

Proposal for a
Digital Media Capstone Project
In Partial Fulfillment of the Requirements
For a Master of Liberal Arts Degree

Harvard University
Extension School
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Proposed Start Date: Already Started
Anticipated Date of Graduation: March 2018

1. Tentative Project Title

Tide of Nations

2. Abstract

I propose to create a web application that will present world history in an interactive visual format. The format would encourage Gestalt learning through exploration and would reinforce the interconnectedness of historical events. The end goal of the product is to be a platform that can encourage deeper study of history and can serve as an anchor point for traditional history instruction.

3. Project Description

3.1. Background

While it is a fascinating, integrated subject, world history is often presented as a collection of siloed facts. This presentation style can make it very difficult to earn the interest of students, and even motivated students can have trouble seeing history in a concrete, relevant light. I propose using digital media to help present history as the complex, interconnected story that it truly is.

My proposal is to create a web application that will present the events of world history in a unified manner. Users will be able to navigate time and space, exploring national borders across the globe and watching as they simultaneously shift as the user moves forward or backward in time. Famous landmarks and major cities also appear and disappear from the map, responding to the user's time navigation. The goal is to create an experience that presents the migration of nations as a constant, organic process, so that the rise and fall of great powers becomes visibly tangible, and the users can truly get a sense of the Tide of Nations.

The sheer scope of this project necessitates that vast amounts of historical data are omitted from the application: only the most crucial and significant events, figures, landmarks, cities, etc. will be mentioned.

Limiting the amount of information available helps to keep the program inviting and accessible, instead of being overwhelming.

The project is not intended to replace traditional history instruction, but rather to provide a tangible representation of the concepts taught in the traditional method. Users will not learn about the British royal family, the details of Napoleon's campaigns, or specific dates for any events; but after spending time in the program, the users will recognize the name Genghis Khan, and have an idea of how his empire compared to others at the time; they will learn about the Norman Invasion of England and recall how often Britain changed hands after Rome withdrew; when asked about the largest ancient empires, the Han dynasty and the Huns will come to mind just as easily as Greece and Rome.

Though only surface knowledge is provided by the system, that knowledge can be enough to make the details stick once the students encounter them elsewhere.

3.2. Web Application Description

3.2.1. Technology

The project will be written using HTML5, CSS3, and JavaScript utilizing the D3.js library. D3.js is one of the best tools currently available for direct polygon manipulation in the DOM, and is ideally suited for the territory border manipulation that is required for this project.

3.2.2. Layout

The application will consist of one page with a layout reminiscent of an RTS game. (My design borrows rather heavily from the interface layout in SEGA's Total War franchise).

The majority of the screen will be occupied by the navigable map. This is where the national borders are displayed, overlaid on Google Maps. The user can scroll and zoom to navigate the map.

To the left of the map window, small thumbnail images will descend and stack whenever the time frame is changed. Each thumbnail can be clicked to open a modal window that briefly describes a significant event that occurred during the interim of the timeframes.

The right side of the map window contains a collapsible box displaying portraits of famous historical figures alive at the displayed time. The portraits can be clicked on to display a modal window containing a brief biography of the person.

Below the map window will be an interface panel that will be split into three sections. At the left will be a minimap that helps the user keep track of where she is on the globe. It can also be used for rapid navigation. To the right will be a box containing buttons used to move forward or backward in time, as well as a list of the largest nations in existence at the time, and a label indicating the larger era of history that is being displayed (i.e. Dark Ages; Renaissance). Finally, in the center will be an information panel that displays a description of any nation that is clicked.

Lastly, above the center of the interface panel will be a collapsible box that contains a brief description of the time period that is being viewed.

3.3. Course Work

Course work that has specifically prepared me for this project includes:

- DGMD E-20 Developing Interactive Media
- CSCI E-171 Visualization
- DGMD S-15 Screen-Based & Physical Computing
- DGMD E-27 Modern, Mobile Front-End Design II

4. Prior Work

My project combines features from three primary categories of existing media.

4.1. Timelines & Print Atlases

Timelines and Print Atlases of world history are amazing resources for understanding how events related to one another and how each event fits into the world as a whole. Indeed, works of this type are what inspired me to create Tide of Nations. However, while the information provided is typically beautifully concise and the illustrations practical and intuitive, they lack the immersion that an interactive application can provide.

4.1.1. The New Penguin Atlas of Medieval History

<https://www.amazon.com/New-Penguin-Atlas-Medieval-History/dp/0140512497>

This and the rest of the books in the series are remarkable works and will be my primary resource for the maps and data regarding Europe. McEvedy does an amazing job of capturing the most important events of a time period in an engaging, story-like format. The only things they are missing are a greater scope and interactivity.

4.1.2. Atlas of World History

<https://www.amazon.com/Atlas-World-History-Patrick-O'Brien/dp/0199746532>

Patrick O'Brien's Atlas of World History is a remarkable detailed work, highlighting key events and figures while illustrating changing borders throughout history. However, the eras covered are divided into larger chunks than in McEvedy's work, and the information presented is more detailed and siloed. This is a wonderful reference book, but it lacks the intuitive story-telling presentation of history that can be absorbed in a single read-through like McEvedy's writings.

4.2. Animated Videos

Animated Videos are similar to what you might see on a History Channel documentary: fluid animation displaying changing borders over time. These

illustrations are beautiful, informative, and engaging, but typically incredibly specific. They can achieve such professional quality because they are designing to tell a specific story, not to visualize every story around world for all of time. So, while again, these kinds of animations were an inspiration for this project, they don't cover the scope that I intend to achieve.

There are some videos out there that do attempt to cover a larger scope, but they still lack the immersion that interactivity can provide.

4.2.1. 1000 Years of European Borders

<http://www.viralforest.com/watch-1000-years-european-borders-change/>

A very nice video that beautifully displays the changing borders in Europe over the last thousand years. What it does, it does well, but its scope is limited.

4.2.2. History of the World: Every Year

<https://youtu.be/-6WuoQ7x5Do>

This is an incredible video that presents some information that I do not intend to include in Tide of Nations, at least not in the first version. I will likely be referencing some of its references in my project.

4.3. Interactive Web Atlases

These are the closest thing in existence to Tide of Nations. These atlases illustrate border changes over time, but typically provide no supporting information.

4.3.1. Atlas of World History

<https://www.atlasofworldhistory.com/>

This is the closest thing that I could find to Tide of Nations. Atlas of World History provides a detailed illustration of national borders with the high precision of one year intervals. It also highlights important events as they occur. However, the application does not include the history of the Americas; the animation is choppy, making it difficult to see exactly where the changes are taking place; and the interface looks incomplete and is unintuitive. In short, it is an innovative application, but I believe that I can greatly improve upon its design.

4.3.2. GeaChron

<http://geacron.com/home-en/>

GeaChron is also very similar to the core concept of Tide of Nations. The application presents the changing borders through history, again with one year precision. The interface is far superior to the Atlas of World History, but – other than links to Wikipedia articles – no contextual information is presented, at least not without buying a subscription plan.

4.3.3. Timemaps

<https://www.timemaps.com/history/world-3500bc/>

Timemaps is another nice application. It does a good job of providing both high level and more detailed information, depending on what the user wants. However, it has very low precision, and – while it is provided – detailed information is typically several clicks away.

4.3.4. The History of Urbanization

<http://metrocosm.com/map-history-cities.html>

This application is a nice one-trick-pony. It does a marvelous job of visualizing the rise and fall of prominent cities throughout the ages, using the D3 library I might add, but it offers little else.

5. Work Plan

The scope of my final vision for this project (Data for all key events in global history from ~4000bc to the present) is well beyond what I will be able to accomplish in this course, but the vast amount of effort will be in data collection and entry. I believe that I can produce a functional application within the time allotted by simply limiting the scope of the required data. I have already done significant work on the map engine and interface, and I plan to continue work on the project this semester, so I will have a solid starting point come spring. My current plan is to limit the data to Europe during the first 44 years of the Dark Ages (Two time points in my application), but that can easily be scaled up if time allows. Below is my current tentative timeline.

5.1. Preliminary Schedule

Already Complete	<ul style="list-style-type: none"> • Functional, basic map engine • Google Maps integration • Basic interface • Basic support for Historical Figure display • Basic support for Events display • Forward time navigation • Basic Map navigation • Map data for Europe spanning ad362 to ad476. 	Feb	<ul style="list-style-type: none"> • Add support for Landmark display • Add support for City display
Fall	<ul style="list-style-type: none"> • Finalize Historical Figure display • Finalize Events display 	Mar	<ul style="list-style-type: none"> • Add training indicators to interface • Finalize map navigation • Finalize existing interface
Jan	<ul style="list-style-type: none"> • Add reverse time navigation • Finalize map engine 	Apr	<ul style="list-style-type: none"> • Finish data Input for ad362-ad406