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**INTRODUCING
COMPUTATIONAL
THINKING TO DIGITAL
HUMANITIES STUDENTS:**

**USING EXIT DATA FROM
DENSHO'S WWII JAPANESE
AMERICAN CAMPS
COLLECTIONS TO IDENTIFY AND
ILLUSTRATE PATTERNS OF
DISPLACEMENT AND
RELOCATION**

BACKGROUND INFORMATION

- Course: LIS 61095, Introduction to Digital Humanities (offered Spring 2021)
 - Graduate level, “special topics” course
 - First time taught
 - Meant to be intro course for new pathway in digital humanities in MLIS degree program
 - 100% online
 - Enrollment: 15 MLIS students, 1 Ph.D. student
 - Varied interests in archives, digital libraries/projects, digital humanities, museum studies, and academic librarianship
 - Previous technical knowledge of computational approaches ranged from completely newbie to basic preparation in scripting; few had more than rudimentary programming knowledge
 - “Self-selected” into course; all had strong interest in learning how to use computational approaches to humanities research and teaching, and archives students interested in taking “deep dive” in archives data
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INTEGRATION OF COMPUTATIONAL THINKING INTO COURSE

- Via course structure:
 - **CT central to 6 of 8 modules in course**
 - M1: DH work and institutions
 - **M2: CT: Meta Concept for DH**
 - **M3: Collecting humanities data**
 - **M4: Creating humanities data**
 - **M5: Manipulating humanities data**
 - **M6: Analyzing humanities data**
 - **M7: Visualizing humanities data**
 - **M8: Creating exhibits to showcase DH projects**
 - Via learning outcomes:
 - **Define computational thinking and acquire methods for applying it to digital humanities projects;**
 - Distinguish among the various institutional models to support digital humanities work in libraries, archives, and museums;
 - **Identify existing metadata schemas and design custom schemas appropriate for digital humanities projects;**
 - **Acquire data literacy skills for digital humanities work by gaining expertise in the use and application of text encoding, digital mapping, data mining, and visualization tools and technologies to digital humanities projects;**
 - **Design and create a virtual exhibit to showcase a digital humanities project that supports research or teaching activities.**
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INTEGRATION OF COMPUTATIONAL THINKING INTO COURSE

- Via course materials (lectures and readings)
 - Via discussions:
 - Sample discussion prompt:
 - “Using this week’s readings, consider the value of computational thinking for digital humanities work. How does computational thinking help advance the goals of humanistic inquiry? What are the limitations of employing computational thinking in approaching digital humanities problems and projects?”
 - Via case study:
 - Students chose an existing DH project and examined how it was done, including how CT shaped the project and outcomes.
 - Via assignments (technical exercises and term project):
 - Sample technical exercises:
 - Using Tweetset to gather tweets about a particular topic
 - Using tools such as OpenRefine and TextWrangler to clean and manipulate data
 - Employing Voyant Tools (NLP toolset) to analyze and visualize data
 - Geocoding data
 - Term project
 - Working independently with a dataset to create an exhibit (telling a story using data)
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DIGITAL HUMANITIES TERM PROJECT

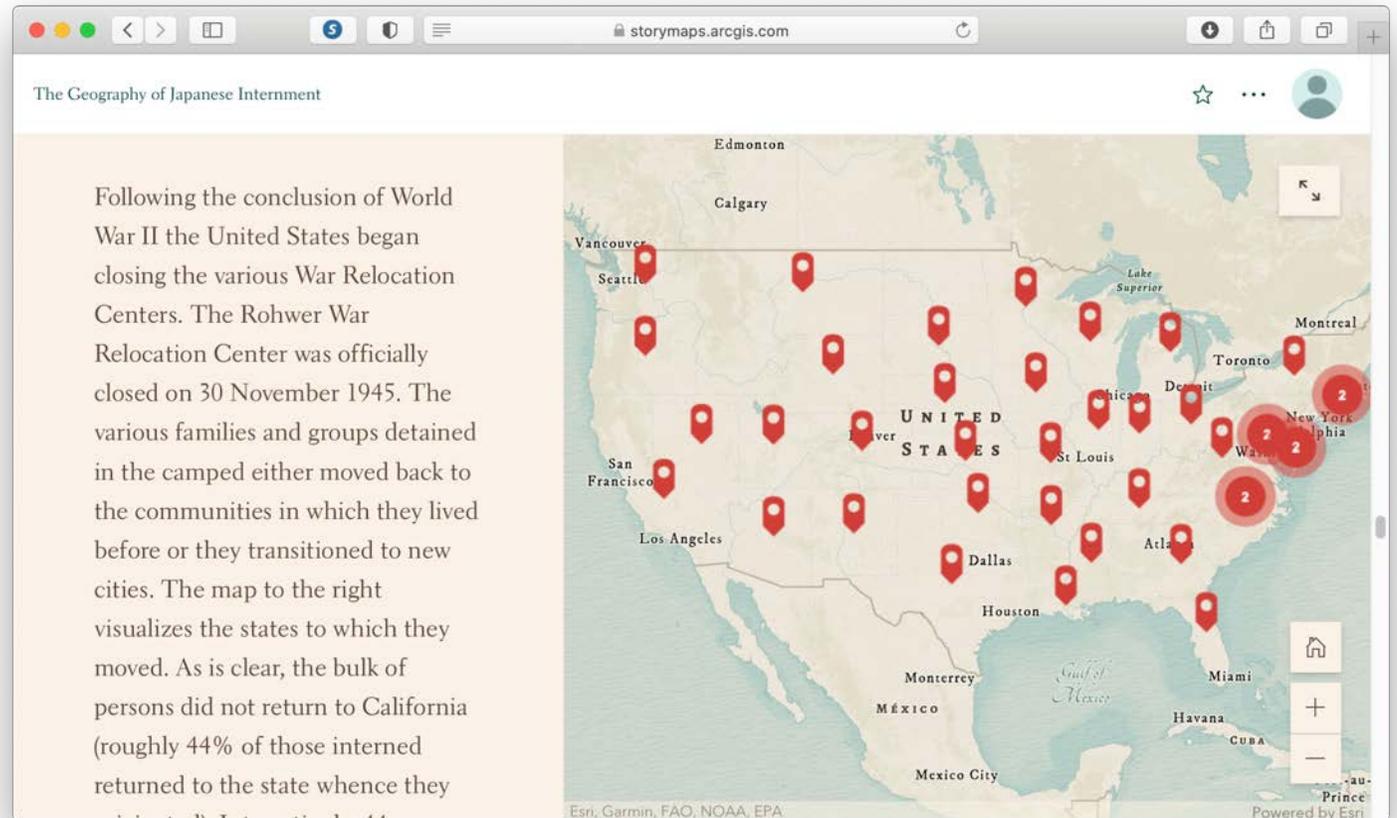
- Creating Exhibit Using DH Dataset
 - Students had choice to work with DH data that they identified on their own, or working with provided dataset:
 - **Exit Data Relating to Japanese-Americans Incarcerated during World War II from the Densho Organization**
 - 10 students chose this option
 - Independent project
 - 5 students chose this option; projects included datasets from existing sources, Twitter data, literature texts, or cultural heritage collection metadata.
 - Project allowed students to “put it all together” and work semi-independently:
 - Gain additional experience in collecting/creating data, manipulating data (cleaning and transforming), analyzing data, and visualizing data (i.e., putting computational thinking into practice)
 - Choose appropriate tools to meet the goals of the project
 - Employ a tool such as Omeka or ArcGIS to create a narrative using their dataset and other sources
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TERM PROJECT EXAMPLE

“The Geography of Japanese Internment”
by Gilbert Jones (MLIS Student)

<http://tinyurl.com/cfc7k7kz>

Densho Exit Data was particularly rich in geographic information about detainees’ migration paths upon release (many detainees did not return to their homes at the conclusion of the war)



INSTRUCTOR'S LESSONS LEARNED

- Have realistic expectations
 - Can't do it all in one course—start with reasonable learning outcomes and work forward from there
 - I really wanted to introduce lot of different tools, but some tools were challenging for newbies and I may have been too ambitious.
 - Scaffolding is key! Figure out the steps students need to take to get to where they need to go.
 - Offer options for students depending upon their confidence in their technical abilities (but still get them to push those boundaries where possible).
 - Instructor is the primary resource, but leverage others where possible
 - Some resources may be available via the library or other academic departments (e.g., LibGuides, support for software)
 - Colleague generosity was much appreciated! (thanks to Richard Marciano and Mark Conrad!)
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NEXT STEPS ...

- Refinement of course learning outcomes, assignments as needed for DH course
 - Development of formal lesson plans for CT-LASER+ project that can be adopted/adapted for similar courses
 - Integration of CT into another course (Archival Description, Fall 2021)
 - Tying CT directly to archival functions, practiced primarily in archival environment
 - Creating focused lesson plans tailored to educational requirements of archival studies students:
 - SAA Graduate Programs in Archival Studies Guidelines
 - Academy of Certified Archivists Role Delineation Statements
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