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Title: Quality demand in present and future satellite navigation applications

Abstract

Referring to navigation is nowadays unavoidable to speak about satellite navigation. Depending on the user specific application, requirements and expectations, the quest for quality can take different directions and have several facets. Navigation can be seen in the geodetic perspective of the precise positioning and orientation of a sensor on board a moving vehicle or in the more “classical” concept of the real time control of a trajectory and vehicle guidance.

The first, widely applied in remote sensing, is seeing new developments, namely in the field of Mobile Mapping, while the second, involving vehicle, or also pedestrian navigation, is rapidly evolving towards new applications specially in the LBS (Location Based Services) market. Driving a user to a destination based on its needs and/or the services/products available at a certain location, is the philosophy underneath the development of the LBS services.

Those two navigation perspectives encompass different needs and requirements, involving various aspects of data quality from the processing phase to the exploitation phase where the acquired data is integrated with other georreferenced data. These aspects of data quality are implicit in the manifold usage modes.

The quick evolution and the increasing availability of GNSS navigation systems to the general public is boosting the development of new location based applications and services while creating new needs and dependences from this type of technologies. The impact of the quality of spatially referenced data has thus an increased relevance in our society, where the dependence on satellite driven navigation is growing and generating new forms of organization of our everyday life.

We refer to these aspects trying to anticipate also the future requirements in terms of availability, interoperability and spatial data quality.