Geocollaborationgeocollaboration

Geocollaboration is collaboration among place-based subjects that is facilitated with and through geographic information and technologies. Geocollaboration is a field of study that is multidisciplinary in nature, incorporating theory and methods from human-computer interaction (HCI), computer science, and psychology. Within geography, research on geocollaboration is generally situated within the realm of geographic information science (GIScience). However, it is a topic of cross-cutting relevance to geography as a whole, due to the emphasis that can be placed on either the technological aspects of geocollaboration or the relationship between geocollaboration and social mediation and/or organizational collaboration.

From the technological perspective, the development of systems to support geocollaboration primarily falls under the broader category of computer-supported collaborative work (CSCW), or the study of how people collaborate and the development of computer-based systems that enable people to collaborate in order to achieve common goals and/or make decisions, sometimes referred to as "groupware." CSCW systems are most often developed based on the use of a given system in terms of the place where collaborators are located (colocated or remote) and the time dimensions of the collaborative work being undertaken (in real time or asynchronously). Figure 1 shows the place-time dimensions of geocollaboration in a matrix form and provides brief examples of each dimension.
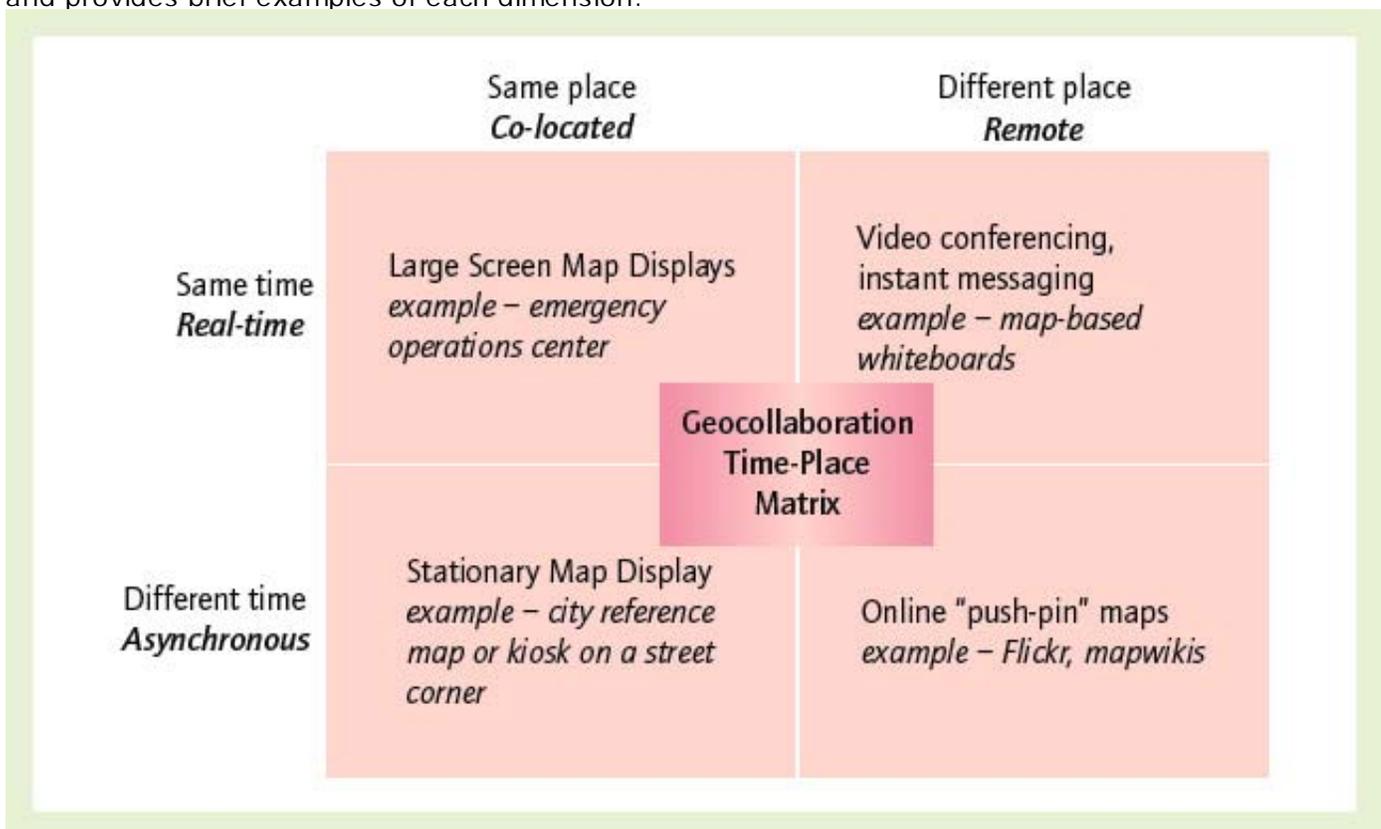

Figure 1 Geocollaboration place-time matrix

Source: Based on Ellis, C. A., Gibbs, S. J., & Reln, G. L. (2001). Groupware: Some issues and experiences. *Communications of the ACM, 34,* 39–58.

Additionally, geocollaborative system development takes into account issues of awareness such as co-collaborator presence and activity, the resources available to the group, the status of collective objectives and goals, common ground, and many other CSCW issues that are beyond the scope of this discussion. Unique geographic issues in geocollaborative system development include effective use of geovisual

representations such as map-based graphical annotations for representing location-based ideas, the arguments and perspectives of collaborators, the use of geospatial data standards for system interoperability, and group cognition of spatial information.

The research perspective of geocollaboration as a social mediation and/or organizational collaboration de-emphasizes the specific role of information technology as a mediator for collaboration and looks at the broader social contexts that collaborative processes are occurring within. Social contexts are examined to identify barriers to collaboration such as trust, privacy, and the effects of organizational culture and jurisdictional scale. Using an example from crisis management, collaboration activities across federal, state, and local officials can be examined to understand whether or not officials collaborated effectively across jurisdictional and geographical scales in response to a national disaster.

Another research perspective on organizational geocollaboration activity looks at how geographic information portals on the Internet can potentially encourage organizations to share geographic information resources with the objective of facilitating better collaboration. A primary example of this can be seen in the development of spatial data infrastructures (SDIs). SDIs provide administrative infrastructures such as data-sharing policies, documentation, and procedures and technological infrastructures such as data interoperability, discovery, and retrieval, which together ultimately allow for the dissemination of geographic information between organizations.

One of the newest research perspectives of geocollaboration as social mediation is examining the integration of geographic information into so-called Web 2.0 technologies. Succinctly, Web 2.0 is the notion of decentralized, user-generated content on the Internet that can be easily shared among people. Examples of Web 2.0 technologies are blogs, wikis, and geotagging of information such as photographs. Geocollaboration from the Web 2.0 perspective thus entails forms of collaboration that do not necessarily have a direct objective such as decision making but rather are decentralized collaborative processes that work toward broader goals that may be of benefit to society. For example, the OpenStreetMap project was developed to create "a free editable map of the whole world" where people can "view, edit and use geographical data in a collaborative way from anywhere on Earth." In addition to calling this type of activity geocollaboration, the term *volunteered geographic information,* or VGI, has also emerged to describe the development of geographic information by individuals.

One other aspect of geocollaboration activity as social mediation is the use of mapping "mash-ups" to facilitate collaboration. A mashup is a Web-based application that is composed of several heterogeneous components to create a new application. A common example is the use of Google Maps as a base map that is combined with other information that is of prime relevance to the application. From the geocollaboration perspective, mapping mashups are powerful collaborative mediums that can be quickly generated by nongeographic technology experts to fulfill gaps in social needs. For example, during the Hurricane Katrina disaster of 2005, the scipionus.com Web site was a grassroots effort developed to provide location-based information about areas affected by Hurricane Katrina. Using an online mapping mashup, visitors to the Web site were able to enter status information about areas affected by the hurricane. Use of the site grew immensely as the general public sought location-based information on the disaster area that was not available through regular mediums such as the media.

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Further Readings

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