 500)
        .attr("height", 50)
        .attr("class", "trail")
}
function h(a, d3) {
    var c = [];
    c.push("0,0");
    c.push(r.w + ",0");
    c.push(r.w + r.t + "," + r.h / 2);
    c.push(r.w + "," + r.h);
    c.push("0," + r.h);
    d3 > 0 && c.push(r.t + "," + r.h / 2);
    return c.join(" ");
}
function i(a) {
    a[a.length - 1]._color, a.length;
    var c = d3
```

```
        .select("#skills-chart-breadcrumb .trail")
        .selectAll("g")
        .remove();
    c = d3
        .select("#skills-chart-breadcrumb .trail")
        .selectAll("g")
        .data(a, function (a) { return a.key + a.depth });
    var d = c.enter().append("svg:g");
    d
        .append("svg:polygon")
        .attr("points", h)
        .style("fill", function (a) { return a._color }),
    d
        .append("svg:text")
        .attr("x", r.w / 2 + 2)
        .attr("y", r.h / 2)
        .attr("dy", "0.35em")
        .attr("text-anchor", "middle")
        .attr("class", "breadcumb-text")
        .style("fill", function (a) { return getcolor(d3.rgb(a._color)) < 150 ? "#fff" : "#000" })
        .text(function (a) { return a.key }),
    c
        .attr("transform", function (a, b) { return "translate(" + b * (r.w + r.s) + ", 0)" }),
    c.exit().remove(),
    d3.select(".trail").style("visibility", "")
}
function getcolor(color) {
    return .299 * color.r + .587 * color.g + .114 * color.b
}
function k(a) {
    var c = ["#4CC3D9", "#FFC65D", "#7BC8A4", "#93648D", "#404040"],
        d = [-.1, -.05, 0];
    if (1 == a.depth) {
        var e = c[coloralternative % 5];
        return coloralternative++, e
    }
    if (a.depth > 1) {
        var f = d[a.value % 3];
        return d3.rgb(a.parent._color).brighter(.2 * a.depth + f * a.depth)
    }
}
var l;
var chart = function (d3) {
    function processdata(data) {
        var b = [],
            c = 0;
        return data._proficiency.forEach(function (a) {
            c <= i.length && (b.push({
                p: a,
                date: i[c]
            }), c++)
        }), b
    }
    function c(b, c) {
        j.domain(d3.extent(b, function (a) { return a.date }));
        k
            .domain([0, 100]), cpath
            .append("g")
            .attr("class", "x-axis axis")
            .attr("transform", "translate(0," + h + ")")
            .call(bottomtick)
            .append("text")
            .attr("x", 450)
            .attr("y", -8)
            .style("text-anchor", "end")
            .text("Time"), cpath
            .append("g")
            .attr("class", "y-axis axis")
            .call(lefttick)
            .append("text")
            .attr("transform", "rotate(-90)")
            .attr("y", 6)
```

```
            .attr("dy", ".91em")
            .style("text-anchor", "end")
            .text("Proficiency"), cpath
            .append("path")
            .datum(b)
            .attr("class", "line")
            .attr("id", "skills-chart-line")
            .attr("d", n)
            .attr("stroke", function () { return c._color })
    }
    function refreshChart(data) {
        var e = processdata(data),
            f = d3.select("#skills-chart-line");
        null === f[0][0]
        ? c(e, data)
        : f
            .datum(e)
            .attr("d", n)
            .attr("stroke", function () { return data._color })
    }
    var chart = {},
        rect = {
            top: 20,
            right: 20,
            bottom: 30,
            left: 50
        },
        g = 500 - rect.left - rect.right,
        h = 400 - rect.top - rect.bottom,
        i = [1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 201
        j = d3.scale.linear().range([0, g]),
        k = d3.scale.linear().range([h, 0]),
        bottomtick = d3
            .svg
            .axis()
            .scale(j)
            .tickValues([1999, 2004, 2009, 2013])
            .tickFormat(d3.format(".0f"))
            .tickPadding(10)
            .tickSize(0)
            .orient("bottom"),
        lefttick = d3
            .svg
            .axis()
            .scale(k)
            .tickSize(0)
            .tickPadding(10)
            .tickValues([20, 40, 60, 80, 100])
            .orient("left"),
        n = d3.svg.line().interpolate("basis").x(function (a) {
            return j(a.date)
        }).y(function (a) {
            return k(a.p)
        }),
        cpath = d3
            .select(".skills-chart")
            .append("svg")
            .attr("width", g + rect.left + rect.right)
            .attr("height", h + rect.top + rect.bottom)
            .append("g")
            .attr("transform", "translate(" + rect.left + "," + rect.top + ")");
        chart.refreshChart = refreshChart;
        return chart;
    }(d3),
    width = 580,
    height = 580,
    rad = Math.min(width, height) / Math.PI - 25,
    q = k,
    r = {
        w: 116,
        h: 30,
        s: 3,
```

```
        t: 7
    },
    sunburst = d3
        .select(".skills-sunburst")
        .append("svg:svg")
        .attr("width", width)
        .attr("height", height)
        .append("svg:g")
        .attr("transform", "translate(" + width / 2 + "," + height / 2 + ")");
sunburst.append("svg:circle").attr("r", rad).style("opacity", 0);
var t = function (a, b) {
        var c = [],
            d = a.length;
        if (a.length !== b.length) c = a.length > b.length ? a : b;
        else for (var e = 0; d > e; e++) {
            var f = Math.max(a[e], b[e]) - Math.abs(a[e] - b[e]) / 8;
            c.push(f)
        }
        return c
    },
    u = function (a) {
        if (a instanceof Array) return a;
        var b = [];
        return $.each(a, function (a, c) {
            b = t(u(c), b)
        }), b
    },
    proficiencydata = d3
        .layout
        .partition()
        .sort(null)
        .size([2 * Math.PI, rad])
        .children(function (a) {
            return a.value instanceof Array
                ? (a._proficiency = a.value, d3.entries([a.value[a.value.length - 1]]))
                : (a._proficiency = u(a.value), isNaN(a.value) ? d3.entries(a.value) : null)
        })
        .value(function (a) { return a.value }),
    arc = d3.svg
        .arc()
        .startAngle(function (a) { return a.x })
        .endAngle(function (a) { return a.x + a.dx - .01 / (a.depth + .5) })
        .innerRadius(function (a) { return rad / Math.PI * a.depth })
        .outerRadius(function (a) { return rad / Math.PI * (a.depth + 1) - 1 });

var coloralternative = 0
initbreadcrumb();
var path = sunburst
    .data(d3.entries(skillsdata))
    .selectAll("g")
    .data(proficiencydata)
    .enter()
    .append("svg:g")
    .attr("display", function (a) { return a.depth ? null : "none" });
path
    .append("svg:path")
    .attr("d", arc)
    .attr("stroke", "#fff")
    .attr("fill", function (a) { return a._color = q(a), a._color })
    .attr("fill-rule", "evenodd").attr("display", function (a) { return a.children ? null : "none" }
    .on("mouseover", mouseover);
path.
    append("svg:text")
    .attr("transform", function (a) {
        var r = 180 * ((a.x + a.dx / 2 - Math.PI / 2) / Math.PI);
        return "rotate(" + r + ")"
    })
    .attr("x", function (a) { return rad / Math.PI * a.depth})
    .attr("dx", "6").attr("dy", ".1em").text(function (a) { return a.key })
    .attr("display", function (a) { return a.children ? null : "none" })
    .on("mouseover", mouseover);
d3
```

```
    .select(".skills-sunburst")
    .on("mouseleave", mouseleave);
l = path.node().__data__.value;
sunburst
    .append("circle")
    .attr("r", rad / Math.PI)
    .attr("opacity", 0);
initchart();
```

skillsdata.js

```
var skillsdata;

skillsdata = {
  "Skills": {
    "Server & WinForm": {
      "Protocol": {
        "Propose": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 50, 50, 50],
        "USSD": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 60, 60, 50, 40, 30],
        "UAP": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 60, 70, 50, 30],
        "Socket Raw": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 50, 50, 50, 70, 80]
      },
      "Optimization": {
        "Performance": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 40, 40, 50, 50, 50],
        "Distribute": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 10, 10, 40, 50, 50],
        "Stability": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 50, 60, 70, 80, 90]
      },
      "UI": {
        "WinForm": [0, 0, 20, 40, 50, 50, 50, 50, 60, 80, 90, 95, 95, 95, 95],
        "WPF": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 50],
        "GDI": [0, 0, 0, 0, 0, 40, 50, 40, 40, 30, 30, 20, 20, 10, 5],
        "DX": [0, 0, 0, 0, 0, 10, 50, 50, 40, 40, 30, 20, 10, 10, 5],
        "Flash": [0, 0, 10, 30, 40, 50, 50, 40, 30, 20, 10, 5, 5, 5, 5]
      },
      "Algorithm": {
        "Image Processing": [0, 0, 0, 0, 0, 0, 0, 10, 30, 50, 50, 50, 45, 45, 40],
        "Face recognition": [0, 0, 0, 0, 0, 0, 0, 10, 40, 70, 60, 50, 40, 40, 40]
      }
    },
    "Web Development": {
      "Server Side": {
        "Active Page": {
          "ASP": [0, 0, 10, 30, 60, 60, 40, 20, 20, 20, 20, 20, 20, 20, 20],
          "ASP.Net": [0, 0, 0, 0, 0, 0, 10, 30, 70, 80, 90, 90, 90, 90, 90]
        },
        "Node.js": {
          "express": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30],
          "npm": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 40]
        },
        "DB": {
          "SqlServer": [0, 0, 0, 0, 0, 10, 20, 40, 40, 40, 60, 90, 90, 90, 80],
          "Sqlite": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 20],
          "Mongo": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30]
        },
        "Server": {
          "IIS": [0, 10, 10, 30, 40, 40, 40, 60, 70, 70, 80, 80, 80, 80, 80],
          "Apache": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 20, 40]
        },
        "API": {
          "OAuth2.0": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20, 40, 40, 40, 30, 30],
          "WeChat": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 30],
          "Propose": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 40, 30]
        }
      },
      "Front Side": {
        "HTML": [0, 0, 10, 30, 50, 50, 60, 80, 90, 60, 50, 30, 30, 30, 40],
        "CSS": {
          "CSS": [0, 0, 10, 30, 50, 50, 60, 80, 85, 60, 50, 30, 20, 20, 30],
          "LESS": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30],
```

```
          "Responsive": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20]
        },
        "JSFramework": {
          "jQuery": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20, 30, 30, 25, 30],
          "ExtJs": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 30],
          "BackboneJs": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10],
          "D3.js": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20],
          "Rapheal": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20],
          "kinetic": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20]
        },
        "Template": {
          "Jade": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20],
          "Razor": [0, 0, 0, 0, 0, 0, 0, 0, 0, 40, 50, 60, 80, 80, 80]
        }
      }
    },
    "Language": {
      "Dotnet": {
        "C#": [0, 0, 0, 0, 0, 0, 20, 50, 70, 80, 90, 95, 95, 95, 95],
        "Xaml": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 50],
        "F#": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 30, 30]
      },
      "Script": {
        "Javascript": [0, 0, 10, 30, 50, 50, 60, 60, 60, 80, 80, 60, 50, 50, 60],
        "VBScript": [0, 0, 0, 0, 20, 20, 30, 30, 40, 30, 20, 20, 20, 20, 20],
        "CoffeeScript": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 50],
        "Python": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20]
      },
      "Java": {
        "Android": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30]
      },
      "Embedded": {
        "X86 Asm": [0, 0, 0, 0, 0, 0, 0, 0, 10, 40, 40, 30, 25, 20, 20],
        "C": [0, 0, 0, 0, 0, 0, 0, 20, 25, 30, 50, 50, 45, 40, 40]
      },
      "Other": {
        "T-SQL": [0, 0, 0, 0, 0, 10, 20, 40, 40, 40, 60, 90, 90, 90, 80],
        "(E)BNF": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30],
        "XSD/XSLT": [0, 0, 0, 0, 0, 0, 20, 40, 40, 40, 40, 40, 50, 50, 60],
        "QB": [40, 50, 40, 30, 20, 10, 5, 5, 5, 5, 5, 5, 5, 5, 5],
        "VB": [0, 10, 20, 50, 60, 80, 90, 80, 70, 60, 60, 60, 60, 50, 50],
        "Pascal": [0, 0, 0, 30, 50, 60, 40, 20, 10, 5, 5, 5, 5, 5, 5],
        "IEC61131": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 40]
      }
    },
    "Other": {
      "HW&FW": {
        "Protues": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 25, 20, 20, 25],
        "Keil": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 25, 20, 20, 25],
        "Code Warrior": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 15, 15, 10, 10, 20],
        "Protel": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 20, 15, 10, 10, 5],
        "Multisim": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 30, 25, 20, 15],
        "Lego": [0, 0, 0, 0, 10, 40, 50, 45, 40, 35, 30, 25, 20, 15, 10]
      },
      "Productivity": {
        "Vim": [0, 0, 0, 0, 0, 0, 0, 0, 10, 20, 30, 40, 45, 50, 55],
        "AHK": [0, 0, 0, 0, 0, 0, 0, 0, 10, 20, 30, 30, 30, 35, 40],
        "Office": [0, 10, 20, 50, 60, 60, 70, 70, 80, 90, 90, 90, 90, 90, 90],
        "Photoshop": [0, 10, 20, 30, 35, 40, 45, 50, 60, 65, 60, 60, 55, 60, 60],
        "Batch": [40, 45, 50, 50, 50, 60, 65, 70, 75, 75, 80, 80, 80, 80, 80],
        "Shell": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 10, 10, 30, 35, 40],
        "Linux": [0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 10, 10, 40, 50, 55],
        "Marked Text": [10, 20, 20, 30, 40, 40, 40, 40, 40, 50, 60, 70, 80, 80, 80]
      },
      "Project": {
        "Agile": [0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 40, 50, 60, 70, 80],
        "CI": [0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 50, 70, 70, 80, 80],
        "Repos": {
          "Git": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 50],
          "SVN": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 50, 50, 50],
          "Clearcase": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30]
        },
```

```
        "Track": {
          "Redmine": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30],
          "Trello": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 10, 20]
        },
        "Wiki": [0, 0, 0, 0, 0, 0, 0, 0, 10, 40, 50, 40, 40, 40, 40],
        "Quality Assurance": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 30, 50, 60, 60]
      },
      "Cloud": {
        "IaaS": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 10, 15],
        "PaaS": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 15, 30, 30],
        "SaaS": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 10, 10, 10]
      },
      "Test": {
        "TDD": [0, 0, 0, 0, 0, 0, 0, 0, 5, 10, 5, 5, 15, 5, 5],
        "cucumber": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 5, 0, 10, 30],
        "Load test": [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 40, 30, 25, 20, 15]
      }
    }
  }
};
```

wizicer's block #f662a0b04425fc0f7489 September 21, 2014