Geophysical Research Abstracts
Vol. 12, EGU2010-2225, 2010
EGU General Assembly 2010

In-field Access to Geoscientific Metadata through GPS-enabled Mobile Phones

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Fieldwork is an integral part of much geosciences research. But whilst geoscientists have physical or online access to data collections whilst in the laboratory or at base stations, equivalent in-field access is not standard or straightforward. The increasing availability of mobile internet and GPS-supported mobile phones, however, now provides the basis for addressing this issue. The SPACER project was commissioned by the Rapid Innovation initiative of the UK Joint Information Systems Committee (JISC) to explore the potential for GPS-enabled mobile phones to access geoscientific metadata collections.

Metadata collections within the geosciences and the wider geospatial domain can be disseminated through web services based on the Catalogue Service for Web(CSW) standard of the Open Geospatial Consortium (OGC) - a global grouping of over 380 private, public and academic organisations aiming to improve interoperability between geospatial technologies. CSW offers an XML-over-HTTP interface for querying and retrieval of geospatial metadata. By default, the metadata returned by CSW is based on the ISO19115 standard and encoded in XML conformant to ISO19139. The SPACER project has created a prototype application that enables mobile phones to send queries to CSW containing user-defined keywords and coordinates acquired from GPS devices built-into the phones.

The prototype has been developed using the free and open source Google Android platform. The mobile application offers views for listing titles, presenting multiple metadata elements and a Google Map with an overlay of bounding coordinates of datasets. The presentation will describe the architecture and approach applied in the development of the prototype.