Information Visualization. Course organization

Pere-Pau Vázquez

Dept. Computer Science – UPC

Sessions

- Pere-Pau Vázquez
  - Mail: pere.pau.vazquez@upc.edu
    - Please, use the subject “Information Visualization”
  - Office: Omega 137
  - Office hours: Mostly online, ask for my availability by e-mail

- Lab:
  - Me and Elena Molina (elena.molina.lopez@upc.edu)

Sessions

- Theory: 2 hours each week (1h sessions)
  - Slides in Racó (http://raco.fib.upc.edu)
- Lab: 2 hours each week (Fridays)
  - Some explanation (some days), and lab work
    - Python + libraries
  - Two practical works:
    - Data cleaning & static visualization
    - Interactive visualization

Sessions

- Evaluation. Final grade:

  0.15 Labo1 + 0.3 Labo2 + max(0.15 Partial + .4 Final, 0.55 Final)

- Partial exam: 5th November (10:00 – 11:30)

Contents

- Introduction
- Perception in Visualization
- Marks and visual variables
- Visualization techniques
- Multivariate data
- Multiple views
- Advanced visualization techniques: Time visualization, Geospatial visualization, text visualization
- Trees, graphs & networks

Bibliography

- Covering all the basics:
  - Tamara Munzner's *Visualization Analysis and Design*, CRC Press
- For tables and graphs:
  - *Show me the numbers*, by Stephen Few

Bibliography

- Always interesting
  - Almost anything by Edward Tufte (especially old books such as *Visual Display of Quantitative Information)*
  - Anything by Bret Victor (e.g. *Magic Ink*), see http://worrydream.com/
  - Alberto Cairo's books (e.g. *The Functional Art*)
- Other
  - EagerEyes, Robert Kosara's blog: https://eagereyes.org/
  - Nathan Yau's Flowing Data: https://flowingdata.com/
  - Towards data science blog: https://towardsdatascience.com/
  - Cole Nussbaumer Knaflic's Storytelling with data: http://www.storytellingwithdata.com/
  - Jon Schwabish's Policy Viz (https://policyviz.com/blog/, and his YouTube channel: https://www.youtube.com/c/JonSchwabish)

Lab sessions

- Organization
  - First two/three sessions: basics
  - Next sessions: practical work (projects)
- Two deliveries
  - Static visualization
    - Presentation
  - Dynamic visualization
    - Analysis

Lab sessions

- How to do practical work:
  - Groups of two students
    - Remote collaboration (between you and the teacher)
    - Google Colab (https://towardsdatascience.com/how-to-practice-python-with-google-colab-45fc6b7d118b)

Lab sessions

- Contents
  - Visualization libraries and tools
  - Basics on crafting effective visualizations
  - Data cleaning (Open Refine)
  - Visualization design (Python + altair)

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