

Lauren Bell
583 Archival Remix Proposal

Title

The East Asian Calligraphy Challenge

Scope and Purpose

The East Asian Calligraphy Challenge enables users to interact with texts in the collection by digitally practicing Asian calligraphy that coordinates with characters on the pages they are researching.

This interactive tool will allow users to see the process it takes to make one Asian calligraphic character; therefore, helping users gain an appreciation for the work that went into making the texts that contain thousands of these calligraphic characters. As an ordered art form, Asian calligraphy takes great practice and time to ensure perfection in each brushstroke. By using this interactive tool, users will be able to experience the process with a bit of instant gratification in that they won't need any physical materials (brush, ink, paper) typically associated with practicing Asian calligraphy. One limitation is writing the algorithmic code that corrects users if their input does not directly resemble the example characters. Another limitation is incorporating this interactive tool into the preexisting layout of the East Asian texts on the Princeton University Digital Library website so that they are not intrusive to users who just wish to read the texts and not participate with the interactive tool. A third limitation is that many of these texts have been printed with moveable type and printmaking processes. Since they are not handwritten, users may not understand the comparison of digitally drawing the characters and relating them to the texts. Intended users are researchers, teachers, and hobbyists, as well as the general public. My overall goal is for users to gain appreciation of Asian calligraphic characters and the process of writing them.

Outline/Organization

JavaScript and Other Coding

The first step in this project is to develop JavaScript code with Sketch.js and an algorithm to grade user input if warranted. Buttons would need to be designed so users can reset the drawn content and/or submit their input for instant grading if the institution wished to include a grading algorithm.

Asian Calligraphic Examples

The second step would be to find a character on each page or every few pages from the titles that will include an interactive tool option. The characters all need to be drawn with the same format including numbers denoting numerical order of each digital "brushstroke". There will be one example per page of digitized text, added to the interface next to the input box.

User Design Interface

An interface would then need to be designed with the appropriate coding so that the user design interface is simple, unobtrusive to the digitized content, but engaging. A description and instructions would be added in this section so users have an idea of what to do and how to proceed with the interactive.

Expert Appraisal and Consultation

Experts in the field of Asian calligraphy and East Asian texts will be consulted to ensure the chosen characters and meanings are represented properly in the examples cited above. They would aid in translation of the characters so that a definition of each character could be included in the description of the interactive tool.

Length

There is a frontend and a backend component to this interactive tool. The backend includes the JavaScript code from Sketch.js so that the frontend user interface has a space and action which allows users to use their mouse to write their input. Code also needs to be written to include a “reset” and “submit” button in the interface. The backend also includes a database for recognition software to grade users on their input, seeing if their calligraphic character resembles the one in the example. A server would be utilized to run this data and interactive tool on the collection’s website. The frontend, or user design interface, is made up of three components including the description of what to do, an example showing users an example of numerical order of lines (“brushstrokes”), and the box where users will practice their digital calligraphy.

Methodology and Presentation

The main component of this interactive tool utilizes open source JavaScript code, Sketch.js (<http://intridea.github.io/sketch.js/>). This code is available as-is or can be modified to fit the programmer or institution’s needs. In its simplest form, *The East Asian Calligraphy Challenge* would utilize the existing Sketch.js code with slight modifications to size and background color. To make a grading algorithm, if desired by the institution utilizing this technology, a web development expert would need to be hired to write code to integrate with the Sketch.js code. A designer would need to be consulted to create the calligraphy examples with the numbered brushstrokes, using a program like Adobe Illustrator or similar. The interactive tool would be integrated into existing technology within each East Asian text’s digital page from Princeton University Digital Library (see figure 2, below). Therefore, programmers who work for the Princeton University Digital Library would ultimately add the interactive tool’s code to the existing website.

Librarians and researchers will be consulted in the East Asian Library of Princeton University to ensure the characters chosen as examples were suitable, as well as define their meaning. These experts would confirm the numerical order of brushstrokes for the digital practice example, ensuring the examples are equivalent to the writing process of traditional Asian calligraphic characters. An additional component could be added to the user interface that translates the character and gives a definition. Experts in the field will need to approve the translation and definition before it is integrated into the interactive tool.

Demo and Sample Section

This demo juxtaposes the technologies I have found and shows the process, various websites, and technology sources that I have used to create this proposal. It illustrates the overall technology component I would like to add to the Princeton University Digital Library’s East Asian text’s webpages. You can see the demo I have created by following this link:

<http://www.screencast.com/t/xiqPVHZYqrE>

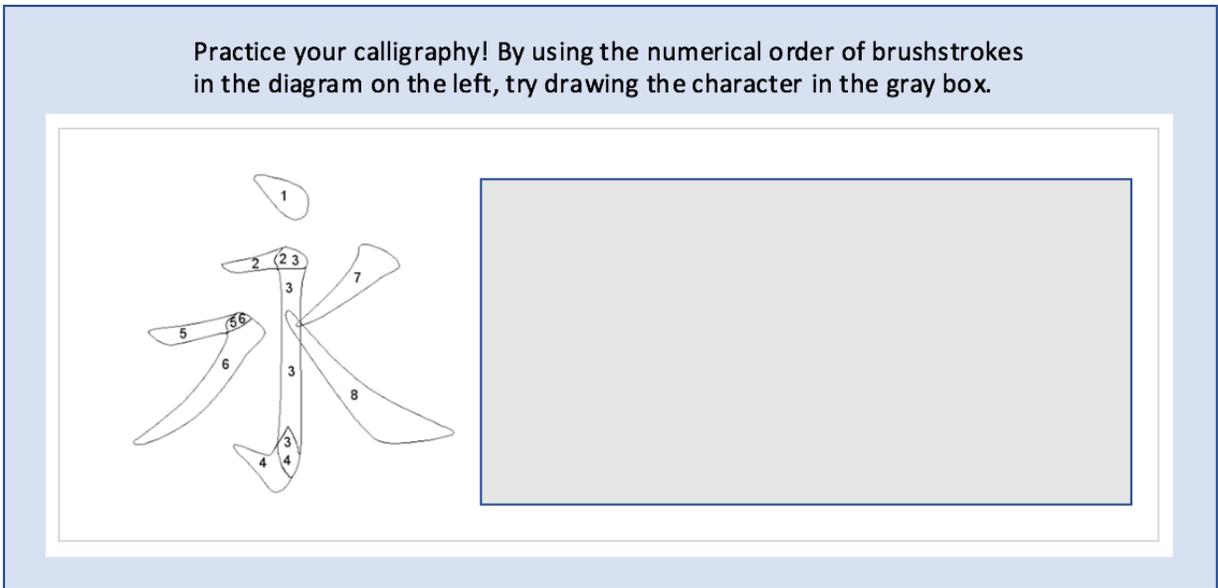


Figure 1. Detailed view of the visual prototype for The East Asian Calligraphy Challenge interactive tool. The character seen here is “Yong” which translates to “forever”, “permanence”, and “eternity”.



Figure 2. Overall sample of user design interface for The East Asian Calligraphy Challenge, referencing existing interactive interface of Princeton University Digital Library.

Similar or Related Works

This project was inspired by two main ideas. The first was to incorporate the items I was digitizing continuously at work so that the content would be more engaging to users who don't necessarily know how to read Asian texts or know the meanings of the characters. Texts in this collection can be found at the following link: <http://puhl.princeton.edu/collections/eal>

The title used specifically in my demo can be found here:

<http://puhl.princeton.edu/objects/xk81jp02v>

The technology aspect was inspired by the article *Quiz: See If You Remember How to Write in Cursive* written by Chris Wilson, posted on Time's website on January 23, 2017 which can be found here:

<http://time.com/4635763/national-handwriting-day-cursive-letters/>

Sketch.js samples and open source codes can be found here: <http://intridge.github.io/sketch.js/>

Marie's Pastiche blog has a sample of the type of example I would like to include in my interactive tool. The above prototype in the demo section of this proposal includes one of her samples:

http://www.mariespastiche.com/2013/03/the-chinese-language-in-all-its-forms_20.html

A video cited in Marie's Pastiche blog, which shows an example of writing the character in my demo example and the sample on her blog, can be found here:

<https://www.youtube.com/watch?v=VIk-7ivtvbk>

In my demo, I briefly discussed a dictionary that utilizes similar technology where users can draw Asian characters and the program will suggest the characters they are trying to find. This example is from the following website:

<http://pinyin.info/news/2008/find-chinese-characters-online-by-drawing-them-with-your-mouse/>

A type of open source technology I didn't include in my demo, but would be a viable option is Optical Mark Recognition MySQL and PHP. This tool would allow the interactive to have correct answers and quiz users on their input. The code and description can be found here:

<https://sourceforge.net/projects/omr-mysql-php/>

A video tutorial of Optical Mark Recognition MySQL and PHP is at the following link:

<https://www.youtube.com/watch?v=vlm1kTSfnjM>

Bibliographical Paragraph

Over the past three years I have had the pleasure of working with various collections in digitizing their material. One such position most relevant to this project is digitizing East Asian texts at Princeton University Library's Digital Studio from the university's East Asian Library. I am pursuing my Master of Information degree with a concentration in Archives and Preservation from Rutgers University. My career goal is to make art and archival collections available to everyone. The main way I am pursuing this objective is by digitization of materials so that users can become engaged with collections in new ways. Just because a user doesn't understand or like the material, doesn't mean they shouldn't be actively engaged with it to try to gain a better understanding and appreciation.