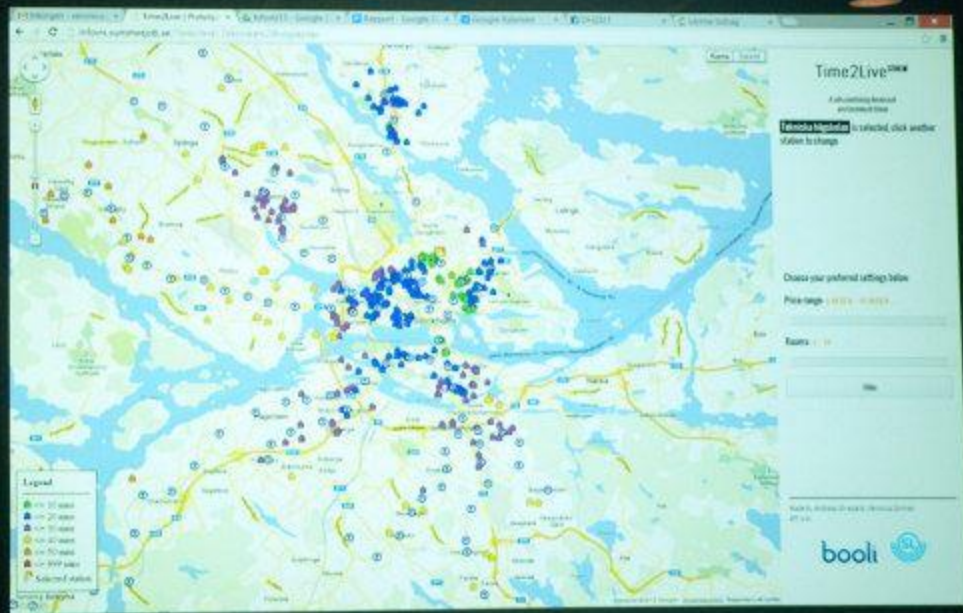




IVIS13 students presenting final demos – Time to Live

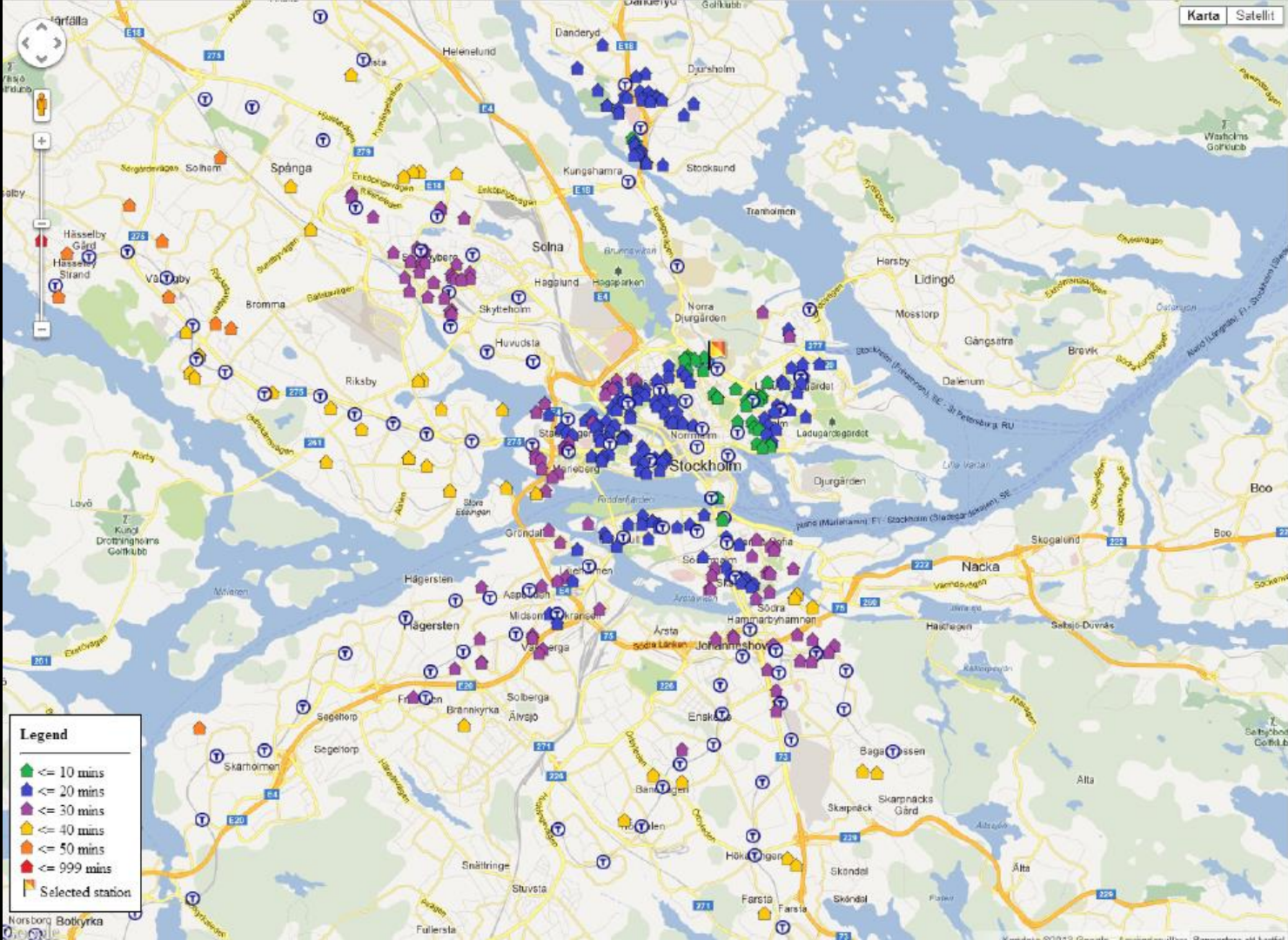
# TimeToLive



March 4, 2013

TimeToLive





Time2Live<sup>STHLM</sup>

*A site combining home ads  
and commute times*

**Tekniska högskolan** is selected, click another  
station to change

Choose your preferred settings below

Price range: 0 MSEK - 10 MSEK

Rooms: 0 - 10

Filter

Made by Andreas Ulvesand, Veronica Ginman  
API's by



# Prelude Videos

- Unfolding the City
- Live Singapore
  - Project

# TIMEMAPS

🔍 ZOEKEN

📍 HUIDIGE LOCATIE

FAVORIETEN **Wijzig**

AMSTERDAM CENTRAAL

VOEG FAVORIET TOE **+**

🕒 AFGELOPEN 24U

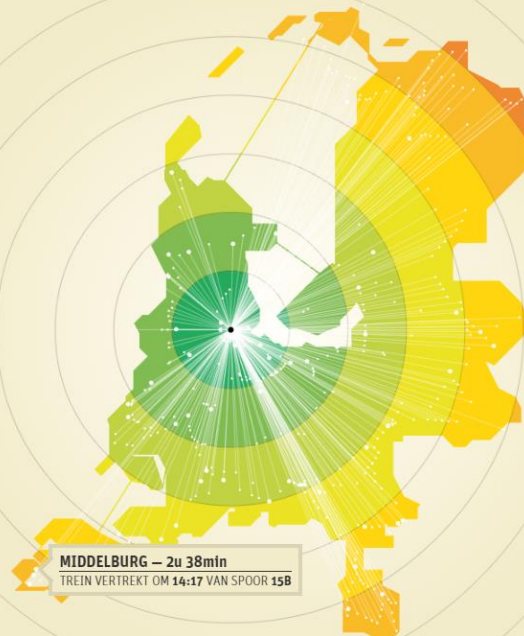


- › MEER INFORMATIE
- › HOUD MIJ OP DE HOOGTE
- › POSTER BESTELLEN

⤴ SLUIT MENU

## AMSTERDAM CENTRAAL

### MAANDAG, 14:00



# IVIS15 Schedule

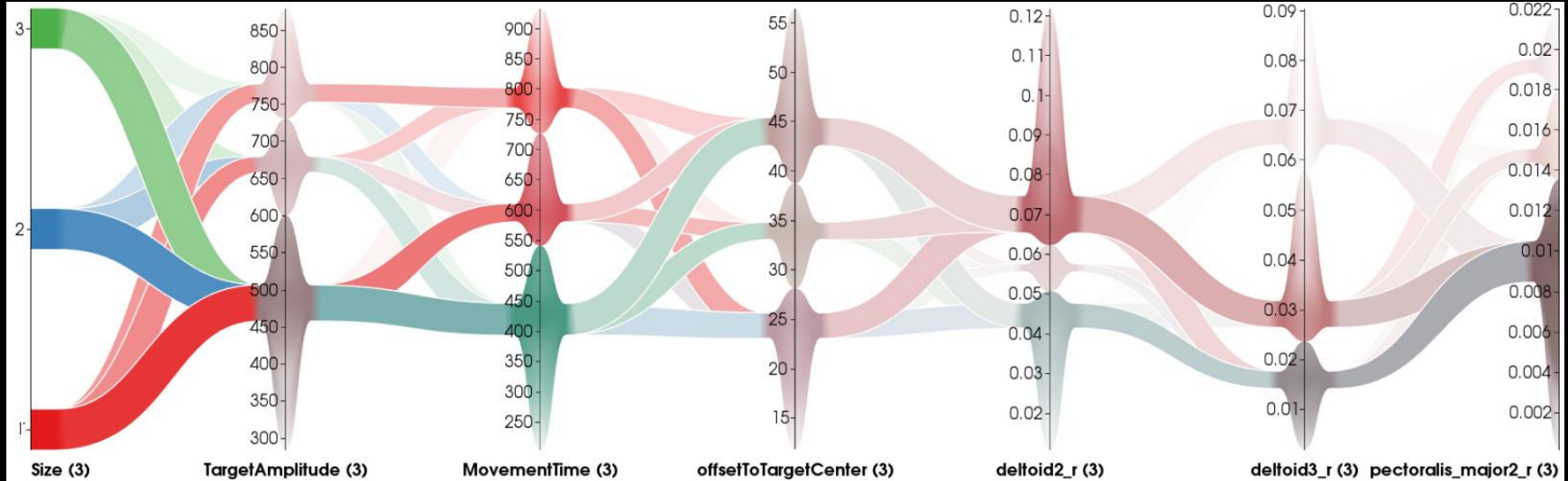
1.	Tuesday	20.1	13:15	Intro	DUE:
2.	Tuesday	27.1	13:15	Lecture 2 - Pipeline	Reading 1, Visualization Pipeline
3.	Friday	30.1	08:30	Lectures 3, 4 (labs)	Project 1, Form Group
4.	Tuesday	03.2	13:15	Lecture 5	Reading 2, Data
5.	Tuesday	10.2	13:15	Lecture 6	Reading 3, Data Trans., Par. Coord.
6.	Friday	13.2	08:30	Lectures 7, 8 (labs)	Project 4 proposals, Project 2 due
9.	Friday	20.2	10:15	Lecture 9	Reading 4, Visuals
<b>10.</b>	<b>Tuesday</b>	<b>24.2</b>	<b>13:15</b>	<b>Lecture 10</b>	<b>View transformations and tasks</b>
11.	Friday	27.2	08:30	Lectures 11, 12 (labs)	Project 4 Hello World! Reading 5.
13.	Tuesday	03.3	13:15	Lecture 13	Project 3 due, Reading 6
14.	Friday	06.3	08:30	Lecture 14	Reading 7
15.	Friday	13.3	08:30	Final Demo (exam)	Project 4 Final Demo
16.	TBA				C-Awards

# Outline

1. Announcements
  1. Talk
  2. P3 Q&A
2. Questions Project 3
3. Questions Project 4
  1. Hello World! Demos
4. View Transformations and Tasks

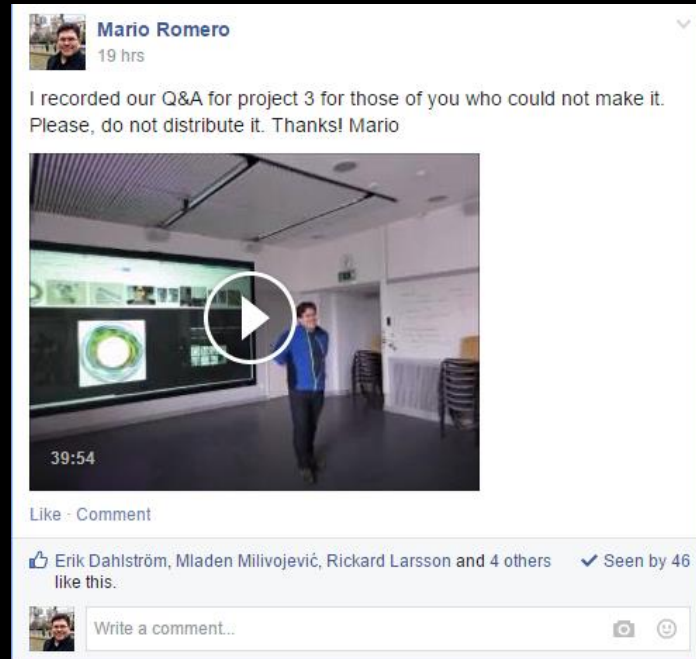
# Announcements:

## Talk Wednesday at 14:00 VIC Tino Weinkauff





# Announcement: video P3 Q&A



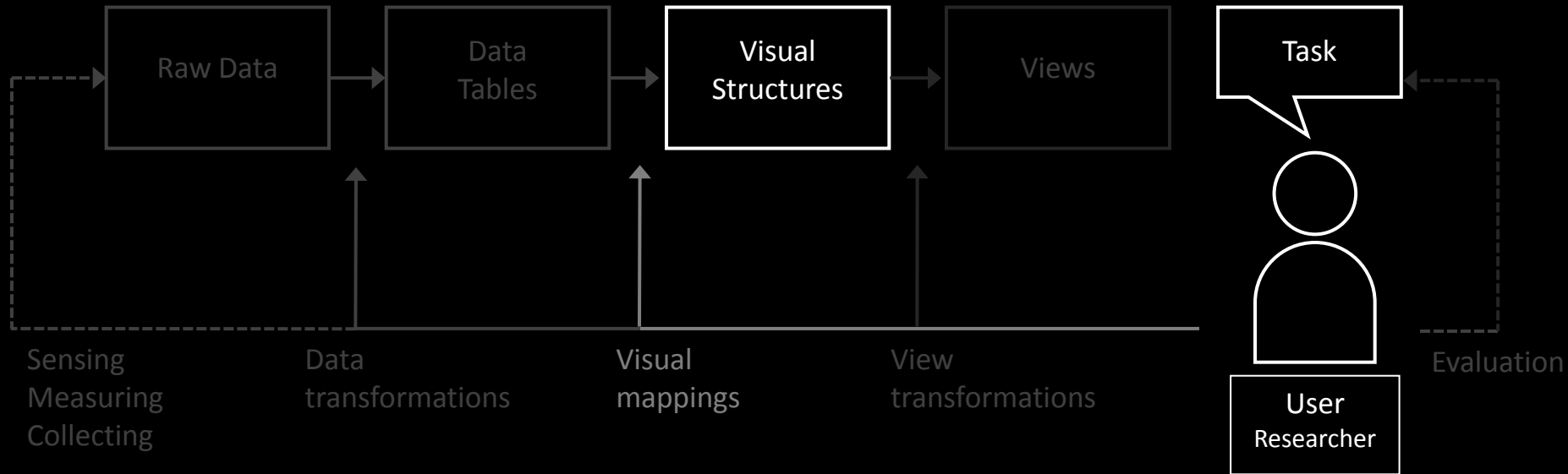
# Questions about project 3

Two apartments

Viz tells diff story for each apt





































































# Questions about project 4

# Last time: Visual Structures





# A PERIODIC TABLE OF VISUALIZATION METHODS

<div></div> <div><b>C</b></div> <div>continuum</div>	<div><div></div><div><b>Data Visualization</b> Visual representations of quantitative data in schematic form (either with or without axes)</div></div> <div><div></div><div><b>Strategy Visualization</b> The systematic use of complementary visual representations in the analysis, development, formulation, communication, and implementation of strategies in organizations.</div></div>										<div></div> <div><b>G</b></div> <div>graphic facilitation</div>						
<div></div> <div><b>Tb</b></div> <div>table</div>	<div></div> <div><b>Ca</b></div> <div>cartesian coordinates</div>	<div><div></div><div><b>Information Visualization</b> The use of interactive visual representations of data to amplify cognition. This means that the data is transformed into an image, it is mapped to screen space. The image can be changed by users as they proceed working with it</div></div> <div><div></div><div><b>Metaphor Visualization</b> Visual Metaphors position information graphically to organize and structure information. They also convey an insight about the represented information through the key characteristics of the metaphor that is employed</div></div>										<div></div> <div><b>Ct</b></div> <div>cartoon</div>					
<div></div> <div><b>Pi</b></div> <div>pie chart</div>	<div></div> <div><b>L</b></div> <div>line chart</div>	<div><div></div><div><b>Concept Visualization</b> Methods to elaborate (mostly) qualitative concepts, ideas, plans, and analyses.</div></div> <div><div></div><div><b>Compound Visualization</b> The complementary use of different graphic representation formats in one single schema or frame</div></div>										<div></div> <div><b>Ri</b></div> <div>rich picture</div>					
<div></div> <div><b>B</b></div> <div>bar chart</div>	<div></div> <div><b>Ac</b></div> <div>area chart</div>	<div></div> <div><b>R</b></div> <div>radar chart cobweb</div>	<div></div> <div><b>Pa</b></div> <div>parallel coordinates</div>	<div></div> <div><b>Hy</b></div> <div>hyperbolic tree</div>	<div></div> <div><b>Cy</b></div> <div>cycle diagram</div>	<div></div> <div><b>T</b></div> <div>timeline</div>	<div></div> <div><b>Ve</b></div> <div>venn diagram</div>	<div></div> <div><b>Mi</b></div> <div>mindmap</div>	<div></div> <div><b>Sq</b></div> <div>square of oppositions</div>	<div></div> <div><b>Cc</b></div> <div>concentric circles</div>	<div></div> <div><b>Ar</b></div> <div>argument slide</div>	<div></div> <div><b>Sw</b></div> <div>swim lane diagram</div>	<div></div> <div><b>Gc</b></div> <div>gantt chart</div>	<div></div> <div><b>Pm</b></div> <div>perspectives diagram</div>	<div></div> <div><b>D</b></div> <div>dilemma diagram</div>	<div></div> <div><b>Pr</b></div> <div>parameter ruler</div>	<div></div> <div><b>Kn</b></div> <div>knowledge map</div>
<div></div> <div><b>Hi</b></div> <div>histogram</div>	<div></div> <div><b>Sc</b></div> <div>scatterplot</div>	<div></div> <div><b>Sa</b></div> <div>sankey diagram</div>	<div></div> <div><b>In</b></div> <div>information lense</div>	<div></div> <div><b>E</b></div> <div>entity relationship diagram</div>	<div></div> <div><b>Pt</b></div> <div>petri net</div>	<div></div> <div><b>Fl</b></div> <div>flow chart</div>	<div></div> <div><b>Cl</b></div> <div>clustering</div>	<div></div> <div><b>Lc</b></div> <div>layer chart</div>	<div></div> <div><b>Py</b></div> <div>minto pyramid technique</div>	<div></div> <div><b>Ce</b></div> <div>cause-effect chains</div>	<div></div> <div><b>Tl</b></div> <div>toulmin map</div>	<div></div> <div><b>Dt</b></div> <div>decision tree</div>	<div></div> <div><b>Cp</b></div> <div>cpm critical path method</div>	<div></div> <div><b>Cf</b></div> <div>concept fan</div>	<div></div> <div><b>Co</b></div> <div>concept map</div>	<div></div> <div><b>Ic</b></div> <div>iceberg</div>	<div></div> <div><b>Lm</b></div> <div>learning map</div>
<div></div> <div><b>Tk</b></div> <div>tukey box plot</div>	<div></div> <div><b>Sp</b></div> <div>spectrogram</div>	<div></div> <div><b>Da</b></div> <div>data map</div>	<div></div> <div><b>Tp</b></div> <div>treemap</div>	<div></div> <div><b>Cn</b></div> <div>cone tree</div>	<div></div> <div><b>Sy</b></div> <div>system dyn./ simulation</div>	<div></div> <div><b>Df</b></div> <div>data flow diagram</div>	<div></div> <div><b>Se</b></div> <div>semantic network</div>	<div></div> <div><b>So</b></div> <div>soft system modeling</div>	<div></div> <div><b>Sn</b></div> <div>synergy map</div>	<div></div> <div><b>Fo</b></div> <div>force field diagram</div>	<div></div> <div><b>Ib</b></div> <div>ibis argumentation map</div>	<div></div> <div><b>Pr</b></div> <div>process event chains</div>	<div></div> <div><b>Pe</b></div> <div>pert chart</div>	<div></div> <div><b>Ev</b></div> <div>evocative knowledge map</div>	<div></div> <div><b>V</b></div> <div>Vee diagram</div>	<div></div> <div><b>Hh</b></div> <div>heaven 'n' hell chart</div>	<div></div> <div><b>I</b></div> <div>informal</div>

**Cy**

**Process Visualization**

**Hy**

**Structure Visualization**



**Overview**



**Detail**



**Detail AND Overview**



**Divergent thinking**































**Convergent thinking**

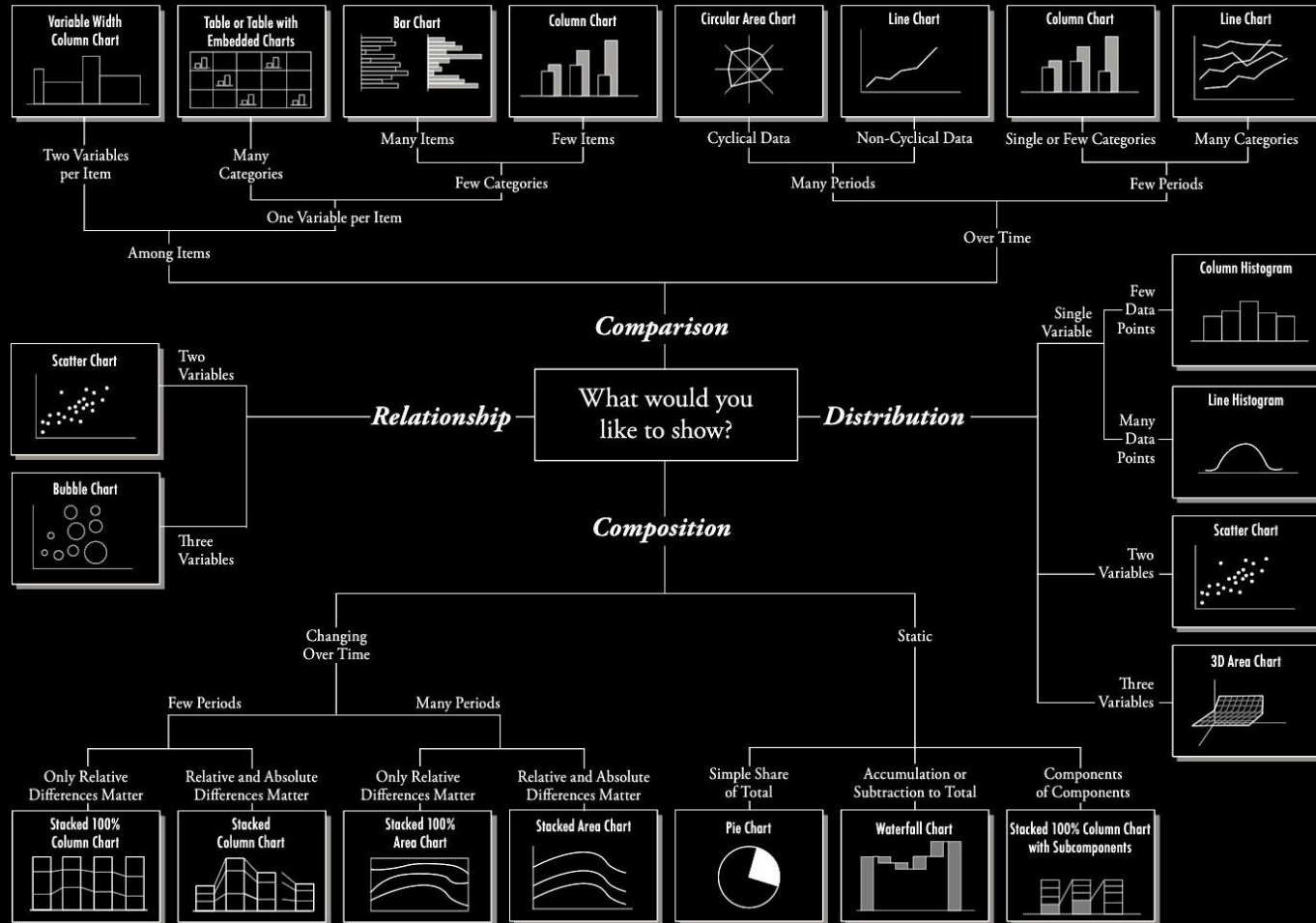
Note: Depending on your location and connection speed it can take some time to load a pop-up picture.

© Ralph Lengler & Martin J. Eppler, [www.visual-literacy.org](http://www.visual-literacy.org)

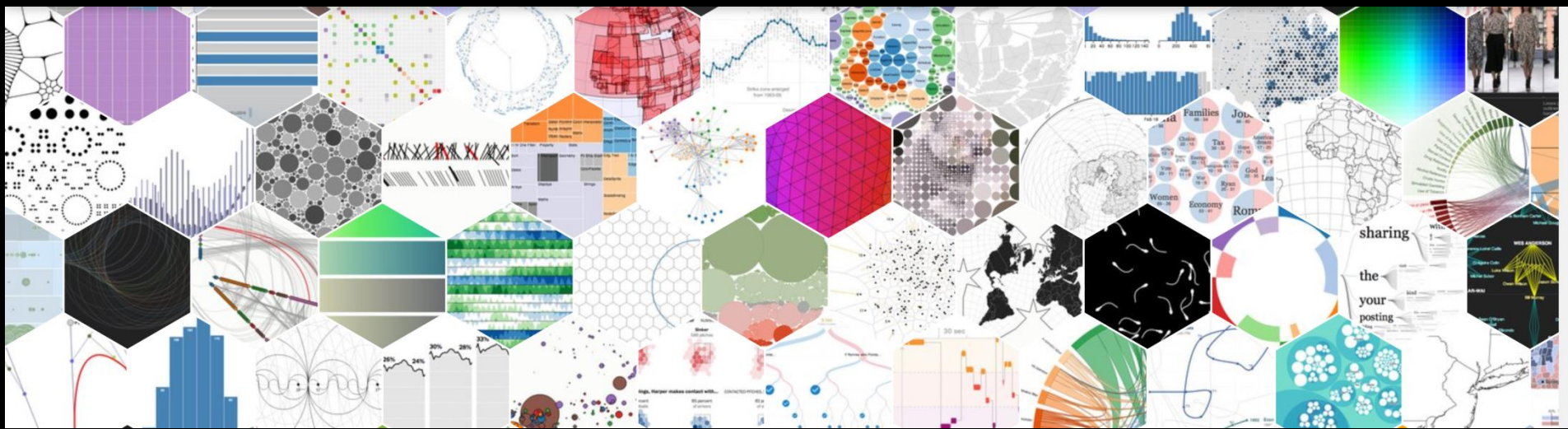
version 1.5

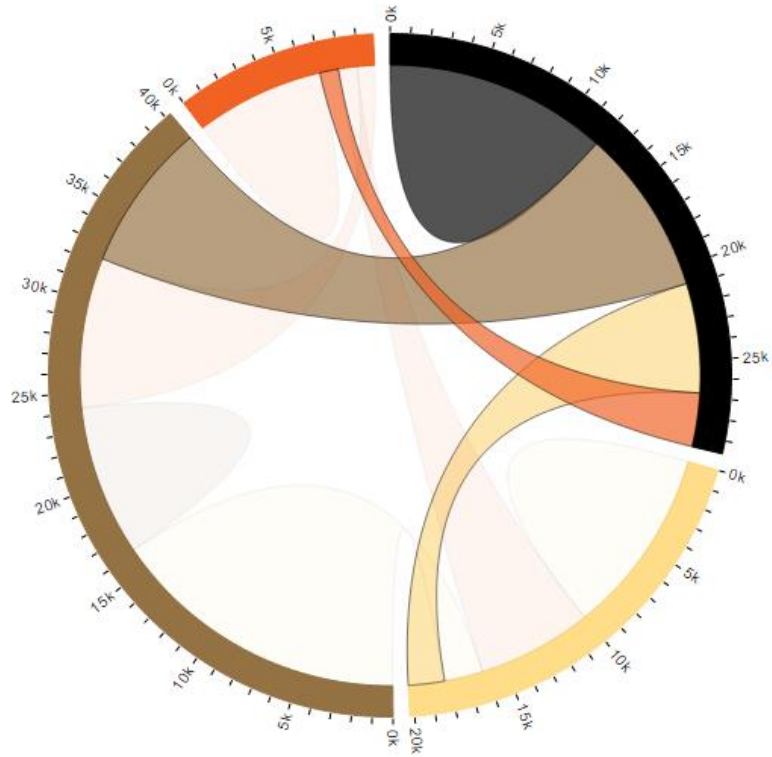
 <b>Su</b> supply demand curve	 <b>Pc</b> performance charting	 <b>St</b> strategy map	 <b>Oc</b> organisation chart	 <b>Ho</b> house of quality	 <b>Fd</b> feedback diagram	 <b>Ft</b> failure tree	 <b>Mq</b> magic quadrant	 <b>Ld</b> life-cycle diagram	 <b>Po</b> porter's five forces	 <b>S</b> s-cycle	 <b>Sm</b> stakeholder map	 <b>Is</b> ishikawa diagram	 <b>Tc</b> technology roadmap
 <b>Ed</b> edgeworth box	 <b>Pf</b> portfolio diagram	 <b>Sg</b> strategic game board	 <b>Mz</b> mintzberg's organigram	 <b>Z</b> zwicki's morphological box	 <b>Ad</b> affinity diagram	 <b>De</b> decision discovery diagram	 <b>Bm</b> bcg matrix	 <b>Stc</b> strategy canvas	 <b>Vc</b> value chain	 <b>Hy</b> hype-cycle	 <b>Sr</b> stakeholder rating map	 <b>Ta</b> taps	 <b>Sd</b> spray diagram

# Chart Suggestions—A Thought-Starter



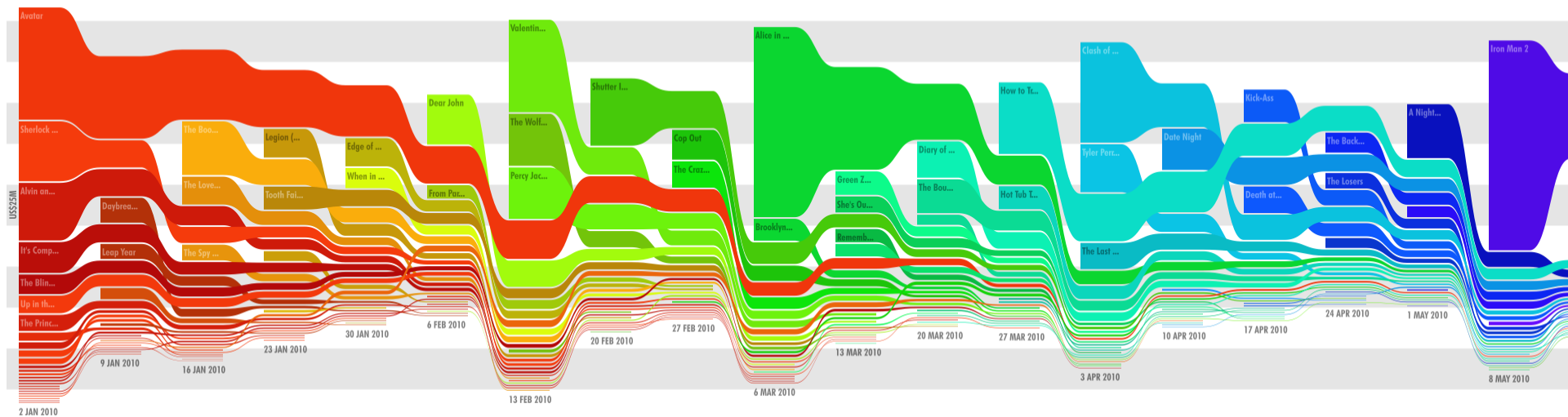
# D3JS Data-Driven Documents



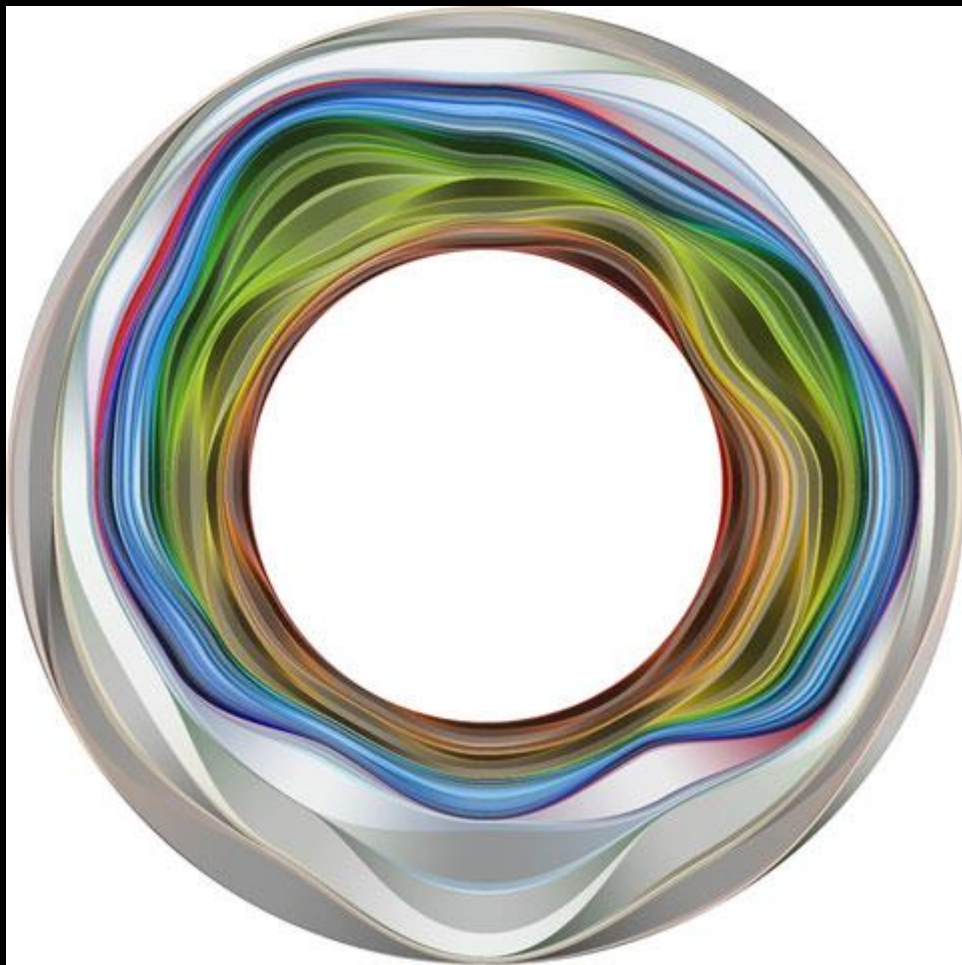




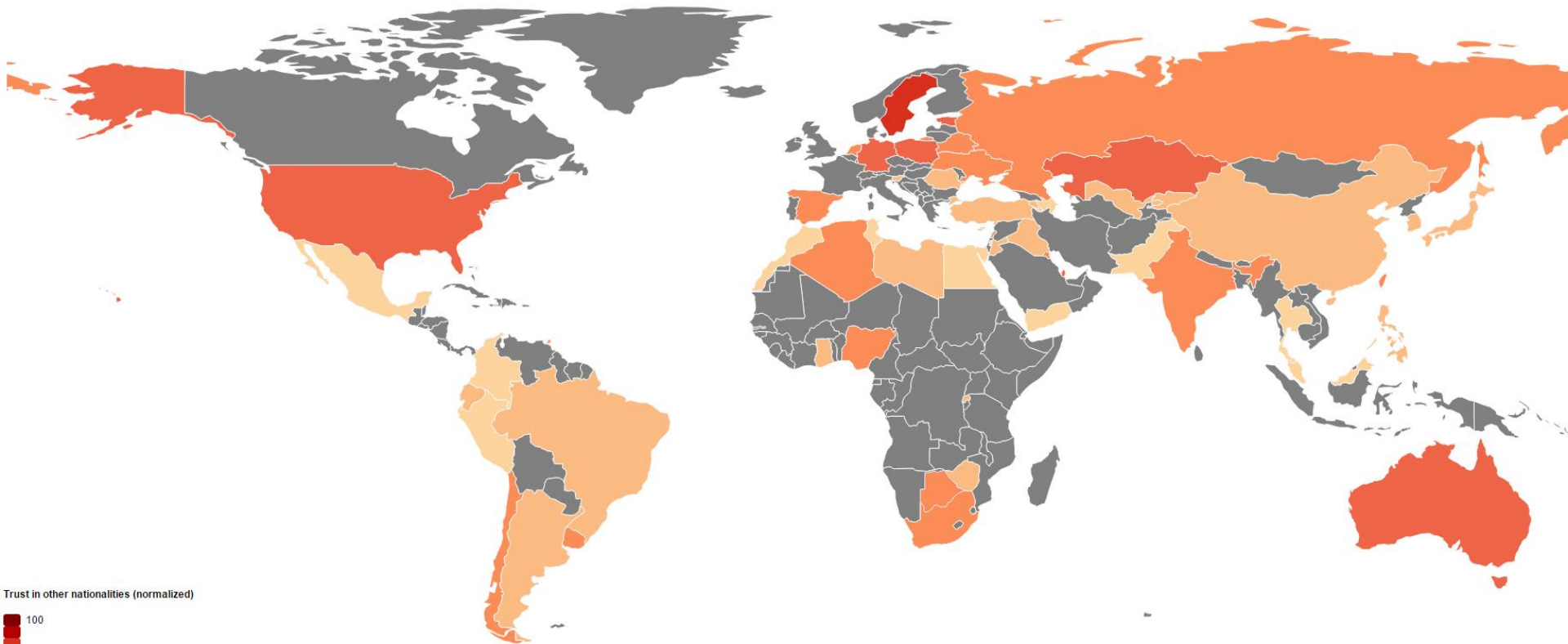
Avatar (\$50,306,217)



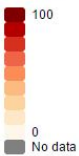
[View more charts](#)



# A sample of P2



Trust in other nationalities (normalized)

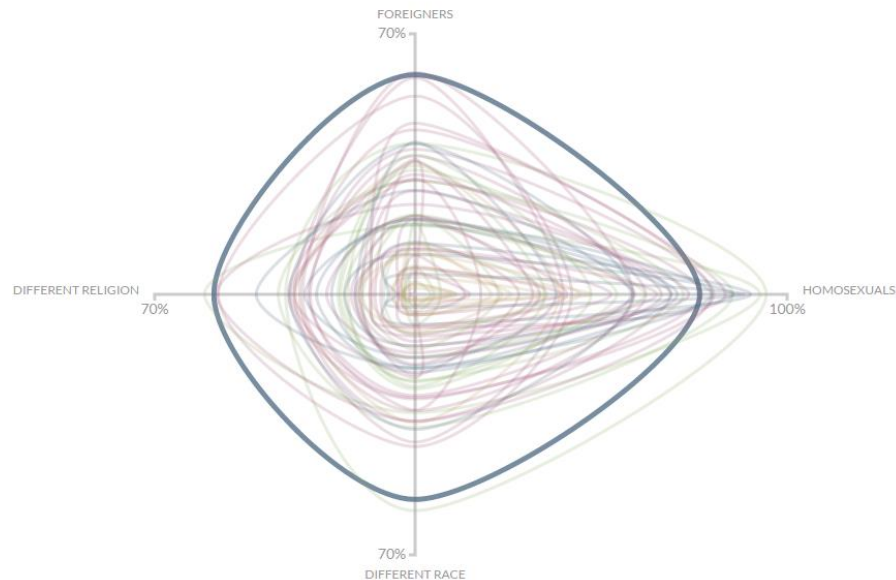




# BAD NEIGHBORS

Which minorities would you rather not be neighbors with?

The World Values Survey asked citizens from different countries to pick which groups of people they would rather not have as neighbors. The following chart shows answers for 4 groups of unwanted neighbors: (1) foreigners, (2) homosexuals, (3) people of a different race and (4) people from a different religion. Each line represents a country and connects the 4 axes, representing the 4 groups. You may hover the lines to find more information, or filter using the controls on the left. [Read more about it](#) and [download the source code](#)



See:

[All countries](#)

[Americas](#)

[Europe](#)

[Asia](#)

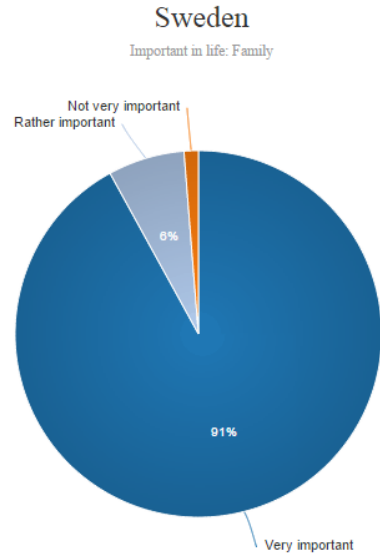
[Africa](#)

[Small multiples](#)

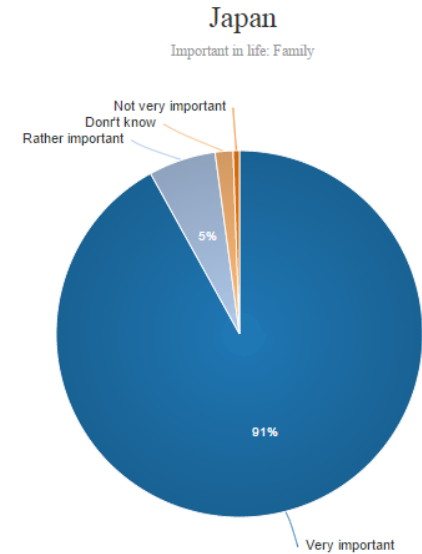
# WVS Survey - Women's values in Sweden and Japan 2010-2011

Select Variable:

For each of the following, indicate how important it is in your life. Would you say it is: Family

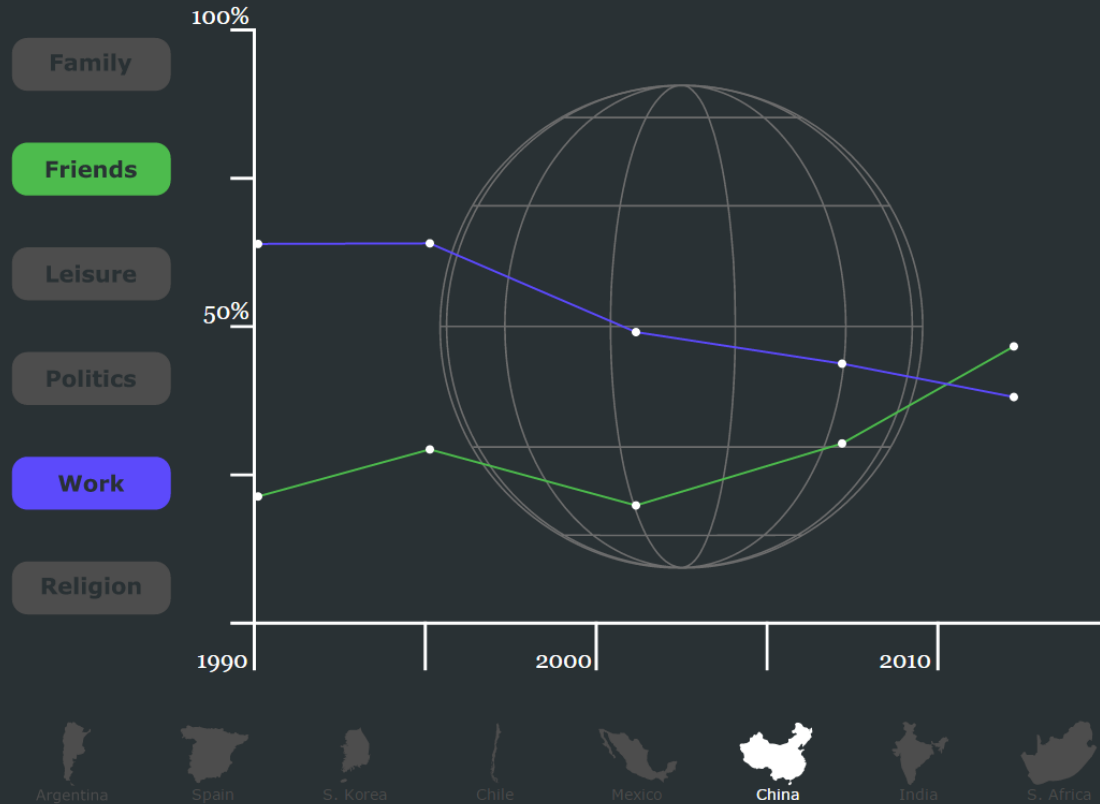


Total Answers: 637. This is approximately about: 0.013076% of the female population of Sweden



Total Answers: 1266. This is approximately about: 0.002003% of the female population of Japan

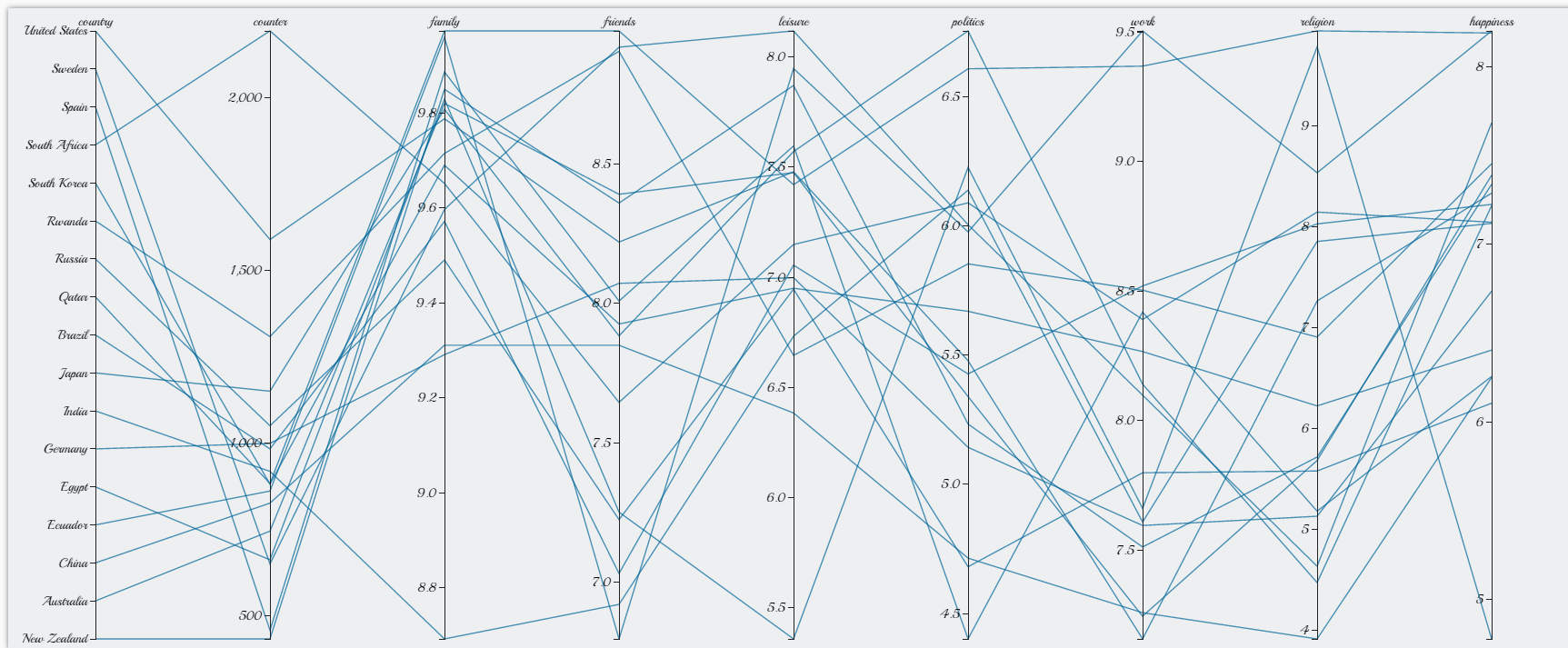
## 25-Year Overview: Most important Values by Country\*



\*Data Source: World Values Survey - [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org)

# Happy Factor

Using 43 parcels to explore the influence of various factors on the feeling of happiness between 2010 and 2014



Restrict the happiness brush filter to a quarter of its height

Get a feeling of the correlation by staring at each dimension (vertical axis) while moving the brush filter up and down the happiness axis.

The results are shown in the top and the bottom of the parcels. The parcels are the parcels that have the highest probability of being the most relevant. This 43 parcels display allowed me to go through the painful process of dealing with massive data, cleaning data, transforming data to keep only relevant fields (i.e. plotted dimensions), mapping ordinal data to numerical data, and trying to play the Multidimensional Detective. The derived values for each country are simple averages (sum+normalization), some more complex stats functions could have been used for more relevant result. The scaling could be improved, and the extremal values removed. My browser couldn't process it, but we could probably sharpen the insight with more countries loaded.

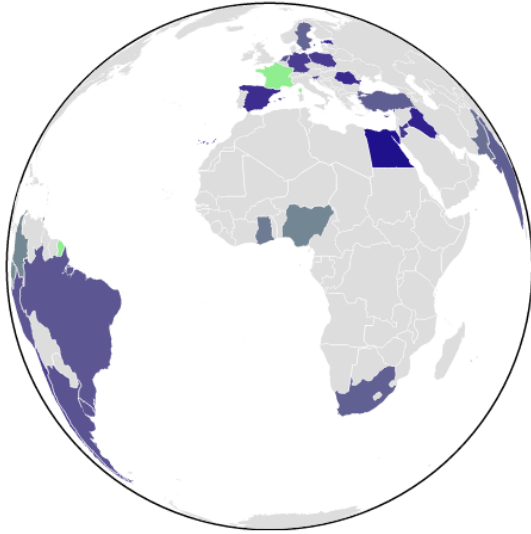
# Another sample of P2

Select the year you want to plot :

2010-2014 ▾

Watch the Data!

Happy

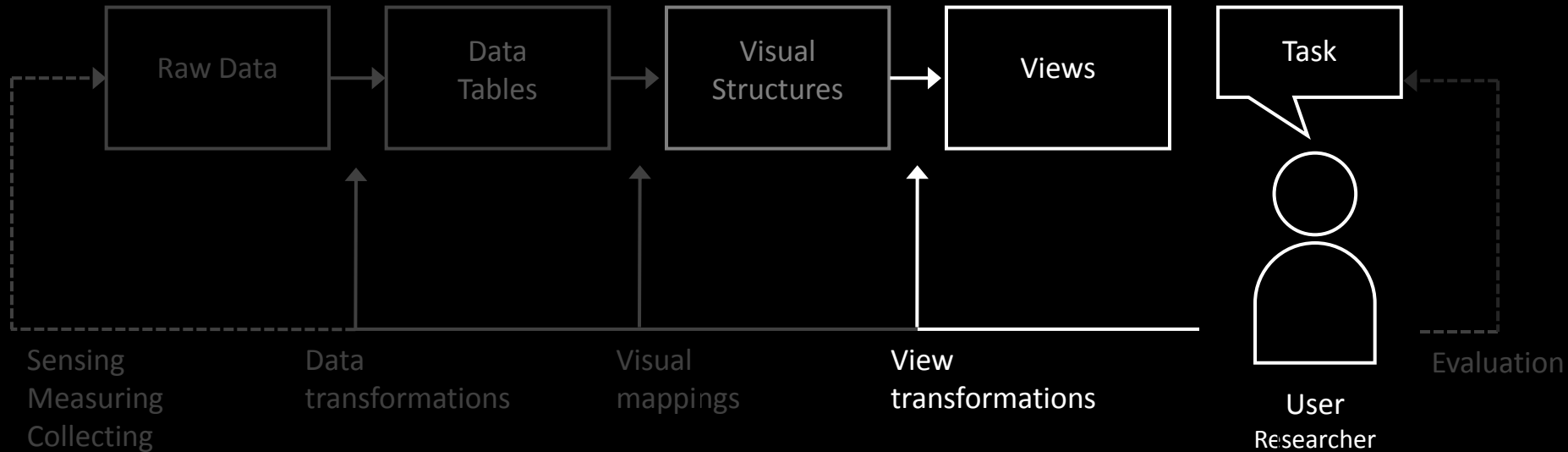


# P2 samples

<http://icosacid.com/infoviz/happyfactor/>  
<http://ixpro.github.io/iviz/>  
<http://wbock.freeiz.com/>  
<http://www.csc.kth.se/~b.../ivis15/project2/visualization.html>  
[http://www.csc.kth.se/~acvds/info\\_vis/project2/](http://www.csc.kth.se/~acvds/info_vis/project2/)  
<https://people.kth.se/~nerics/project2/>  
<http://people.kth.se/~edahls/Project2/index.html>  
<http://37.123.179.238:3000/>  
<http://perso.telecom-paristech.fr/.../Char.../worldMapColor.html>  
[http://tomas.gatial.sk/DH2321\\_2/index.html](http://tomas.gatial.sk/DH2321_2/index.html)  
<http://giacomogiudice.github.io/neighbours/>  
<http://ishavanbaar.github.io/.../parallel-justifiability-1.ht...>  
<http://ntexa.altervista.org/InfoVis/P2/C/index.html#>  
<http://n-inh.com/ivis15/project2/>  
<http://www.csc.kth.se/~stralf/>  
<http://statecs.com/DH2321/project2/>  
<http://www.csc.kth.se/~fabseh/ivis/vis/>  
[http://asierra.freeiz.com/project\\_2/project\\_2\\_2.html](http://asierra.freeiz.com/project_2/project_2_2.html)



# View Transformations and Tasks



# Task: 40 minutes

- Split into groups of 4
- Interact with visualizations from P2:
  - 20 minutes
- Make a list of all the view transformations you perform
- List the tasks that the view transformations support
- Compare the list to Shneiderman's and Tasko's
- If you need more references, check [Ed Chi's](#)
- Google View transformations
- Create a taxonomy – a structured description of view transformations and tasks
- We re-group and make a taxonomy together

# View Transformations and Tasks

Zoom

Filter

Scaling

Extract

Translate

Details on demand

Overview

Rotate

Scroll

Sort

Pan

Drag and drop

Grouping

Focus and context

Magic lens

Semantic zooming

Brushing

Drilling

Scrubbing

Flipping

Shaving

Chopping

Washing

Combining

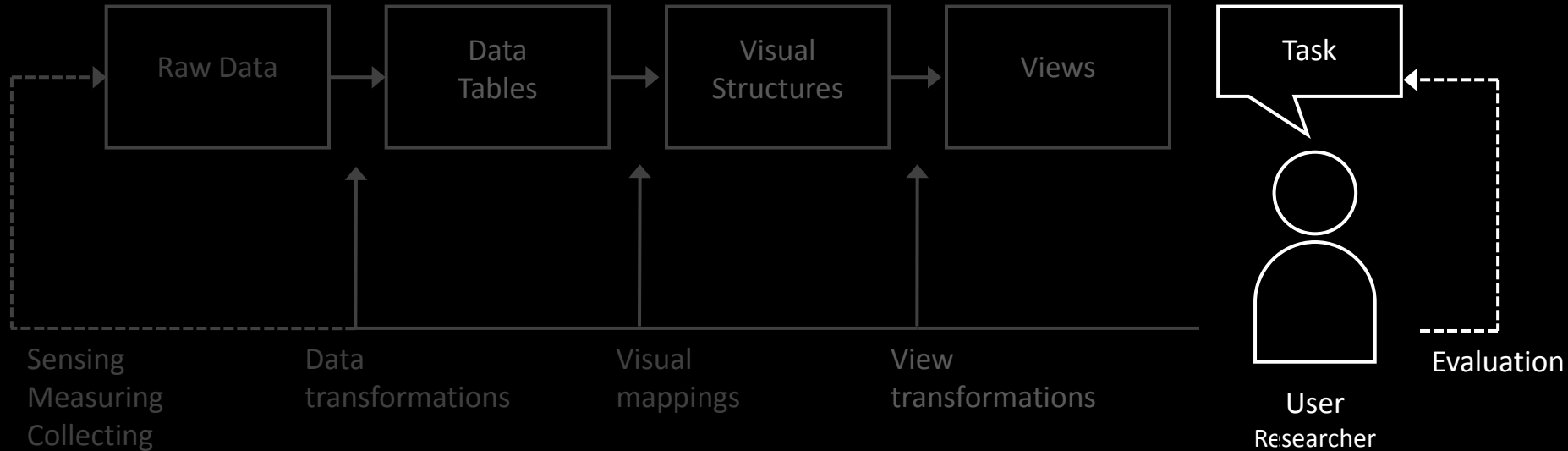
History

Comparing

Rearranging

My point: you have to  
make up your own mind  
about this.

# Next: Evaluation



# Reading 5 due next Friday Feb 27

- Skog, Tobias, Sara Ljungblad, and Lars Erik Holmquist. "Between aesthetics and utility: designing ambient information visualizations." *Information Visualization, 2003. INFOVIS 2003. IEEE Symposium on*. IEEE, 2003. [LINK](#)
- Pousman, Zachary, John T. Stasko, and Michael Mateas. "Casual information visualization: Depictions of data in everyday life." *Visualization and Computer Graphics, IEEE Transactions on* 13.6 (2007): 1145-1152. [LINK](#)
- Broms, Loove, et al. "Coffee maker patterns and the design of energy feedback artefacts." *Proceedings of the 8th ACM Conference on Designing Interactive Systems*. ACM, 2010. [LINK](#)

# Thank you!

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