

Monday, 11 May de 2020

# Online videoconference: Introduction to Information Visualization

## Summary

Information visualization is a discipline focused on the study and the development of interactive techniques for supporting the visual analysis of data structures. In a world plenty of (often large and complex data) information, the use of information visualization techniques is a suitable alternative for exploring the information space, finding specific data, and identifying the inner relationships among data (such as patterns, trends, correlations, etc.). The use of information visualization techniques allows to prove/defer hypothesis on large data sets and to represent a visual synthesis of the findings in such a way that it would be hard to communicate otherwise. Whilst information visualization techniques were at first considered specialized tool for supporting scientific research, their use has spread to lay people; these days, for example, many information visualization techniques are helping citizens to follow the progression of the covid-19 pandemic.

The goal of this class is to provide a view at glance about the main principles of information visualization and how such as techniques can help to improve users capacity to analyses large data sets. We will present a set of information visualization techniques and how they can help to analyses data. We will also present a process, the so-called visualization pipeline, that helps to explain how raw data is polished and transformed until to be rendered on the screen. During this class, we will also discuss the how of users' capabilities (physical, cognitive and perceptive) might affect the use of information visualization techniques, for that user's needs and capabilities should be taken into account when developing interactive tools. The class is fully illustrated with examples of existing information visualization techniques. We will also provide a few pointers to frameworks and tools for developing information visualization techniques. In the last part of the class, we will provide a view at glance of ongoing challenges and opportunities for research in the field.

## Short bio

**Marco Winckler** is Full Professor in Human-Computer Interaction (HCI) at the University of Côte d'Azur, at Sophia Antipolis, France, where he is responsible for the Master 2 track on HCI at Polytech Nice. He is member of the SPARKS/WIMMICS team (Scalable and Pervasive softwARE and Knowledge Systems) which is a joint research team of the CNRS lab I3S and the INRIA Sophia Antipolis. His research combines topics of Engineering Interactive Systems (suchas models for specifying the behaviour of interactive systems, tools and techniques for supporting user-cantered design) and Information Visualization (such as chained visualizations and visualization of linked data/semantic Web). He also serves as secretary of the IFIP TC 13 on Human-Computer Interaction and he member of the IEEE IES FA13 Subcommittee on Computer Vision and Human-Machine Interaction in Industrial and Factory Automation.

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Degree in Digital Interaction and Computing  
Techniques  
Interaction and Usability

Introduction to Information Visualization  
Prof. Marco Winckler  
Université Côte d'Azur

Tuesday, May 12 at 09:30  
Online Videoconference



Escuela Politécnica Superior



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