

Visualize History

Computer Science 490

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1 Introduction

Visualize History is a web-based software application that enables easy presentation of historical data. It allows a user to navigate through time and space and to imagine and recall the complex relationships between historical events.

History is naturally presented visually. Its various parts, interlinked and roughly ordered, often connect in ways too complex to be expressed with words alone, and instead require a picture to capture the content. The problem of visualizing historical data is in no way new. David Staley predicts that computers will change the way history is taught (Staley, 2003). In his book, he gives philosophical arguments and predictions for the evolution of historians and historiography, as well as examples of new ways to present data. Edward Tufte, perhaps the most famous person to visualize data, gives example after example of historical data that was properly presented, and of some that was not (Tufte, 1997). He tells of the cholera outbreak in London in 1854 near the Broad Street pump, and the role of the diagram in evaluating the cause of the outbreak. The list of examples, even as given only by these two authors, is endless.

The problem has not, however, been addressed in general. Each of the example diagrams had its own special considerations that factored into the final product. Each case was to be considered separately, and often yielded vastly different diagrams. Visualize History abstracts the characteristics history in the abstract case, and narrowly defines the relationships within the topic of history. Using that abstract framework, it defines a common way of presenting all historical data, regardless of the specific topic at hand.

The application aims at non-technical users who should need to know as little as possible to begin using and to appreciate the core features of the site. Development will use junior high and high school students and teachers as the main audience. The key problem the application hopes to solve is to make learning and teaching history as simple as possible for both the learner and the teacher.

To achieve its most important goal, the site must have as intuitive a user interface as possible. It should be familiar enough that any user can immediately start using the site without any explanation even as to its purpose. That is, if someone accidentally typed in <http://visualizehistory.com>, he should be able to start exploring a topic without any further information. I focused entirely on making an intuitive framework to enable the display of user information during the first semester.

However the framework that displays interactive data is useless without data. The back end of the site is responsible for the abstract historical concepts that I mention above. It should be entirely responsible for retrieving data for the user interface, which should have no knowledge of the location, format or content of the saved historical data. While the front end and back end of the site must communicate, one main goal of the project was to minimize the amount either side had to know about the other.

2 Front End

3 Back End

According to the original proposal, I would spend second semester creating an automated way to mine historical data from various places on the internet and to then upload that data to the visualizehistory.com servers. By controlling the data, the site would have fine-grained control on exactly what data was stored and its format.

During the semester, I modified that plan slightly. The back end of the project will now link with external sites to provide the data. The server will still need to format and sanitize that data into a format that can be presented in this visually historical manner. Many trustworthy sites exist with historical data, and those sites are maintained and updated more frequently than Visualize History could hope to be. By leveraging the data from trusted sites, Visualize History can lift the burden of acquiring and storing the massive amount of historical data that is available.

4 References

5 Appendices
