

Towards Digital Built Environment Studies: An Interface Design for the Study of Medieval Delhi

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Computing technologies such as CADD, GIS or databases, are generally developed with the aims of the producers of the built environment (architects, engineers, urban planners etc.) in mind. These existing technologies tend to be adapted uncomfortably for pedagogical and research purposes. The field of built environment studies, which here refers to scholarly fields like architectural history and urban history and not practical fields like architecture, is just beginning to consider how computing technologies can be designed and employed for analytical and scholarly ends. What would software designed by practitioners of built environment studies with their aims in mind look like? Engaging with this problem is not only an opportunity to imagine a new practical tool but also to critically inquire into the aims of built environment studies and the assumptions embedded into existing built environment computing technologies. This paper presents the **Medieval Delhi Humanities Computing Research Collective's** proposal for an interface design concept that is the culmination of their attempts to analyse both their own research questions, processes and the suitability of existing technological strategies from the perspective of architectural and urban historians.

1. The Medieval Delhi Humanities Computing Research Collective

The Collective is a Canadian-led international team of historians and art and architectural historians from leading research institutions in Canada, the United Kingdom, India, and Japan with expertise in Medieval Delhi and

humanities computing initiatives. Formed in 2008, the Collective is a result of the Medieval Delhi Humanities Computing Initiative funded by UBC Martha Piper Research Grant (Jan. 2008 to Sept. 2009). The Collective first met as a group in a workshop and planning session on April 2-3, 2009 in Victoria, established institutional linkages, data sharing agreements, and a common data repository, and is working together to attract additional funding. The Collective is currently completing its work on conceptualizing researcher oriented technologies and strategies for architectural and urban historical research of Medieval Delhi.

2. Imagining Data Collages

Researchers interested in studying the built environment in a systematic way typically need to reconcile diverse forms of data – spatial, textual, and visual – and increasingly computing technologies are vital not only for storing and retrieving this information but for analyzing it as well. To be able to research built environments effectively then, a researcher-oriented digital interface and infrastructure becomes increasingly necessary. Not only does one need to build an array of databases of historical texts in multiple languages, chronologically organized photographs, maps and satellite data and other forms of information, but one needs to figure out simple productive ways to connect and interface with these various databases, integrate them with large-scale databases and design overlaying analytical tools that truly facilitate historical inquiry and collective scholarship. If planning officials, architects, tourism industries and others increasingly develop and use computing technologies with their goals in mind why should not the built environment scholarly community?

The Collective's approach treats architectural sites and urban form as a collection of visual and textual representations of varying precision across time and space each with their own interpretable contexts. For example, a site is not viewed as entirely knowable in its moment of creation but as something that evolves in form and memory and can be known only through its various representations whether they be the textual account of a 12th C court historian, the textual and pictorial accounts of a 19th C

British traveller, the textual and photographic records of a 20th C Japanese archaeological team, the oral and videographic account of an Indian tourist from Mumbai, or a 21st century satellite image. These representations amount to a collage of data hence the term Data Collage. While this approach is familiar to researchers of architectural and urban history it is generally not incorporated into existing technology strategies which tend to favour virtual reconstructions or presume the stability of knowledge and a uniform level of precision for spatial and chronological information. This representational approach has important implications for how data should be structured and engaged with.

Instead of attempting to recreate a historic architectural site or region as virtual reality, Data Collages treat an architectural site or region as a collection of intersecting and conflicting representations. Ideally, a Data Collage will allow researchers of an historic site to access all relevant three-dimensional digital models, photographs, paintings and historical textual descriptions in original and translated texts and be able to see how these various representations are interrelated chronologically and spatially and where they conflict.

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