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The Keweenaw Time Traveler
www.keweenawhistory.com

The Keweenaw Time Traveler is an interactive, online historical atlas that creates a comprehensive spatial representation of the social and built environments of one of the country's first and largest extractive landscapes. Launched to the public in the summer of 2017, it combines deep mapping with digital public humanities to create a mutually beneficial online tool for researchers and community stakeholders alike. On Michigan's southern shore of Lake Superior, the Keweenaw Peninsula has an abundant built heritage that includes abandoned mine shaft buildings, former company towns, and ethnic community halls. Such sites recall the region's copper mining industry, active between 1860 and 1950, and demonstrate to tourists and residents alike the need to address the social and environmental impacts of deindustrialization. Our interdisciplinary team of researchers at Michigan Technological University is building the Keweenaw Time Traveler to empower citizens, municipal officials, and tourists, as well as academic researchers, to gain and share knowledge about this region's changing built and social environments, and to help a postindustrial community leverage its own past toward a healthier, more prosperous future.

The Keweenaw Time Traveler project combines approaches from the spatial humanities, public history, and American studies. It answers the call of scholars such as David Bodenhamer to leverage the power of geospatial technologies and information to investigate the contingent and discursive relationships between people through space and time that drive American studies scholarship today.¹ The project builds on foundational work in digital spatial humanities and facilitates what Anne Kelly Knowles has called "inductive visualization,"

which promotes the discovery and interpretation of new spatial relationships.² These relationships, analyzed using GIS technologies and methods, can drive critical inquiry about immigration, technological change, ethnic and class identities, environmental degradation, and more.³ Moreover, the Keweenaw Time Traveler's community-engaged process of development promotes access, inclusivity, and empowerment for diverse heritage constituencies.⁴ Following Sheila Brennan's call for public humanities projects to foster grassroots collaboration, the Keweenaw Time Traveler's platform and in situ public programming encourage a reflexive discussion about the impacts of deindustrialization and about the opportunities that the rich heritage landscape offers visitors and residents alike.⁵

To integrate contemporary humanities research with community-engaged practice, this project uses the concept of deep mapping, which is defined by five core principles. The map must be *flexible*, inviting exploration; *open* to accepting new sources or data; *user-centric*, supporting different pathways or views; and *immersive*, evoking experiences. The final principle, *path-traceable*, or supporting spatial storytelling, will be the focus of later platform developments.⁶ To build a deep map, the foundation of the Keweenaw Time Traveler is hundreds of georeferenced and digitized historical maps whose individual buildings and landscape features are represented in a spatiotemporal geodatabase.⁷ The maps and data reveal details about the region's built environments including the location, size, construction material, ownership, occupants, and civic address of over 125,000 residential, commercial, civic, and industrial structures over seventy years. The back end of this deep map is a historical spatial data infrastructure that allows for the rapid geolocation and relational linking of historical records to facilitate longitudinal research.⁸ Researchers have just begun using the Keweenaw Time Traveler to investigate connections between the region's built environment and children's health, to explore the role of neighborhood development in changing social power, and to model how urban watersheds and the built environment change over time.⁹

Public participatory initiatives at the core of this deep map facilitate the co-production of knowledge and dialogue that are vital to our public humanities goals. Three "Citizen Historian" apps offer a game-like setting where users transcribe handwritten notations on maps, categorize buildings by use, and identify building materials by matching colors. These apps were developed using open design charrettes in the winter of 2017, and draw on research in crowd-sourced heritage projects and public participatory GIS practices.¹⁰ Users have already classified over 375,000 variables and can follow their progress

on the project's homepage. In addition, the Keweenaw Time Traveler Explore app allows users to search the spatiotemporal database by contemporary and historical addresses, compare familiar landscapes over different time periods, and comment on user-contributed stories. Online users have added in the first four months over five hundred points with photographs, newspaper clippings, and personal memories about immigration, labor activism, business history, outdoor recreation, historical memory, and more.

Active programming, both in-person and online, extends the project's reach beyond the website and digital tools. We partner with the region's already motivated heritage community—which includes two National Park units, a dozen regional heritage partners, and three county historical societies—to attend outdoor festivals and offer scheduled presentations. Not only do these events teach visitors to use the Time Traveler at home, but they also stimulate face-to-face intergenerational conversations that promote the sharing of historical knowledge and discussions of the impacts of deindustrialization on the community. In-person events enfranchise marginalized groups including the elderly, children, and those with lower computer literacy or limited access to broadband.¹¹ An active social media agenda and blog connect resident stakeholders with Copper Country descendants who live elsewhere but remain connected with the region's history and people.¹² Likewise, the Keweenaw Time Traveler offers university faculty and public historians useful applications for service learning and immersive pedagogies.¹³

Future grant applications will support expanded search queries, additional visualization options, and a portal for data download. In the meantime, additional historical data sets are being developed that include employee records from mining company archives and regional school records. The data will offer robust spatial linkages between individuals and families and facilitate research about how industrial capitalism affects environmental justice and social inequality. The authors also plan to create a "Things" layer that geolocates archaeological and material culture collections to render the built environment at multiple scales. Altogether, the Keweenaw Time Traveler's combination of digital and public humanities is facilitating important community-engaged American studies work.

Notes

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1. David J. Bodenhamer, Trevor M. Harris, and John Corrigan, "Deep Mapping and the Spatial Humanities," *International Journal of Humanities and Arts Computing* 7.1–2 (2013): 170–75, doi.org/10.3366/ijhac.2013.0087; David J. Bodenhamer, John Corrigan, and Trevor M. Harris, *Deep Maps and Spatial Narratives* (Bloomington: Indiana University Press, 2015).
 2. Anne Kelly Knowles, Levi Westerveld, and Laura Strom, "Inductive Visualization: A Humanistic Alternative to GIS," *GeoHumanities* 1.2 (2015): 233–65, doi.org/10.1080/2373566X.2015.1108831. The Keweenaw Time Traveler builds on pioneering work in digital and spatial history including Digital Scholarship Lab, *American Panorama*, ed. Robert K. Nelson and Edward L. Ayers, accessed February 7, 2018, dsl.richmond.edu/panorama/; Anne Kelly Knowles and Amy Hillier, eds., *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship* (Redlands, CA: ESRI, 2008); Stephen Robertson, "The Differences between Digital Humanities and Digital History," in *Debates in the Digital Humanities 2016*, ed. Matthew K. Gold and Lauren F. Klein (Minneapolis: University of Minnesota Press, 2016), 289–307, www.jstor.org/stable/10.5749/j.ctt1cn6thb.28; Todd Presner, David Shepard, and Yoh Kawano, *HyperCities: Thick Mapping in the Digital Humanities* (Cambridge, MA: Harvard University Press, 2014), 15–19, escholarship.org/uc/item/3mh5t455.
 3. Examples of spatial history scholarship on these topics include Kurt Schlichting, Peter Tuckel, and Richard Maisel, "Residential Segregation and the Beginning of the Great Migration of African Americans to Hartford, Connecticut: A GIS-Based Analysis," *Historical Methods: A Journal of Quantitative and Interdisciplinary History* 39.3 (2006): 132–44, doi.org/10.3200/HMTS.39.3.132-144; Richard White, *Railroaded: The Transcontinentals and the Making of Modern America* (New York: W. W. Norton, 2012); Anne Kelly Knowles and Chester Harvey, *Mastering Iron: The Struggle to Modernize an American Industry, 1800–1868* (Chicago: University of Chicago Press, 2013); Sherry Olson and Patricia Thornton, *Peopling the North American City: Montreal, 1840–1900* (Montreal: McGill-Queen's Press, 2011); John Baeten, Nancy Langston, and Don Lafreniere, "A Geospatial Approach to Uncovering the Hidden Waste Footprint of Lake Superior's Mesabi Iron Range," *Extractive Industries and Society* 3.4 (2016): 1031–45, doi.org/10.1016/j.exis.2016.09.003.
 4. Recent work is examining the role of place and public participation in heritage practice, including John Harner, Kevin Knapp, and Leah Davis-Witherow, "'The Story of Us': Place-Making through Public Interaction with Digital GeoHumanities in Colorado Springs," *International Journal of Humanities and Arts Computing* 11.1 (2017): 109–25; Hannah Lewi and Wally Smith, "Citizen Heritage: Provoking Participation in Place through Digital Technologies," *Historic Environment* 28.2 (2016): 2; Laura King, James F. Stark, and Paul Cooke, "Experiencing the Digital World: The Cultural Value of Digital Engagement with Heritage," *Heritage & Society* 9.1 (2016): 76–101; Emma Waterton and Steve Watson, *Heritage and Community Engagement: Collaboration or Contestation?* (London: Routledge, 2013); Hilary Orange, ed., *Reanimating Industrial Spaces: Conducting Memory Work in Post-Industrial Societies* (Walnut Creek, CA: Left Coast, 2014).
 5. Sheila A. Brennan, "Public, First," in *Debates in the Digital Humanities 2016*, ed. Matthew K. Gold and Lauren F. Klein (Minneapolis: University of Minnesota Press, 2016), 384–90, www.jstor.org/stable/10.5749/j.ctt1cn6thb.35; John Arnold and Don Lafreniere, "The Persistence of Time: Vernacular Preservation of the Postindustrial Landscape," *Change over Time: An International Journal of Conservation and the Environment* 7.2 (2017), 114–33.
 6. David J. Bodenhamer, "Chasing Bakhtin's Ghost: From Historical GIS to Deep Mapping," in *Routledge Companion to Spatial History*, ed. Ian Gregory, Don Debats, and Don Lafreniere (London: Routledge, 2018), 530–43.
 7. Mia Ridge, Don Lafreniere, and Scott Nesbit, "Creating Deep Maps and Spatial Narratives through Design," *International Journal of Humanities and Arts Computing* 7.1–2 (2013): 176–89, doi.org/10.3366/ijhac.2013.0088.
 8. Don Lafreniere and Jason Gilliland, "'All the World's a Stage': A GIS Framework for Recreating Personal Time-Space from Qualitative and Quantitative Sources," *Transactions in GIS* 19.2 (2015): 225–46, doi.org/10.1111/tgis.12089.

9. Richard Salder and Don Lafreniere, "You Are Where You Live: Methodological Challenges to Measuring Children's Exposure to Hazards," *Journal of Children and Poverty* 23.2 (2017): 189–98; Kelley Christensen, "On the Map: Students Use Geographic Information Science to Evaluate Their Communities," *Unscripted: Science and Engineering Research*, November 2, 2017, www.mtu.edu/unscripted/stories/2017/november/map-students-use-geographic-information-science-evaluate-their-communities.html; Sarah Fayen Scarlett, *Company Suburbs: Architecture and Social Power in the Michigan's Copper Country* (under consideration); Emily Oppliger, Don Lafreniere, and Alex Mayer, "Mapping the Past to Inform the Future: GIS and 3D Modeling for Urban Watershed Management" (paper presented at the Social Science History Association, Chicago, Illinois, November 2016); John Arnold and Don Lafreniere, "The Persistence of Time: Vernacular Preservation of the Postindustrial Landscape," *Change over Time: An International Journal of Conservation and the Built Environment* 7.2 (2017): 114–33; John Arnold and Don Lafreniere, "Creating a Longitudinal, Data-Driven 3D Model of Change over Time in a Postindustrial Landscape Using GIS and CityEngine," *Journal of Cultural Heritage Management and Sustainable Development* 7.4 (2018), doi.org/10.1108/JCHMSD-08-2017-0055.
10. Mia Ridge, *Crowdsourcing Our Cultural Heritage* (London: Routledge, 2017); Greg Brown and Marketta Kytta, "Key Issues and Research Priorities for Public Participation GIS (PPGIS): A Synthesis Based on Empirical Research," *Applied Geography* 46 (January 2014): 122–36.
11. Frank Bentley, Santosh Basapur, and Sujoy Kumar Chowdhury, "Promoting Intergenerational Communication through Location-Based Asynchronous Video Communication," in *Proceedings of the Thirteenth International Conference on Ubiquitous Computing* (New York: ACM, 2011), 31–40.
12. Elisa Giaccardi, *Heritage and Social Media: Understanding Heritage in a Participatory Culture* (London: Routledge, 2012). On Facebook the project can be found at www.facebook.com/KeweenawTimeTraveler, and on Twitter using @KeweenawHistory.
13. Sarah Fayen Scarlett, Don Lafreniere, Dan Trepal, John Arnold, and Yichun Xie, "Out of the Classroom and Into History: Mobile Historical GIS and Community-Engaged Teaching," *The History Teacher* 53 (forthcoming).