Mapping Concord:
Google Maps and the 19th-Century Concord Digital Archive
<http://www.digitalconcord.org>

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Abstract
The 19th Century Concord Digital Archive is currently in the first phrase of testing a Google map conversion user interface that represents spatial information of Concord, MA (homes, ponds, cemeteries, etc.) visually (VR 360 "walkable images") and textually (connected related data from documents and database). The ability to zoom in and out, obtain contemporary satellite images, locate particular buildings and view VR 360 images that lead to textual data in a visual interface creates a new form of data interface in digital humanities studies. This poster outlines the creation of the initial map interface.

Background: The 19th-Century Concord Digital Archive

The projected development of The 19th-Century Concord Digital Archive includes interlinked literary texts, maps, architectural drawings, photographs, census materials, educational minutes, town minutes, police reports, broadsides, physical artifacts, music, town records, and period newspaper clippings creating a set of information that will allow scholars to utilize the archive. This project, in partnership with the Concord Free Public Library, acts as an lens into an on-line repository of important primary documents that would otherwise require researchers much time, difficulty, and expense to gather while site interaction encourages the user to explore different ways of interpreting materials, spurring new and exciting research questions and outcomes. In effect the project seeks to answer John Unsworth's call for "large datasets [that] will lead to our being able to ask and answer new kinds of questions" ("Humanist"). The proposed breadth of the collection, gathered around a particular structure, in this case the town of Concord, and housed in a standardized digital format will allow the Concord archive to become an ever-expanding dataset that utilizes various tools to view, manipulate, and interpret primary texts.

Why A Visual Interface?

The design of archives should consider scholarly editing practice, supporting apparatuses, and technology that allows scholars to do more than they might with print texts. Design of archives necessitates new interfaces that allow scholars to move through a wide body of texts and to interpret that information in a variety of ways, including visually. In "Speculative Computing: Aesthetic Provocations in Humanities Computing" Drucker calls for a rethinking of "visual or graphic design" in humanities computing; "Many of the digital humanists I've encountered treat graphic design as a kind of accessorizing exercise, a dressing-up of information for public presentation *after* the *real work of analysis* has been put into the content model, data structure or processing algorithm." (441). Drucker's point is well taken. Too often the digital archive is merely a digital repository of a broad number of texts, rather than a carefully constructed set of data that includes innovative interfaces and/or interpretive visuals. The Concord Archive seeks to address this issue by initially testing different interfaces that will allow users to manipulate data in a variety of manners, to allow users to drive the connections and interpretation of materials. This poster features the Google maps conversion interface.

Why not GIS?

The 2006 "Summit on Digital Tools for the Humanities," held at UVA, called for "an integrated suite of software tools that go beyond classic and general-purpose Geospatial Information Systems. The suite should support domain specific contexts and should use visualization to facilitate understanding, perception, and hypothesis formation. It should aid the scholar in dealing with the data, highlighting data problems, understanding of large-and small-scale data features and understanding different perspectives on the data" (24). While GIS is a well-developed tool and has been applied to some digital humanities projects, there are other tools that might be of greater use to digital humanists due to cost, development, and specific disciplinary needs. Rather than rely on GIS tools, the Concord archive experiments with programs that are under development in an open source community in the expectation that such an approach will offer a way for academics to tap into a previously unexplored group of participants and developers. The advances made by individuals interested in such maps are ongoing; the BBC backstage project shows the possibilities for engaging a broad developer community in digital humanities projects. By using tools that combine Google maps with other open source programs, the Concord archive is working to develop a model of academic/open source community interaction that has been lacking in Digital Humanities, where we continue to work with academic groups and within academic circles.

Initial Map Model

The prototype map allows the user to manipulate a contemporary map, satellite images, and a hybrid of the two marked with Concord sites. VR 360° views are included in the ma to allow viewers to "travel" the sites in Concord. Both the interactive map and VR 360 views will, in the next version prototype, allow the user to correspond the map sites with all data housed on the site.

Google Maps API Key

To manipulate Google maps a free Google Maps API Key must be obtained from Google. With this, maps may be integrated into a website and personalized.

GPS Points and Pictures

GPS points and pictures are obtained for each of the sites that are to be displayed on the map. The GPS points were measured with a portable GPS machine during a research trip to Concord, Massachusetts. All house points are taken at front door and all tombstone points are marked in the center of the grave marker.

Image 1: GPS points for Concord Site

Code

Code is written to add live Google maps to the Digital Concord site. Points of individual sites and buildings are marked on the map by utilizing GPS measurements. Pop up windows with links, pictures and descriptions for each marker are also included.

Image 2: Code for 19th-Century Concord Contemporary Map

VR 360 images

A unique component of the Digital Concord site is the addition of VR 360 views to various spots in Concord. The sites allow the user to manipulate a cubical site composed of static images. To create the image, multiple photographs are taken in the round. Then the images are joined using RealViz Stitcher program. These images are also inserted as marker points in the map.
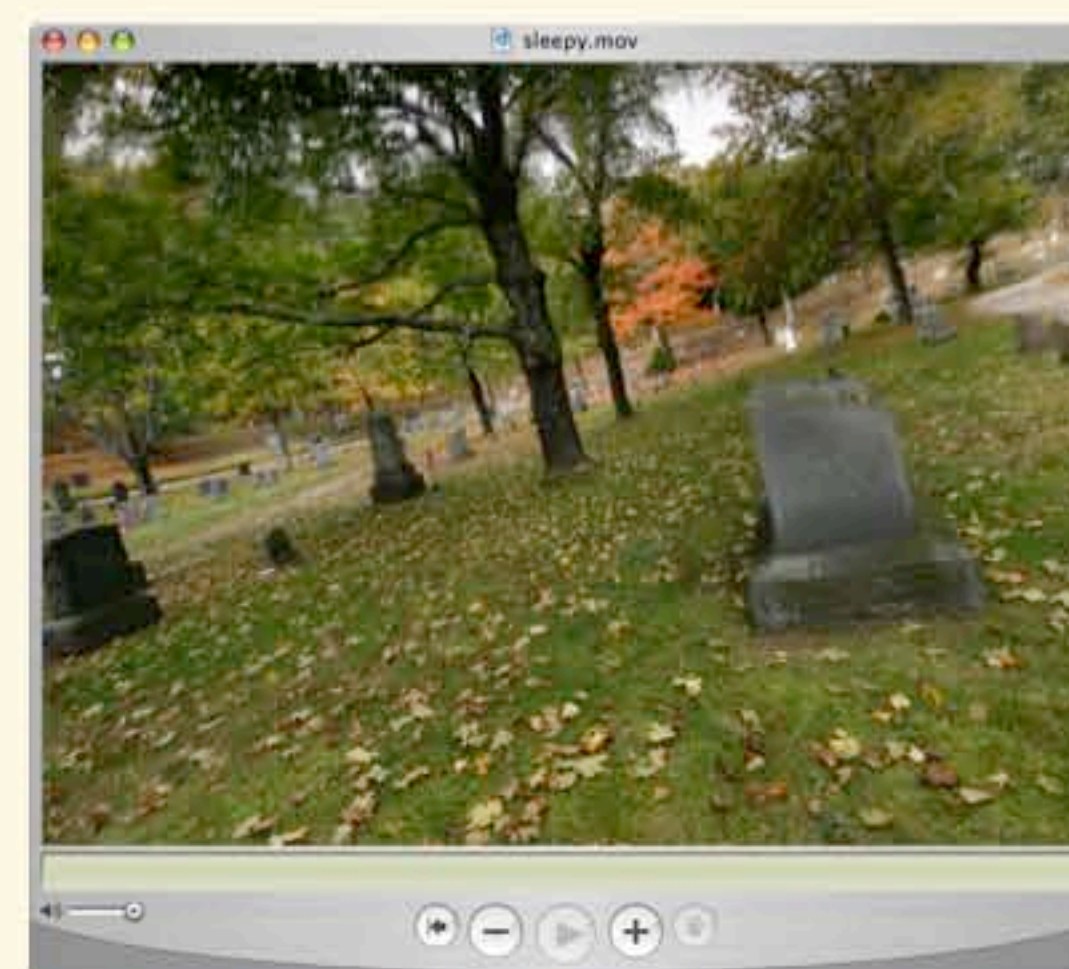

Image 3: VR 360 view of Sleepy Hollow Cemetery

Three Views for user manipulation

The map interface provides three variations of the Concord map: map, satellite and hybrid. All three version are zoomable and include pinpoints with pop up images of historic buildings and locations.
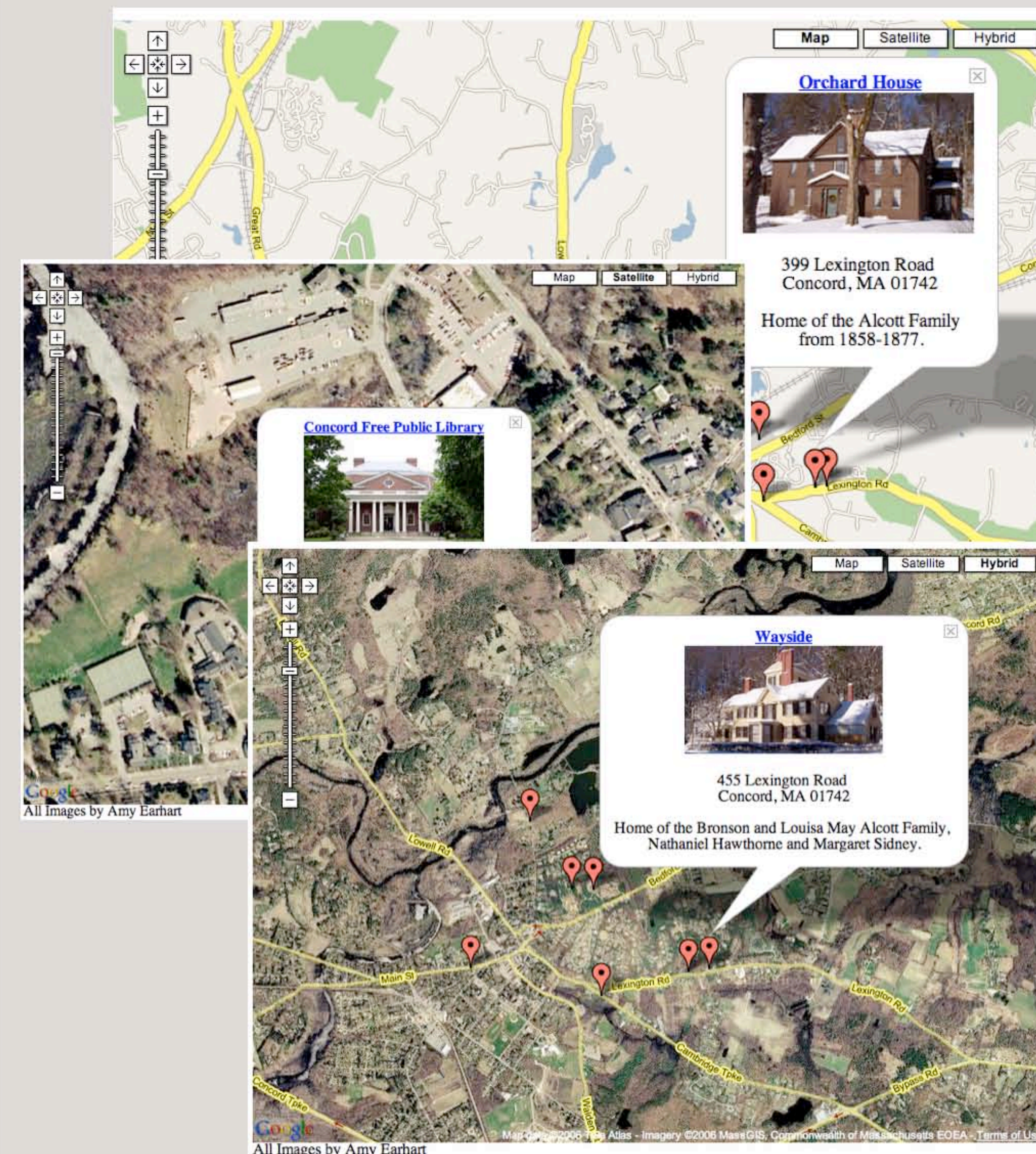

Image 4: Screenshots of Interactive Concord Map

Future Expansion

The use of maps provides a visual interface in our initial model, but does not, in this draft, interface with site data or connect the locations to primary documents on our partner site, the Concord Free Public Library (CFPL) (http://www.concordnet.org/library). During the next stage of development the pop-up sections will be designed to initiate a search of the database tables and TEI/XML texts. The search will locate various textual mentions of the particular site location. Search results will be grouped and displayed, upon request, to the user, in effect creating a visual interface to the data housed in the site, including pertinent documents found on the CFPL. Further, additional buildings and locations will be added to the map.

Bibliography

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