

Modern Cartography – Research and Education



Maps and cartographic forms of expression are gaining currently increasing popularity. This can be indicated by the enormous number of map-based applications in the Internet and the mobile Internet. Maps as interfaces to abundant information systems as well as presentation forms of spatial-related information are offered ubiquitously, either through their application on mobile input and output devices or on the Internet.

Though number and usage of cartographic presentation forms increase, many of these popular applications partly arise without considering fundamental theories and methods of cartography.

Therefore a characteristic of modern cartography is the ambivalence between the popularity of applications in the field of new technologies and the role of traditional cartography. This apparent discrepancy can be solved by understanding maps as medium for communicating spatial information that has various possibilities to cover users' requirements. In the context of modern cartography this involves the increasing aspect of entertainment, though the function of the information transfer by maps remains constantly important. As a result we can state two major paradigms in modern cartography: the artefact-oriented cartography as well as a service-oriented cartography.

From a cartographer's point of view innovative infrastructures for information transfer are of high relevance. Ubiquitous available mobile equipment that can be addressed by means of wireless communication networks can be used for supporting cartographic communication processes. The aim becomes more and more realistic that an interactive, real-time, ubiquitous, location-based and permanently available cartographic communication process can be developed, that allows context-related and individual geo data transfer by cartographic means. That would lead into tailored individual support in the solution of spatial problems or decisions. As example a navigation scenario can be used in which the environment itself supports the user in understanding the space he is in and supports him finding his route.

Pushed by the availability of always new generations of mobile input and output devices (mobile phones, smart phones), the expanding telecommunication industry and the increasing data transfer rates of mobile communication, especially the development of information services respectively entertainment services on all kind of mobile devices are of high dynamic currently. In the case the coordinates of the user's device can be used as variable for the modelling and presentation of information such systems can be called Location-based Services (LBS), which gain a lot of interest from developers currently as well.

Cartographers play an important role in respective interdisciplinary research activities at LBS. Recently a contemporary research agenda on LBS was collaboratively achieved and published (<https://doi.org/10.1080/17489725.2018.1508763>). Also the 15. Conference on Location-based Services, organised by the Research Division Cartography of TU Wien, will take place at TU Wien from 11 – 13 November 2019 (<https://lbsconference.org>).

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