## The Triangle of VGI, LBS and Cartography

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In this presentation it is argued, that VGI, LBS and Cartography have strong connections, influencing and stimulating each other. Location based services (LBS) are often designed to assist and support people's behaviours and decision-making in space. In order to provide services with high usefulness (usability and utility), LBS should consider the kinds of affective responses towards environments from human users. However, most current LBS rely on objective geospatial data only to provide services and decision support to their users. This paper reports the results of the EmoMap project, which studies how people's affective responses towards environments can be modelled and acquired, as well as how LBS can benefit by considering these affective responses. In modern Cartography we witness, that today maps can be created and used by any individual stocked with just modest computing skills from virtually any location on Earth and for almost any purpose. In this new mapmaking paradigm users are often present at the location of interest and produce maps that address needs that arise instantaneously. Cartographic data may be digitally and wirelessly delivered in finalized form to the device in the hands of the user or he may derive the requested visualization from downloaded data in situ. Rapid advances in technologies have enabled this revolution in map making by the millions. One such prominent advance includes the possibility to derive maps very quickly immediately after the data has been acquired by accessing and disseminating maps through the internet. Real-time data handling and visualization are other significant developments as well location-based services, mobile cartography augmented reality. While the above advances have enabled significant progress on the design and implementation of new ways of map production over the past decade, many cartographic principles remain unchanged; the most important one being that maps are an abstraction of reality. In this sense cartography is most relevant. Without maps we would be "spatially blind". Knowledge about spatial relations and location of objects are most important for making good decisions. This can only be done by using relevant geo data and communicate it efficiently, something which links VGI, LBS and Cartography together.