Practical assignment for "Information Systems" - year 2019/2020

Goal

The main goal of this practical assignment is to give an opportunity to get practical experience with information system components and analytical tools for real life data research, get understanding of data preparation and analysis processes, as well as visualization possibilities.

Data

You can choose the dataset from https://data.europa.eu/euodp/en/data/ , which is an open data portal for EU. Most of the files are available in CSV format, which you can download and import into your BI tool.

If you deem necessary, you can download and use multiple datasets for your analysis.

Tools

Power BI Desktop (https://powerbi.microsoft.com/en-us/desktop/)

You can login using University e-mail and start using this tool right away. The main limitation is that this is a download-able tool which works on Windows only.

Alternative: TABLEAU BI (https://public.tableau.com/en-us/s/)

There's a free version that works on Windows and Mac OS. Free version does not support database connections, but you can work with Excel / CSV files.

Task

The task must be completely individually.

With the dataset that you selected

1. **Understand what's in the dataset.** Research the semantics and primary goal of the dataset
2. **Define what you want to research.** Think of a problem definition, which could be analyzed and reasoned about, in terms of the given dataset.
3. **Think of a report which covers the problem.** With the given dataset and analytical tool – define analytical report (dashboard or view), which uses analytical tool's vitalization options – charts, filters and other elements corresponding to the dataset fields and your defined problem
4. **Research the problem.** Perform data analysis / evaluation of the defined problem. Make conclusions.
5. **Create a review of the practical assignment.** Describe the 4 steps above in a written form.

Results and deadlines

1) Choose the dataset. Install the selected BI tool. Try to configure the BI tool for working with your dataset, try simple visualizations on the dataset.

2) Do the assignment according to the task description. The resulting submission should contain:

   a. Author credentials
   b. Dataset title
   c. Definition of the problem for analysis
   d. Description of the report (can be with visuals, e.g. images)
   e. Justifications for visualization elements in the reports. Why exactly these things help analyze the problem?
   f. Result of your work – one or multiple images of the report
   g. Show also interactive elements of the report, if there are any, so that the value of the report would be clear
   h. Data analysis / evaluation, conclusions

Grading

Key elements that will be considered while grading – the depth of your description (to the reasonable extend), quality of your reasoning and the product created in c) - f) points.