

# Digital Encyclopedias, Federated Data, Crowd Sourcing, and Deep Mapping

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In 1994, the Polis Center at Indiana University-Purdue University Indianapolis published the Encyclopedia of Indianapolis. The web was in its infancy, with the first web browser, Mosaic, appearing the same year. The web is now robust, ubiquitous, and mature enough to justify an online version, and the city's approaching bicentennial in 2020-21 provides the occasion to develop one. Discussions with community leaders, teachers, researchers, public officials, and citizens suggests that the city needs more than an updated EOI, however. It also needs a way to integrate and access the explosion and fragmentation of knowledge created both as born- digital information and as large new digital archives currently siloed in the city's heritage, cultural, and educational institutions. Also, residents no longer look to experts to tell them about their city and its history; they now demand to participate in creating the information that will tell their stories and be useable in various placemaking and redevelopment initiatives. A digital encyclopedia must accommodate this need as well, which means it must be a multifaceted knowledge platform.

To meet this need, the Polis Center is developing a distributed data platform to federate existing repositories and draw from them dynamically, as well as to allow citizen contributions to enrich what scholars and others report about the city. The aim is to produce a deep map of Indianapolis, with qualitative and quantitative data presented in a way that allows researchers and citizens alike to view the city in all its facets. Tools will exist within the platform to permit easier transformation, management, and visualization of the archived and contributed data. The deep mapping engine will present results within their spatial context in a way that supports different perspectives and manages both expert and native knowledge.

The presentation will outline the requirements for the integrated data platform as well as the resulting system schema. It will suggest how technologies such as GIS may be linked with other non-spatial modules to construct a dynamic interdisciplinary virtual research environment for experts as well as a system that invites volunteered information and citizen participation. Finally, the presentation will invite both ideas and collaboration from attendees at the conference. Ultimately, digital encyclopedias are collaborative ventures, and this presentation will seek to model how such collaborations may cross organizations and disciplines to create a dynamic and sustainable knowledge platform.

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