
CentraleDigitalLab@LaPlateforme_

Data Storytelling

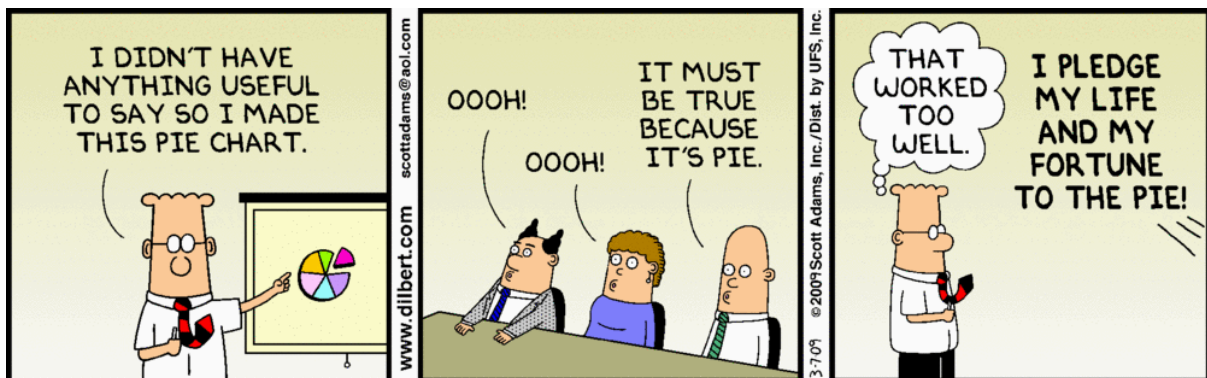
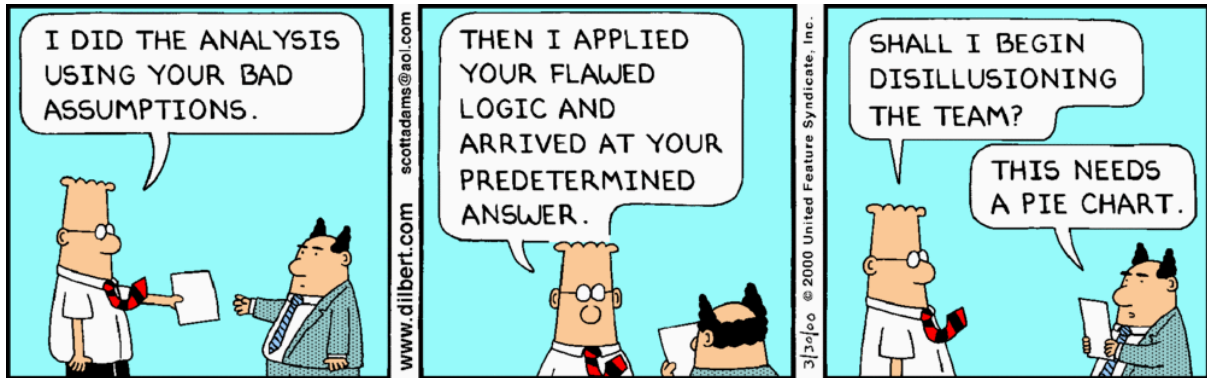


Data visualization is becoming a key element of data. Increasingly popular among organizations across all sectors, data visualization is gradually becoming widespread. Its advantages make it the ideal tool to aid decision-making and contribute to the effective direction of actions taken. Moreover, all departments within a company can benefit from this methodology.

Data visualization refers to the graphical representation of information and data. Using visual elements such as charts and maps, data visualization tools allow easy identification and understanding of trends or unusual values in the data.

In the era of Big Data, visualization tools and technologies are essential for analyzing vast amounts of information and making data-driven decisions. Our culture is primarily visual, shaped by art, advertising, and cinema, and our eyes are naturally drawn to colors and repetitive patterns. The way we interact with data should reflect this."

Just some **Dilbert** comics featuring pie charts. OOOH!



We are in the eighth wave of the coronavirus... restrictions have been reinstated. Our hospitals are struggling to handle the influx of patients.

This weekend, equipped with your hand sanitizer in the back right pocket of your jeans and your organic cotton mask, you decided to visit some family members for a pleasant gathering.

Of course, after 20 minutes, everyone was tirelessly discussing the same topics related to COVID. After checking in on all your first and second cousins who had faced the virus and the accompanying challenges, you felt the urge to talk about the impact of COVID on the global economy... what a strange idea! Every family member shared their own interpretation of the pandemic's impact on the economy. The differing scenarios didn't have the relaxing effect you were hoping for. A little bewildered by the situation and, as a data expert (and a big Dilbert fan), the only solution that became obvious was to illustrate the pandemic through data visualization!

Eager to get started, you thanked all your family members for the wonderful time together and headed home to work on factual data.

Project Details

Develop a multi-page Plotly/Dash dashboard showcasing data that assesses the impact of the COVID-19 pandemic on the global economy. Some content is accessible here:

- <https://data.mendeley.com/datasets/b2wvnbnpj9/1>
- <https://ourworldindata.org/coronavirus>
- <https://ec.europa.eu/eurostat/web/covid-19>
- <https://www.insee.fr/en/recherche?q=covid&debut=0>

1. The first step is to retrieve relevant data for your study, clean it, and analyze it, including any necessary pre-processing steps for the analysis.
2. Do these data truly allow you to propose an analysis of the impact of the pandemic on the global economy (yes/no and why)? What strategy should be implemented to demonstrate the impact of this pandemic? Are there any relevant data that support your conclusion on this study?
3. The dashboard will be created in Dash. It must allow for a clear interpretation of the data (the graphs should be carefully selected).
4. The dashboard should also contain the semantic analysis of the data you have done as a result of your work: text-type graphic elements will help illustrate your charts.
5. The dashboard should offer a visual output of publishable quality (CSS, Bootstrap components...). If you have a web server, you can host your final work so it can be shared via digital platforms (LinkedIn, CV, etc.).
6. **BONUS:** Create a MySQL relational database to host the datasets used in this study (justify the architecture of the RDBMS: number of tables/attributes/primary keys/foreign keys, etc.).

Consider creating an Anaconda project (Python 3.10 recommended).

References

- <https://dash-gallery.plotly.host/Portal/>
- <https://dash.plotly.com/urls>