VISUAL ANALYTICS PROPOSAL

EU RISKS OF DEATH

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The dataset that we have chosen is the following: Kaggle Dataset. It is a worldwide dataset of risk of deaths in all the countries. From this, we eliminated all the countries that are not in Europe (continental but not political) and all the risk factors that, according to us, were poorly informative about the overall cause of deaths in this continent (e.g, they were more informative in continents such as Africa). We chose to go for this dataset because it is highly illuminating about the differences among the European countries.

The visual project is divided into five visual parts:

- On the upper part, there is a European map, where, according to the selected year and the selected cause of death, thanks to a red color scale, it is possible to notice which are the countries that were mostly affected by that risk.
  On the bottom of this part, if the user focuses on a country with the mouse, it is possible to check ALL the causes of deaths in that country in that year.
  On the right, there is a box plot that indicates the distribution of deaths, for the indicated cause of death, among all the countries and there is a MDS map that calculates the dissimilarity for this main aspect:fixed year and fixed cause of death, it calculates the dissimilarity among the countries.
- On the bottom, there is a horizontal bar chart that, on the y axis, are all the causes of deaths and on the x axis the number of deaths for each country. The bars are the sum of all the number of deaths by country. Every country is indicated by a color that also notices the contribution that the country provides.
  There is also a parallel coordinate plot that measures the trend of the cause of deaths in the selected range of years for all the countries. Every country is visualized with a specific color (that is the same as the one used in the bar chart). Thanks to analytics, it is possible for the user to check the trend also for the future years (and so that are not in the dataset) via a prediction performed by the system. To do this, the graph adds years on the x axis according to how many years the user wants to see the prediction.

Analytics:

MDS to create a map of dissimilarity among all the countries based on a given year and cause of death.

Forecast of number of deaths in the near future for all the countries and risk of deaths.

Visualization:

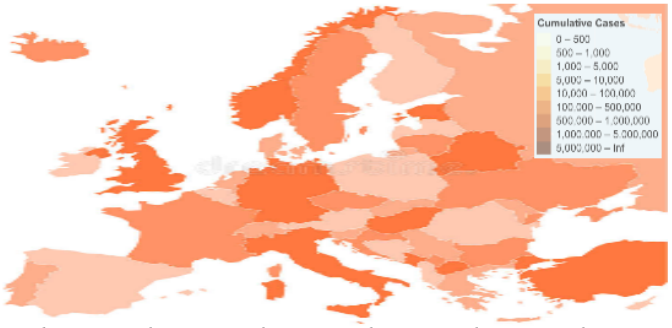
Selecting countries in the map (also multiple countries) or highlighting countries in the MDS map, changes the MDS where the not selected countries will have a lower opacity with respect to the full color of the selected one/ones. It also changes the bar chart, eliminating all the countries that have not been selected, focusing on the one that have been selected before.

Focused Country: Italy

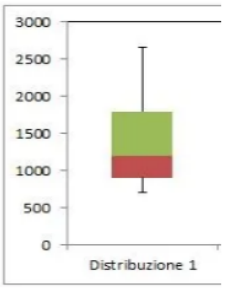
Choose year 2003

1990 2017

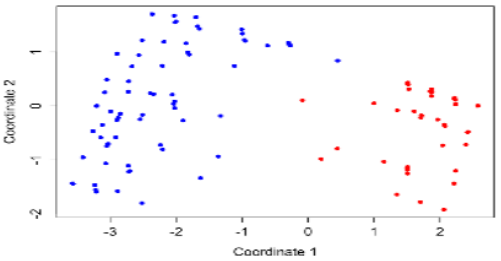
Select cause of death: Drug use



Boxplot with the total european death for a specific cause of death

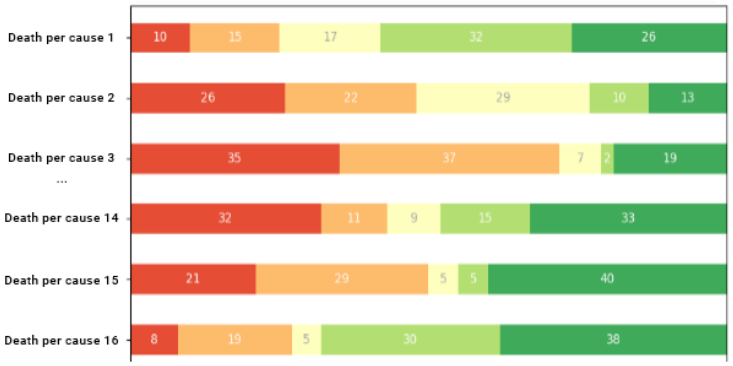


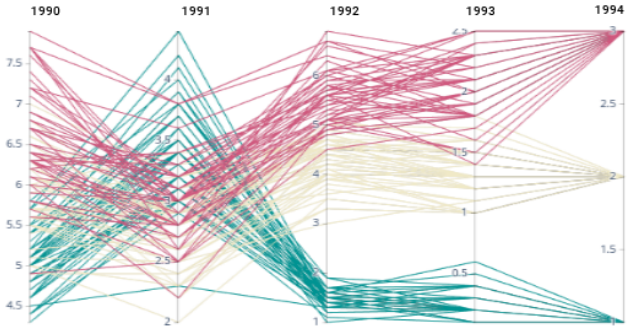
MDS visualization for cause of death by countries:



Death per cause 1: ... Death per cause 2: ... Death per cause 3: ... Death per cause 4: ... Death per cause 5: ... Death per cause 6: ...

Death per cause 8: ... Death per cause 9: ... Death per cause 10: ... Death per cause 11: ... ... Death per cause 16: ...





Select range of years:

MIN 1990 MAX 2017

Prevision of deaths for the next number of year/s:

1 7

Legenda of the countries: Germany Italy Spain Slovakia Romenia Ukraine Norway Sweden Bulgaria Switzerland Portugal France Croatia Ireland

... ...