

## **Title: Development of a Software Tool “gittok” for the Education on Geospatial Information Technology**

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Abstract: This paper aims to report the development of all-in-one software tool on Geospatial Information Technology for under-graduate students and beginners in industries. The education environment for learning Geospatial Information Technology based on the knowledge of IT such as Object Oriented Modeling, Conceptual Schema Language and Geographic Information Standards is still not sufficient in Japan, despite the fact they are the prerequisites to construct the Spatial Data Infrastructure. The author was the member of Japanese delegation to ISO/TC 211, the member of the research project on the design of GIS&T Body of Knowledge in Japan, and a lecturer of the Introduction to Geospatial Technology at the University of Tokyo. These experiences motivated the author to develop the education assistance software for under-graduate students and beginners.

Name of the software is “gittok”. This is an education assistance software not GIS. There are few such free and open source softwares in the world. Students can learn fundamental structure and knowledge of GIS&T and idea behind Geographic Information Standards, and they can get tips how to develop Information systems applying geo-data.

The Body of Knowledge on GIS&T comprises modeling, acquisition, management, analysis, exchange and representation of geo-data. Gittok has the module (as an window on the screen) called “Modeller”. It enables that students learn and design application schemas in compliance with the simplified General Feature Model. “Editor” enables students acquire and edit feature instances and attributes such as geometry, thematic, address, URL, photo, movie and sound. They can create simple metadata and select a dataset using the stand-alone geo-library on “Manager”. They can execute fundamental spatial analysis on “Analyst”. “Exchanger” can encode and decode geo-data, application schema, metadata, symbol/label dictionary and portrayal schema for map drawing, and parameters of the coordinate reference system and map projection. Finally, “Cartographer” enables that students design and edit maps using portrayal schemata.