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UNIVERSITY
Leadership Starts Here

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GIS-based Interactive Tool to Map the Advent of World Conquerors

Abstract

The objective of this thesis is to show the scale and extent of some of the greatest empires the world has ever seen. This is a hybrid project between the GIS based interactive tool and the web-based JavaScript tool. This approach lets the students learn effectively about the emperors themselves while understanding how long and far their empires spread. In the GIS based tool, a map is displayed with various points on it, and when a user clicks on one point, the relevant information of what happened at that particular place is displayed.

Apart from this information, users can also select the interactive animation button and can walk through a set of battles in chronological order. As mentioned, this uses Java as the main programming language, and MOJO (Map Objects Java Objects) provided by ESRI. MOJO is very effective as its GIS related features can be included in the application itself. This app. is a simple tool and has been developed for university or high school level students.

D3.js is an interactive animation and visualization platform built on the Javascript framework. Though HTML5, CSS3, Javascript and SVG animations can be used to derive custom animations, this tool can help bring out results with less effort and more ease of use. Hence, it has become the most sought after visualization tool for multiple applications. D3.js has provided a map-based visualization feature so that we can easily display text-based data in a map-based interface. To draw the map and the points on it, D3.js uses data rendered in TOPO JSON format. The latitudes and longitudes can be provided, which are interpolated into the Map svg.

One of the main advantages of doing it this way is that more information is retained when we use a visual medium.

Thesis Committee

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