

DRAFT PROPOSAL – LIBRARY LABS- ATLAS VIEWER

The Harvard Map Collection has digitized almost 100 atlases from its collection of thousands. While modern atlases tend to be very standardized, with a consistent scale and orientation from one page to the next, this does not hold true for antiquarian atlases. With older materials, one page will have north at the top of the page and be at a scale of 1 inch to 200 feet, while the next page over will be rotated 20 degrees and be at 1 inch to 100 feet. In addition, while modern atlases are usually laid out in a grid, antiquarian atlases are often not, and will have significant overlap between pages. The map area shapes can be irregular and sheets are not numbered in a particularly logical way.

For these reasons, using a page turning application to navigate through an antiquarian or specialty atlas is not the best solution and can lead to a frustrating user experience. A geographic tool for navigating the pages would be much more intuitive and helpful. Unfortunately, such a tool is not readily available. Many libraries have turned to Flash based applications for displaying rare materials. These solutions can be quite attractive and easy to use but it means a lot of effort goes into an application that can't be easily applied to other resources. And once the application is done, it can't be easily changed or edited.

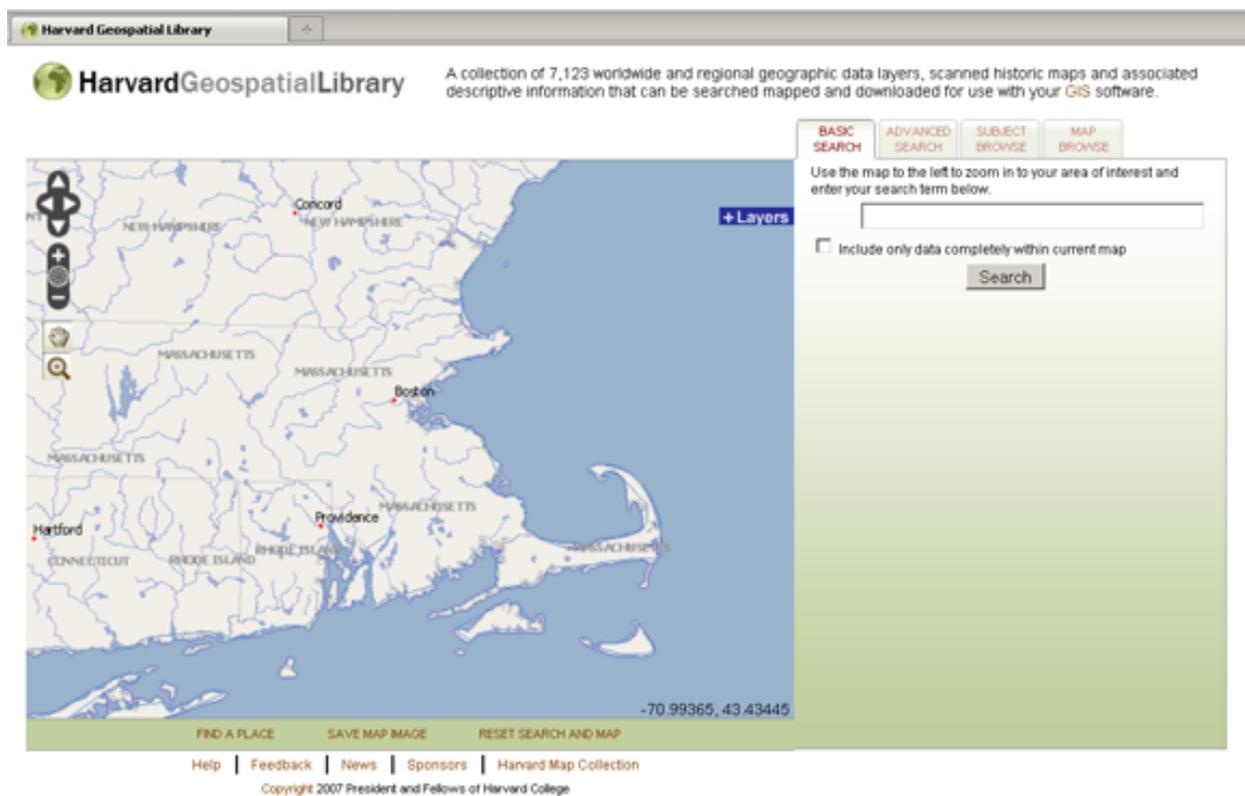
An alternate possibility is to use true GIS/web mapping applications for displaying atlases, and this approach would have multiple advantages. Foremost, a web mapping application could take advantage of the work being done in the Map Collection to georeference historic atlases. The Map Collection has been adding real-world coordinates to the images from historic atlases. This allows the images to be aligned properly, correcting for orientation and scale. Since this work has already been completed in a GIS –ready format, there is a large collection of images just waiting for the right display tool. In addition, the georeferencing information would make it easy to display atlas pages on top of existing basemaps (like GoogleMaps), which adds another layer of information that could be derived from the historical materials.

The Harvard Map Collection proposes the creation of an atlas viewer based on the web mapping application Open Layers. This viewer would be web-based and would display atlas pages arranged geographically, not in page order, and would account for scale & orientation differences between pages. Users could zoom in and out, pan and turn the display of pages on and off so that white space on one page doesn't obscure information on another. The application would be organized to display a single atlas over a basemap, but it could be easily reused to point to the images from a different atlas.

Developing such a viewer would build on the existing collections and infrastructure of Harvard's libraries. There are hundreds of images in the Digital Repository Service that are currently being served as page-turned objects that could be displayed in a new and exciting form. The Harvard

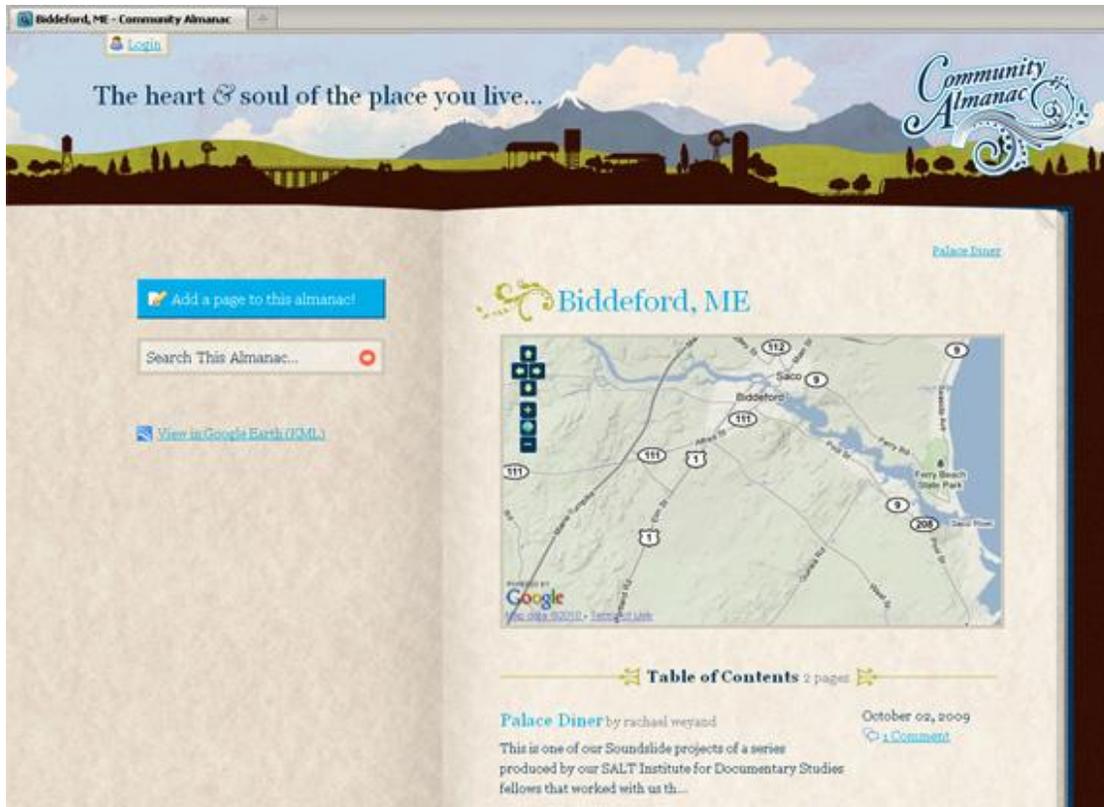
Map Collection has already created the georeferencing information for many atlases that makes displaying the images geographically possible. In order to make the viewer useful to as many groups as possible, it should be able to read not only GIS data formats (GeoTiff, for example) but more common georeferencing information, such as that contained in KML files, which are created and used by Google Earth.

OpenLayers is a pure javascript library, so no special programming language is needed to develop a web mapping application, but there are functions and settings that require some understanding of geographic terms. OpenLayers handles the rendering of images and the alignment so that images draw in correct geographic space. It also handles zoom in and out as well as panning and changing display parameters.



The Harvard Geospatial Library uses OpenLayers for its mapping interface. Other sites, such as Community Almanac (<http://www.communityalmanac.org/>) wrap less map-centric web site around an OpenLayers map.

The images in the viewer would eventually make their way into the Harvard Geospatial Library, and the two systems would share mapping functionality. The viewer, however, would serve a fundamentally different purpose than HGL. As proposed, it would be customized specifically for viewing a single set of related images. The view extent & zoom levels would be configured



based on the scale of the atlas, as would the display parameters. The viewer would also include descriptive text from the atlas, text that is not visible in HGL. In some ways, it would be more limited than HGL in terms of functionality, but the functions available would be optimized to the specific maps.

Funding is requested for a web developer who could customize the javascript libraries to function within the Harvard infrastructure and create the pages needed. Also, web design expertise would be needed in order to create a professional looking site that would create a good user experience. Staff from the Map Collection would help develop requirements and specifications for system functionality. It is difficult to come up with budget figures for this activity, but it is anticipated that the programming could be done by staff at the Berkman Center.

Creating this atlas viewer would provide a new form of access to hundreds, and eventually thousands, of pages in a way that is more in keeping with how users want to see them.