Japan Geoscience Union Meeting 2011
(May 22-27 2011 at Makuhari, Chiba, Japan)

U004-01 Room:304 Time:May 26 10:45-11:05

How to construct ”science commons” together

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1. Introduction

In order to get a solid foundation for constructing ”scientific commons”, we need to evaluate the feasibility with respect to physical, engineering, economical, social/cultural and political aspects and to make a well-balanced collaborative frameworks for experts to work together. Physical and engineering feasibilities to deal with huge, various kinds of multi-disciplinary data balancing quality of data and data services from data capture to open access by taking advantage of available e-infrastructure have been enlarged quantitatively thanks to evolutions of ICT (Information and Communication Technology). However, such qualitative and semantic issues as data models, standardization, metadata/ontology, qualification of analysis tools and also legal/economic issues like open access, IPR and collaboration schema of different stakeholders have been remaining timeless subjects not so easy to overcome for us all. In this paper, the latter challenging issues are briefly discussed for productive collaborations.

2. Can we set out the guidelines for collaboration?

The process of establishing an inventory of data sets-scientific commons- with an open and inclusive manner for everyone requires us to share an image of wholeness on the final outcome, where and when we need to be flexible and adaptive for the spontaneous evolution of the inventory. We need to work with ”neighborhoods” with practical information infrastructures to interact successfully with one another, and to form successful wholes. The necessary guidelines which allow infrastructures for all committed members or stakeholders are to be designed, used and maintained. The infrastructures are expected to give all members ”comfortable”, ”healthy” and ”pleasant” space for communication with neighborhoods, and some experts call them ”Cloud” which is something beyond traditional information systems and web-based systems.

Many scientists are struggling to manage fresh and ever-growing data of diversity and depth by taking advantage of complex ICT. Databases are as valuable as the quality of the data they store, but there is a problem who pays for the quality. In the nowadays business world, data warehousing are common approaches to improve business information systems, often under labels like CRM, ERP and Supply-chain management, but scientific data are thought in principle as public goods to be shared by everyone. Externalizing data has implications on data access, security, timeliness and availability thus data quality and interoperability may be expected to encompass. There a data governance function is to be established with a recognition of the above important aspects for data services, but the data and information quality require intensive commitments and interactions of data producers and data users coordinated by data service experts.

Into modern architectural concepts such as cloud computing and/or other data services, available data resources are to be re-implemented inheriting valuable contents with a harmonization to the continuously added new data in an ecological and sustainable manner. The deep philosophical semantics and structure in things and processes are to be concerned, which is responsible for the human connection in the world. It requests the origin of the spiritual human dimension to work together with virtual neighborhoods in terms of which gives each person a solid underpinning for step by step actions towards these difficult realms.

3. Our Role

Today people have agreed to enhance cooperation on climate change, clean energy, and the environment overcoming many discrepancies and conflicts in the world, where we need to share high quality data for fruitful discussions and consequent actions. Data activities have become more and more important, and we scientists are expected to contribute to our society through close collaboration to create ”science commons” together.

Keywords: database, knowledge infrastructure, CODATA, commons, academic collaboration, data activity