Final Performance Report
White Paper

Grant # HD-51559-12
"Making the Digital Humanities More Open"
Project Director: George H. Williams

University of South Carolina Research Foundation

August 15, 2013

Final Performance Report

Making the Digital Humanities More Open, a level 2 Digital Humanities Start Up grant funded by the National Endowment for the Humanities on April 19, 2012, was a partnership between the University of South Carolina Upstate and the University of Maryland's Maryland Institute for Technology in the Humanities (MITH). Led by Dr. George Williams of USC Upstate as well as Dr. Jennifer Guiliano of MITH, along with a team composed of Dr. Tina Herzberg (USC Upstate), Mr. Jim Smith (MITH), Ms. Amanda Visconti (MITH), Mr. Cory Bohon (independent scholar), and Ms. Kirsten Keister (MITH), the "Making the Digital Humanities More Open" team completed the design, development, and deployment of a WordPress-based accessibility tool creates braille content for endusers who are blind or have low vision. Over the last several decades, scholars have developed standards for how best to create, organize, present, and preserve digital information so that future generations of teachers, students, scholars, and librarians may still use it. What has remained neglected for the most part, however, are the needs of people with disabilities. As a result, many of the otherwise most valuable digital resources are useless for people who are blind or have low vision. This project created a free and easy-to-use plug in for WordPress that create braille texts from WordPress posts, allowing digital humanities projects to share the products of their text-based projects with this often-neglected audience of readers.

Originally, we planned to extend the use of Anthologize—a free and open source plugin for WordPress that currently translates any RSS text into PDF, ePub, HTML, or TEI—to include the conversion of text to braille. Yet, as we began our work, it became apparent that it would be far more efficient to begin by creating a direct WordPress plug-in that could be included in core application releases. Of particular note for this final report, then, is that we have achieved our goal of releasing the proposed plugin. It is available for installation at http://wordpress.org/plugins/braille/. Project work began September 1, 2012 and was completed August 1, 2013.

As outlined below as of August 1, the "Making the Digital Humanities More Open" project has met all goals within the allotted time. These goals with the outlined accomplishments are listed below in table format for ease of reading.

Initial Goals	Actual Accomplishments
Establishment of Making the Digital Humanities More Open Git Repository for code storage	Completed September 2012.
Technical Assessment of Louis <http://www.cucat.org/projects/louis/> and Anthologize <http://anthologize.org/>; Development of Integration PHP	Completed October 2012.

Framework	
Evaluation of braille produced with Louis	Completed December 2012.
Programming of Louis to extend it to braille audience v PHP-server design and formulation of processing input	Completed February 2013.
Programming of Louis to extend it to braille audience v PHP-client design and formulation of processing outpu	Completed December 15, 2012.
WordPress plug-in front-end display aesthetics design (Keister)	Completed March 15, 2013
Evaluation of braille produced with WordPress plugin	Completed April 4, 2013.
Programming of Anthologize to integrate with Louis platform via PHP engine	Did not complete due to changes in technical workplan.
Review of plug in by WordPress	Completed June 2013.
Completion of public documentation	
Completion of white paper	
Revisions based on user evaluation	Completed April 4, 2013.

The WordPress plugin consists of two components: the plugin itself which works with WordPress and the Anthologize plugin to provide SimBraille and embossable forms of Braille translations of English text, and a simple RESTful service providing the English to Braille translation utilizing the LibLouis open source software. The WordPress plugin may be configured to use a locally installed version of the LibLouis software, but the remote service allows use of the plugin on systems that do not allow local installation of software, such as some web-hosting companies.

The RESTful service is sufficient for providing translation services for small-scale websites (i.e., sites receiving up to around 10,000 page views per day) though with proper configuration and sufficient resources, it can handle more traffic. This service is not designed for deployment as a general public service as-is: the service as written for this project focuses only on providing the Braille translation functionality. The service is written in Ruby as a Sinatra application (http://www.sinatrarb.com/). Because Sinatra is built on Rack (http://rack.github.io/), any of the available Rack middleware can be used to provide authentication, authorization, or other services. In our test deployment, we added a caching web server between the WordPress site and the Sinatra service.

These two components fulfil the goals of the grant: providing a plugin that can create Braille

translations of texts organized through Anthologize. However, there are some areas in which the product can be improved. To make adoption easier for site owners who do not have access to basic system administration services, MITH will be creating an Amazon Machine Image (AMI) that can be used by anyone to run the service without having to install any software. MITH's development team also plans to build a scalable translation service that can handle large-scale deployments (i.e., providing more than 100,000 translations per day) without requiring extensive customization as part of their effort to build a framework for scalable service provisioning.

Additional Accomplishments and Audience:

We are pleased to report that, in addition to completing the plug in, we were able to present the plug in to the Digital Humanities community at its annual conference, held at the University of Nebraska, Lincoln. On July 17, 2013 we presented a poster (available at: http://mith.umd.edu/wp-content/uploads/DH2013Poster_BrailleSC.pdf) to an audience of roughly 450 participants during an open poster session. Feedback from the audience was very encouraging with a number of new potential partnerships identified: 1) scholars working with text encoded corpora have expressed interest in partnering with the Making the Digital Humanities More Open team to produce braille volumes of their materials; 2) the Association for Computers in the Humanities, a leading professional organization, has expressed interest in utilizing the new plug in for their website to allow them to produce their content for blind and low-vision audiences.

Beyond the digital humanities audience, a significant portion of our audience are the blind and low vision users that would consume the content from WordPress-driven websites. Team member Tina Herzberg will be working, in coming months, with the South Carolina Federation for the Blind and the other organizations representing blind and low vision users to incorporate this plug in into their websites. Additionally, she is currently completing proposals to the major education and community associations that explore braille education and braille technologies so that we can extend our impact into the broader braille user communities. We intend to continue to track the long-term influence of this plug in on these two communities.

Quantitatively, given the roughly three weeks since its public launch, we are pleased to report that seventy-two users (beyond the project team) have downloaded the plug in and begun using it. We anticipate, given that it is listed in the WordPress directory and repository of plugins, that the number will continue to grow. To enable that, our team will audit the repository and continue to provide bug fixes throughout the next 18 months minimum as well as continue to publicize the plugins availability.

Continuation of the Project and Long Term Impact:

Members of this project team, working outside the scope of this award have initiated two new threads of development in addition to the partnership identifications listed above: 1) the Making the Digital Humanities More Open team has begun development on math and science-driven training materials that will allow students to educate themselves on mathematical braille, a key element needed to develop new programmers who might work with humanities scholars in the future; 2) the award of an Institutes for Advanced Topics in the Digital Humanities grant, "Accessible Future for the Humanities",

a series of four workshops that will educate humanists, librarians, cultural heritage professionals, and the like on the requirements and needs of accessible design.

Evaluation:

Evaluation of this project will take place through review of the WordPress repository where users can rate the plugin as well as monitoring of the Git repository that stores the original code. Developers are able to register on Git and pull down the code to make additions and modifications. We intend to monitor that use throughout the next 18 months at minimum.

Project Products:

Making the Digital Humanities More Open: http://mith.umd.edu/research/project/braillesc/
DH2013 project poster: http://mith.umd.edu/wp-content/uploads/DH2013Poster_BrailleSC.pdf
WordPress Plugin: http://wordpress.org/plugins/braille/
Braille Github repository: https://github.com/umd-mith/braille