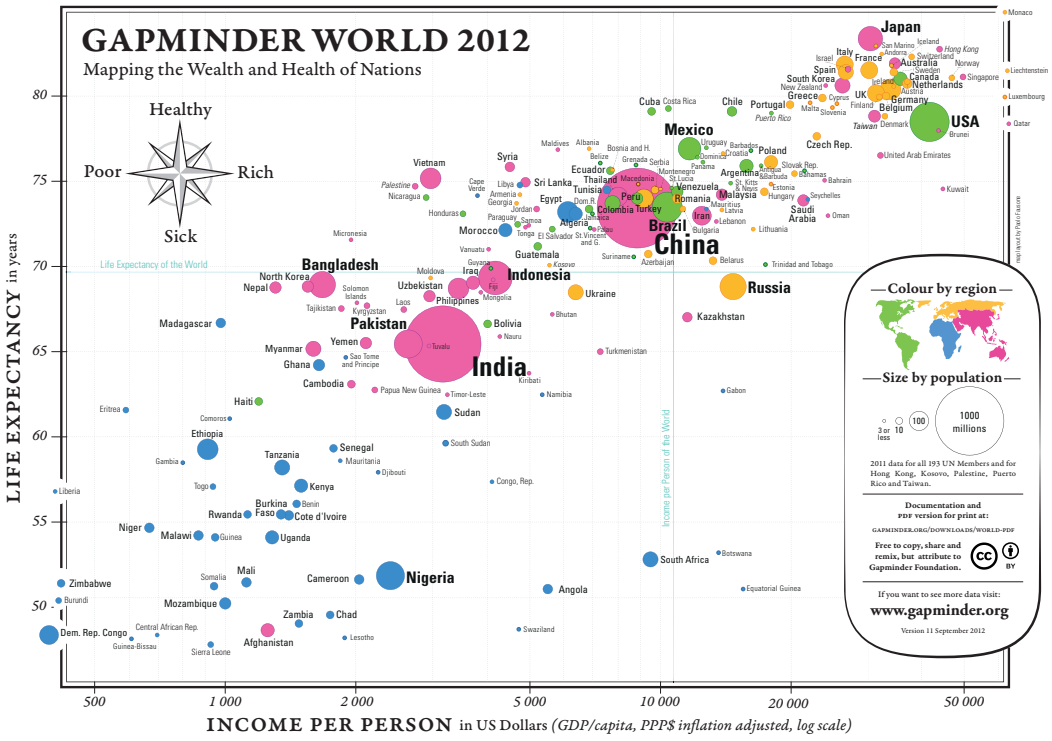
COMP40610 Information Visualisation Assignment:
Channelling Hans!

Semester 1 2017-2018

Description

Hans Rosling is a data visualisation legend. His 2006 TED talk, The Best Stats You've Ever Seen, is one of the most viewed videos on the TED website (http://bit.ly/2doLzAY). An updated interactive version of the GapMinder World visualisation used in that demo is available at www.gapminder.org/tools. A poster of the visualisation is reproduced below. In this assignment we will create an information visualisations that is an homage to Hans Rosling.



Source: http://www.gapminder.org/GapminderMedia/wp-uploads/Gapminder-World-2012.pdf

Part 1 – Copying Hans

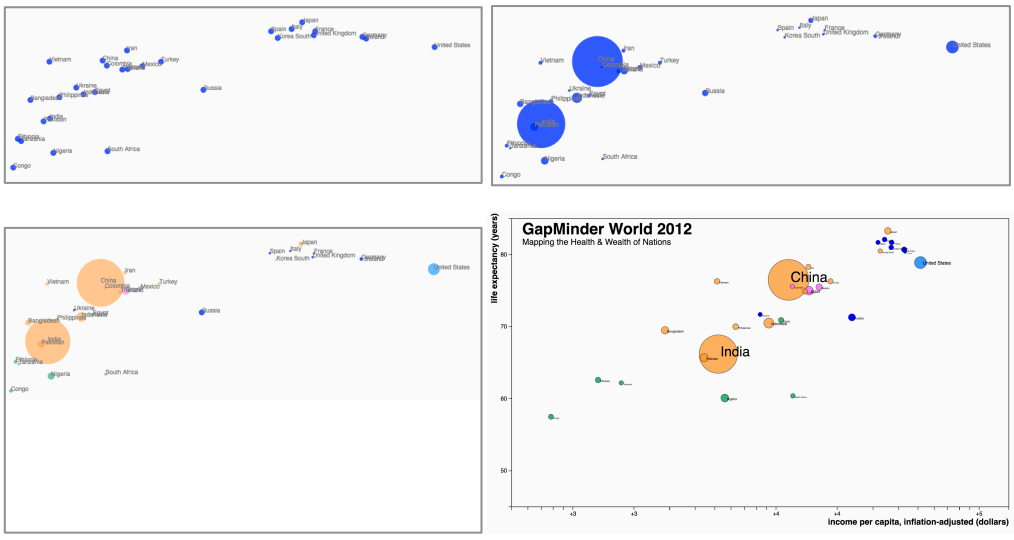
In this assignment you must recreate the GapMinder World visualisation using d3.js. Your visualisation does not need to be an exact replica of the GapMinder version but should include the following:

- A bubble plot representing the countries of the world
  - Countries of the world described by GDP and Life Expectancy mapped to x and y axis position
  - The population of each country mapped to bubble area
- Appropriate labels and axes
- Appropriate use of colour
- Country name labels
- Ability to view data for a particular year
- Ability to animate the change in country statistics from year to year (1900 – 2016)

The data required to drive this visualisation is available in the file **Gapminder_All_Time.csv**. The fields in this file are as follows:

- Country: The country name
- Year: The year for this data observation
- Population: The population of the country in this year
- LifeExp: Average life expectancy in years
- GDP: Average GDP in inflation adjusted dollars
- Code: The country code
- Region: The region in which the country belongs (similar to continent)
- Area: The area of the country in square kilometres
- Coastline: the number of kilometres of coastline belonging to the country
- Government: The type of government in the country

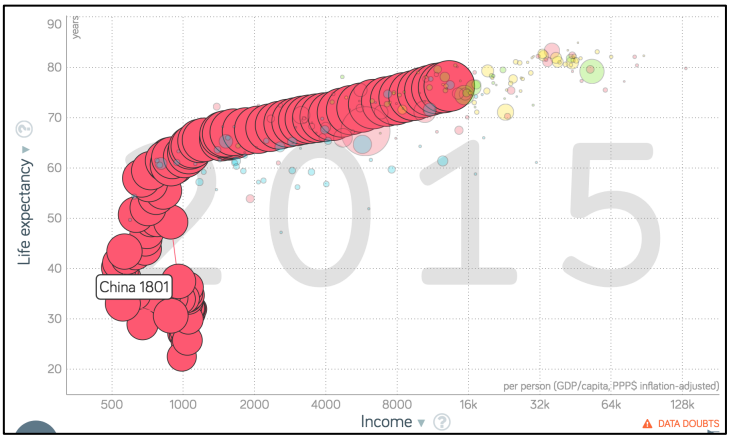
Hint: It is recommended that you build your final visualisation in a series of simple steps, for example those shown below. The file **Gapminder_Small.csv** is also available for download which is a simplified version with just a few countries and a few years that may be useful for testing.



Part 2 – Extending Hans

In this assignment you must add three extra features to the GapMinder Visualisation created in Part 1.

- Add two bar charts to the right of the visualisation which show the number of countries per region and the number of countries with each government type. These should update as the year is changed (changes are minimal however).
  Hint: Think about using two extra SVG canvases rather than trying to include all visualisations on a single canvas.
- Add a control which allows the journey of a country to be seen as a trace of positions in the scatter plot in a static visualisation rather than animated. The screenshot below shows what this might look like for China.
  Hint: Think about using transparency to achieve this and the most appropriate control to use.



- Add one extra feature of your own design that you think improves the visualisation.

Submission

Submission details:

- **Submission date:** Friday 1st December 2017 before 23:59
- **Submission method:** Submissions should be made through the module Moodle site
- **Teams:** This assignment can be performed individually or in a team of at most 2 people.
- **Submission format:** Submissions should include
  - The html files and data files required to run your visualisation or a link to a live working version of your visualisation
  - A short .txt file that explains the extra feature you have added.
- **Late submissions:** Late submissions will be penalised at 5% per day.

Marking

This assignment can be completed by students on their own, or in a group of no more than two. Students in groups will receive the same mark, however, proof that both students in a group worked on the project may be sought.

- **Part 1 (60% of assignment)** will be marked as follows:

20%	A bubble plot representing the countries of the world
10%	Appropriate labels and axes
10%	Appropriate use of colour
5%	Country name labels
20%	Ability to view data for a selected year (1900 – 2015)
20%	Ability to start and stop a continuous animation of the change in country statistics from year to year (1900 – 2015)
10%	Well designed transitions
5%	Readable, well commented, quality code

- **Part 2 (40% of assignment)** will be marked using the following categories:

40%	Well designed bar charts that update properly
30%	Appropriate labels and axes
30%	An well implemented and useful extra feature