Using Concrete and Realistic Data in Evaluating Initial Visualization Designs

We explore means of designing and evaluating initial visualization ideas, with concrete and realistic data in cases where data is not readily available. Our approach is useful in exploring new domains and avenues for visualization, and contrasts other visualization work, which typically operate under the assumption that data has already been collected, and is ready to be visualized. We argue that it is sensible to understand data requirements and evaluate the potential value of visualization before devising means of automatic data collection. We base our exploration on three cases selected to span a range of factors, such as the role of the person doing the data collection and the type of instrumentation used. The three cases relate to visualizing sports, construction, and cooking domain data, and use primarily time-domain data and visualizations. For each case, we briefly describe the design case and problem, the manner in which we collected data, and the findings obtained from evaluations. Afterwards, we describe four factors of our data collection approach, and discuss potential outcomes from it.