Two Traditional Metadata Approach

Metadata is often described as data about data or information about information. This definition is not clear to some people, to make it easier to understand, we can say that the metadata is structured information that describe or explain the information resource. It is used to locate and retrieve information resource. However in different communities the term metadata is used differently. The ability to identify, locate and retrieve information is crucial in today’s digital environment because internet links the world together and there are too many information on the internet.

There are two traditional metadata approaches each one of them has its own research history and characteristics. The first one is called the bibliographic control approach and the other one is call the data management approach. Both approach has been modified and adjust to adapt the new environment and during the process of adjusting and modifying the two approaches are moving closer to one another.

Bibliographic approach has been adapted by the libraries as we know that libraries have a long history on managing information thus the development of the information management system is focused on organizing and provide access to information – bearing entities such as books and printed materials. Bibliographic approach focuses on identifying the location of the information objects and facilitating the collocation of subject content. The rise of the World Wide Web and as the decade that the Digital Library was invented this provides both opportunities and challenge for libraries. On the positive side, libraries have new options for describing materials and it has created a renewed sense in resource description. However the already matured and well developed tools for managing the traditional catalogue is replace by the new formats of the library profession. The revolution of the library profession needs the support of the entire industry suddenly we are confronted by content standards with no syntax and with data structures that we have no systems to support.

According to Smith (1996) the characteristics of metadata as operationalized in traditional library contexts are:

1. Provide individual information of the object in the collection of library.
2. Usually stored as the content of library catalogs.
3. Mainly for the user to access to the information object of interest

These characteristics can be adapted to characterization of metadata digital context, as:

1. The organization of the meta-information in physical form is replaceable with a more flexible but structural organization in electronic form.
2. Single physical organization of a collection of information objects is replaceable with multiple logical organizations of information objects.
3. Having the information objects in digital form and use digital technology for information identification and extraction.
Data management approach focuses on enhancing the use of the source which is any information that supports the effective use of data. This approach has been adapted by the computer science community. There are many different computerized information storage and retrieval systems, these systems provide data security, data sharing, and data integrity functions which are the addition to those of information location, identification, retrieval, and manipulation found in bibliographic control systems. In another way, it is more complicated than the bibliographic control system. Increasingly large amounts of scientific and technical data are being created and saved in digital data storage systems. There is a need to expedite the access and use of this data. A variety of different data and formats need to be addressed, such as: images, video, audio, tables, arrays, graphics, algorithms, and procedures. When the data archives become large, distributed, and diversified, then it will result in complex data structures and data interrogation mechanisms. Therefore, they need to develop different data models in order to solve the problems. Unlike the bibliographic control approach, any additional information like content description, access restriction, and administrative data that is necessary for data to be useful.

Despite differences in theories and practices, both approaches use metadata schemes to locate, identify, retrieve, and manipulate information. The changing environment of digital technology causes the traditional libraries and data archives to move closer to each other because they both rely on the use of the internet as an information delivery system. This shows that the traditional metadata format has evolved into the digital technology-based format.