Wireless spatial data logger for GIS

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Abstract

Data management plays an important role in GIS. With ever increasing challenges in spatially-related managing and decision making applications, wired GIS cannot meet the demands of users for easy access to spatial data and spatial analysis. For real time and near real time applications, data needed to be uploaded and retrieved from the field to minimize acquisition time frames, and remove intermediate processes that are typically required to get geographic information from the field into an application.

Rapid development in wireless and Internet technologies Personal Digital Assistants (PDA) have put forth the concept of Wireless GIS which is overcoming above needs and making GIS available publicly and in the users hand

This paper describes a prototype developed for wireless spatial data logging in real time. Spatial Data Logger (SLD) consists of mobile device capable of accessing Internet with proper extensions for GPS receiver and compact flash camera. Data can then be simply logged from the field and uploaded to Geo-Database server.

OpenGIS enables spatial data sharing and system interoperability, which leads to data integrity, timeliness and hinders data replication. Open Source softwares and freeware packages, e.g. Minnesota MapServer, PHP, PostgreSQL and PostGIS are used to develop data logger.