

## Overview of Geo-temporal systems for Area Informatics

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Area Study is one of the interdisciplinary sciences consisting of many disciplines such as history, literature, religions, politics, economics, ethnology, folklore, agriculture, environmental sciences, and so on, and aims to grasp and compare areas/countries comprehensively. However, Area Study is divided into each discipline (this situation looks like a matrix of areas by subjects and each element is independent), and is difficult to achieve interdisciplinary study. Area Informatics is the new paradigm to integrate individual discipline and to create new knowledge on areas/countries using information engineering technologies such as metadata standardizations, databases engineering, ontology engineering, geo-information systems/science (GIS), global positioning systems (GPS), remote sensing (RS).

In PNC2007, we organize two sessions on Area Informatics. The first session is “technological aspect of Area Informatics,” and the second session is “application of their technologies to Area Study.”

In the technological aspect session, we will introduce 3 geo-temporal systems. The first system is HuMap (Humanities Map). It is a newly designed geo-oriented system that can overlay many maps and images according to their locations. It can retrieve features from each layer, retrieve and import layers from data clearinghouses, and operate on features among layers. The second system is T<sup>2</sup>Map (Time and Theme Map: T Square Map). It is revolutionary time-oriented system that can overlay many chronological tables according their timelines. It can retrieve events from each layer, retrieve and import layers from data clearinghouses, and operate on events among layers. HuMap and T<sup>2</sup>Map will use same metadata then they can access each other seamlessly. The third system is The Gazetteer Database on Japanese Classical Places. It is the database of place names (rivers, lakes, mountains, shrines, temples, houses, monuments, villages, towns, counties, states, etc.) of present and past with their attributes and locations (longitudes and latitudes).

In the application session, we will present four trials. These include analyzing place names using the gazetteer, mapping events discovered during field works using the geo-oriented system, and finding chronological trends using time-oriented system. These are the typical examples to apply geo-temporal systems to Area Studies.

Pacific Rims is the most active area in the world, and every countries in this area need to reconstruct a new framework to get together better. Area Study is the key for this new framework, and Area Informatics will contribute to its evolution.