Demonstrating Data Using Storyboard Visualization Tool

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ABSTRACT

With the growing importance of big data, and perhaps more significantly, the application of big data to the quantified self, it is more useful than ever for designers to be conversant with the wide range of measurements that can be obtained from various forms of instrumentation. When chairs can record and communicate details about sitting, sidewalks make suggestions about walking, and shavers monitor diet, interesting opportunities will arise for designers to generate new affordances based on the data. However, for many designers, the process of understanding the numbers available in the spreadsheets and databases may prove prohibitive, unless new methods are developed for showing relevance while not losing track of the underlying information. In this presentation, I propose a new genre of "data stories," where the goal is to create narratives that are anchored in big data, but provide a form of shared experience that can be used to both shape design ideas and communicate their potential significance.

More generally, Data Stories might take the form of shared narratives, concept maps, conversational models, or corporate missions that have the best chance to be adopted by listeners of stories if they have data anchoring points of fact. Data Stories are important because they can help to provide context for information and thereby create a shared framework for understanding. They can also help to make information compelling and memorable. In addition, they provide a starting point for others to contribute, modify, and personalize. From the designer's perspective, they are a way to establish authority, show practical approaches that are anchored in the data, and clarify details in memorable descriptions.

Demonstration Description

This demonstration will show how our visualization tool can compare large volumes of data over selected periods of time to generate stories. Stories are constructed from data sets input to a predictive model using Latent Dirichlet Allocation (LDA) generating topics from text corpora and computationally create stories that summarize the data. These stories become the basis for 'storyboards' that visualize the narrative (Figure 1). The goal will be to introduce designers to LDA and data preparation for the tool as well as demonstrate the narrative generator and its ability to create narrative from text through to storyboards. The system can operate unsupervised however, the demonstration will stop the process at key points to show results of LDA and topic generation, narrative generation and its structures, and visual relationships of text and image before the final outcome. Discussion will also cover implications, limitations, future uses and directions of the research.

Logistics

The data will come from our own dataset of Jeremy Bentham letters that will be accessed live through an ethernet connection or from a local drive. Our narrative generator includes all visual elements to create the storyboards. Everything can be executed using a laptop and digital projector.

Keywords

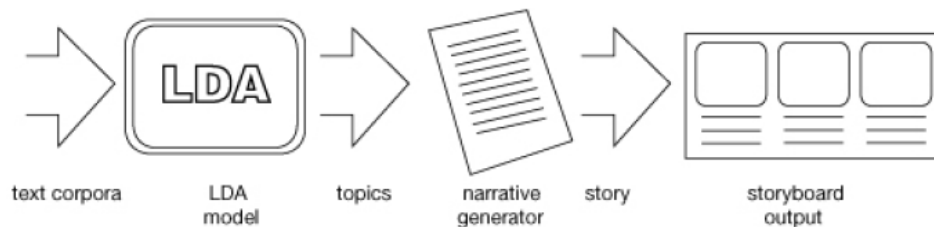Narrative, BigData, Latent Dirichlet Allocation, Storyboard

Figure 1 Computational process from data input to storyboard output