Collecting and Processing Land Surveyors' Sensor Data

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Abstract
Our open source project, called Ulyxes was redesigned and rewritten in Python recently. The aim of our OS project is to collect data from robotic total stations, GNSS receivers, Web cameras without human interaction. Collected data are uploaded to PostGIS database and published on the Internet using OpenLayers and MapServer.
For data processing the SurveyingCalculation QGIS plug-in was developed. Special surveying calculations as traversing, network adjustment, co-ordinate transformations can be solved by the Python plug-in. Network adjustment uses GNU Gama OS project. The developed tools are used for educational purposes at the university and they were tested in real live situations. Students are involved in the development.
The state of the project and some application will be presented. Other sensors are planned to integrate.

References
  Leica Geosystems AG, Heerbrugg, Switzerland
✔ Ulyxes Web site - http://www.agt.bme.hu/ulyxes