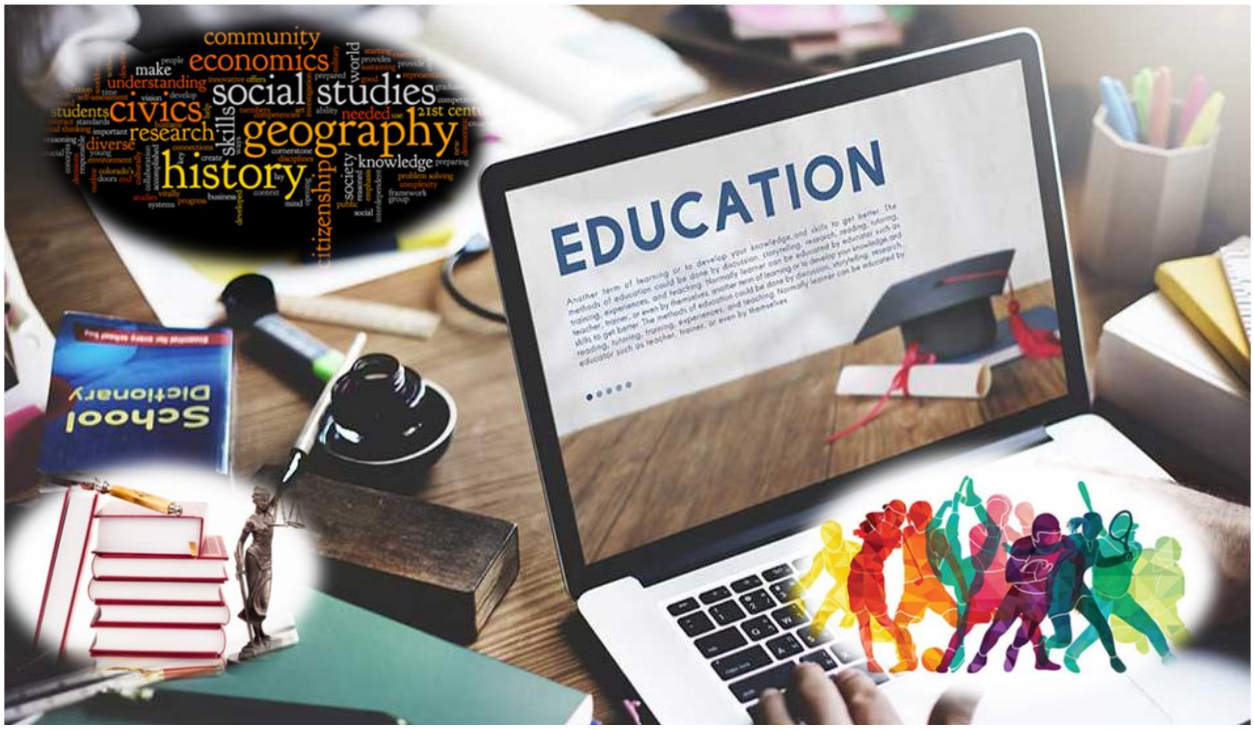

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FOCUS ON VIRTUAL COLLECTION

RUKHSANA SHAWL[1], Dr.SHABINA[2]
[1]Chief Librarian, Govt.Degree College Ganderbal
[2]Asstt. Prof. Functional Englishm Govt.Degree College Ganderbal

ABSTRACT
A Virtual Library is a collection of electronic library recourses especially in the form of textual materials, databases, media and catalogues. Due to digitizing the library recourses and fast changing technology, a new type of library is come in existence which is called –virtual library. Library users are demanding virtual library as well as a physical library because of their learning demands can be fulfilled by virtual libraries. Virtual library planning and designing can provide a rich learning environment. In library and information science various terms are used to describe virtual libraries: digital libraries, electronic libraries, e-libraries, and the broader term virtual library. In this paper, the term virtual library is used to describe any managed collection of information sources in an electronic format. Therefore, virtual libraries can include digital collections of pictures, maps, websites, or library records.
Key words : Digital library, virtual collection, metadata, e-learning

> "Such help as we can give each other in this world is a debt to each other; and the man who perceives a superiority or a capacity in a subordinate, and neither confesses nor assists it, is not merely the withholder of kindness, but the committer of injury." – *John Ruskin*

It is apt to mention that the traditional library evolved to provide services to make its contents more accessible to its users; the effective digital library must develop a range of services to assist its users in finding, understanding, and using its contents. Moreover, in its digital form the library has the potential to not just emulate traditional libraries in the services it provides but to improve and extend them by capitalizing on advantages inherent in the medium. One important area where the digital library canextend the services it provides beyond that of the traditional library is in integrating and highlighting user contributions.

With the exception of especially unique or noteworthy contributions, the traditional library is rarely eager to receive resource contributions outside of its usual channels, as the effort needed to catalogue and integrate outside contributions into a physical library is substantial. Digital libraries, on the other hand, are more often willing to receive contributions. It has been demonstrated that a combination of minimal submission data and basic verification procedures can result in high- quality digital library contributions with low rejection rates.

Such contributions enhance the value of the digital library by increasing its size and diversity and the process of cataloguing and integrating contributed resources into a digital library often requires less effort. However, the aspects that make digital libraries built from user contributions valuable-diversity of content, potential for large growth also create potential drawbacks. For example, search and browse facilities enable users to find resources based on features such as author, subject, and keywords, but as a digital library grows, finding specific resources of interest among the entire

collection can become more difficult. At the same time, the prominence of a given contributor's contributions becomes diminished as the library grows. One way to help users find resources of interest in a digital library while ensuring that contributors receive recognition is to borrow a concept that has long been part of traditional libraries: the special collection. By defining and making available virtual collections we believe the digital library can extend the special collection model and-at a modest cost-provide benefits to both its users and contributors that will encourage its own growth and viability. Traditional libraries often contain, in addition to their main holdings, special collections. In these settings a special collection is generally defined as a group of related materials that is given some form of special treatment. The special treatment might be due to the rare or delicate nature of the materials (rare books or antique maps, for example), or because the library wants to highlight the materials in some way. In contrast to traditional libraries, the special or sub-collections of digital libraries can be much more fluid. Where the holdings of a traditional library are physically constrained to a single space and a single ordering, resources in a digital library can be distributed across many servers, can be owned by different organizations, and can be displayed in many different orderings and arrangements. This fluid nature makes defining collections and sub-collections in the digital environment less straightforward. Adhering closely to the traditional library definition, one could consider a digital library collection to be all those resources that reside on a single server, or alternatively, all those that can be accessed through a given library's interface, even if they are physically distributed. However, even a broad definition of a collection in the context of digital libraries can be ambiguous. It can, for example, be influenced by the point of view of those making the definition. The people responsible for managing resources stored in separate databases might think of each as a distinct collection, while an end user with access to them all is more likely to consider them a single collection. Defining sub-collections can be even more flexible as there are many possible factors that can suggest how sub collections can be formed. A sub-collection can be defined by including all those resources that share a topic or other significant attribute (the collection of all butterfly images), those contributed by a specific organisation (the collection of Insect Museum resources), or those used for a specific purpose (all resources used for the online course in butterflies).

These sub-collection examples are instances of collections that cannot be easily replicated in traditional libraries. They are made possible by exploiting advantages the digital environment inherently provides: objects can exist in multiple collections, collections with the same objects, grouped in different ways can co-exist, collections can be created dynamically and exist for varying amounts of time. They become virtual collections and as such-in contrast to the traditional library-enable a digital library to provide a limitless number of sub-collections based on a wide range of features.

Ways to Creating Virtual Collections

Although it is common for traditional libraries to create and maintain special collections, many digital libraries do not attempt to provide a similar service. Most digital libraries do create the most basic of virtual collections-the result set dynamically created from a search request or category browsing-but rarely do they explicitly create and promote the sort of virtual collections described above. Doing so, however, can benefit both the users of the digital library and those who contribute resources to it. A digital library that contains virtual collections helps its users in several ways.

A new user who may be intimidated by a digital library's search interface or the number of results returned by a query might be better introduced to the digital library through the more easily explorable partitioned set of resources in a virtual collection. A directory of the virtual collections contained by a digital library can provide a good introduction and overview of the library's contents to new or casual users. Associating resources with virtual collections enables those resources to be found more easily, either by browsing the contents of a highlighted virtual collection or through standard search and browse interfaces.

Adding virtual collections to search facilities, such as that of the iLumina digital library of educational resources, enables a user to perform a standard search but restrict it to a specific virtual collection, which could provide a more manageable and higher-quality result set than by Searching the entire digital library. Looking at the use of the digital library from a "work- oriented perspective", other benefits to the user stem from a more productive use of time. In it is suggested that sub collections can facilitate work by isolating a group of related content and enabling a user to focus on those resources.

Defining virtual collections makes it easier for users to find and work with such groupings of related content, either through a listing of available collections, or by a "related resources" link based on virtual collection associations and tied to specific resources. Additionally, the virtual collection description might include links to related information outside the digital library, thus guiding users to more materials for their work.

In most cases those who contribute resources to digital libraries (at least not-for- profit libraries, such as the new National SMETE Digital Library (NSDL)) are not directly compensated, yet digital libraries often depend largely on contributions for the content they provide. It is, therefore, in the best interests of the digital library to find ways to encourage new and repeat contributions. Virtual collections can benefit contributors in several ways. First, they provide an alternative distribution outlet. Contributors often have collections in which they have invested effort in creating and would like to see used more widely. Because a digital library will generally have a much larger base of regular users than the contributor, contributing the collection gives the contributor's resources more exposure. By grouping a contributor's resources through a virtual collection the digital library helps maintain the resources' association with the contributor and in effect provides publicity and recognition to contributors.

By explicitly highlighting virtual collections and the people and organisations that contributed them, a digital library can increase the visibility of contributors. As a result, contributors are likely to benefit from more traffic to their own web sites, and can point people to their contributions at hosting digital library. Virtual collections can not only help improve the "brand" of a set of resources and support their distribution, but can also offer basic infrastructure services.

In some cases, such as with the Open Video Project where the resources (video files) are quite large, contributing resources enables the contributor to share resources without the overhead of storing and managing them, while retaining an association with them. If a contributor owns a large number of resources, this is a significant benefit itself, and one that has been taken advantage of by several Open Video Project contributors. Finally, if the digital library shares information about resource usage, either directly to its contributors or as is increasingly common, through most recommended or top- 10 lists, the contributor can gauge the relative demand of his contributions. This is helpful not only to contributors and the users of the digital library, but also "helps new contributors understand what is considered a good item".

Implementing Virtual Collections

The benefits of virtual collections do not come without a price, of course. For a digital library to be able to easily create and remove virtual collections, to associate resources with different virtual collections in a flexible way, and to help users find and use the virtual collections, the library must have a structured approach to representing these collections. Moreover, to make creating such collections practical, this approach should also strive to minimise the costs associated with creating virtual collections. Metadata is a key element of any library, traditional or digital. Metadata is used by libraries to describe and organise item-level resources and by users to search and browse the library. Collection-level metadata performs a similar function for collections and is used in traditional libraries for discovery across collections. Work cm collection-level metadata from several fields including archives, museums, libraries, and the Internet is relevant to the design and implementation of virtual collections. As outlined in, each field defines collections differently and has different

standards governing collection description. The past few years have seen a movement to create a standard for collection description that is informed by, yet transcends, the fields from which it is derived. Work in the UK and the US has resulted in the formulation of goals for collection- level metadata and the definition and development of schemas to describe collections. Based on work with the eLib working group on Collection Level Descriptions, the RIDING Clump Project created a searchable database of collection descriptions to provide information about what was available in its libraries.

The purpose of its scheme was to describe any type of collection- physical or virtual (electronic), networked or otherwise. RIDING collection metadata should allow users to discover, locate and access collections, search across multiple collections and allow software to provide services based on user preferences. In fact, the Research Support Libraries Programme (RSLP) Collection Description Project developed a model allowing all the projects in its programme to describe collections in a consistent, machine readable way. The RSLP builds upon the RIDING goals above by requiring that collection metadata allow the refinement of distributed searching approaches based on the characteristics of collections. The Alexandria Digital Library (ADL) is a research digital library project focused on geo-referenced geo-spatial information. The goal of the ADL is to create a single model that supports the four roles ADL identified for collection metadata: collection registration, network discovery, user documentation, and management. First, it highlights the importance of establishing standardised collection levelmetadata schemas that can effectively describe and manage a diverse set of collections and their metadata. Second, it argues that the schemas must support a number of functional library services that enable users to access collections and items, to search for materials, and to comprehend and use them effectively.

Types of Metadata

One challenge to creating collection-level metadata noted in the literature is the potentially high cost of production. Metadata can be automatically-generated or human- created with the latter clearly imposing more significant costs in terms of human effort and time. In the context of collections, describes two types of roughly corresponding metadata: inherent metadata, or information that can be extracted from the resource objects themselves, such as total number of objects or total file-size of the collection; and contextual metadata, or metadata which involves human judgment to create, such as a textual description of a collection of resources. There are significant advantages to utilising inherent metadata as much as possible. Because it can be generated automatically, inherent metadata has minimal costs associated with its creation and maintenance and can be updated on a regular, automated schedule. In contrast, human- created metadata is time-consuming, error-prone, costly to create, and more likely to be inconsistent. A person assigned to create metadata may only perform this task on An occasional, as-needed basis, and it may be a lower priority task than others for which that person is also responsible. Inconsistencies in metadata assigned to resources can arise due to variations in a given cataloguer's judgment over time and because different cataloguers may make varied judgements in cataloguing resources. There are drawbacks to relying solely on inherent metadata to define virtual collections, however. A risk in complete automation is the loss of many of the benefits of creating a virtual collection.

Contextual metadata is important because it enables us to give some character and cohesiveness to the virtual collection. Indeed, a collection. The use of contextual metadata and human judgment in selecting resources to be included in a virtual collection has other benefits. Virtual collections can be described "in terms of expected use in addition to being characterised by the terms they actually contain".

Resources can be more carefully chosen for inclusion in a virtual collection, with consideration of expected use, resulting in a more concise collection of high-quality resources that is easier to for the user to search or browse. It is important to recognise, however, that a collection- level schema that relies heavily on contextual metadata is relatively costly to implement and thus less

likely to be maintained in the long term. A more viable approach is to define a schema for virtual collections that balances the costs and benefits of each type of metadata.

In short, a cost-effective schema should include useful inherent metadata, supplemented by contextual metadata that captures human judgments of a collection's nature and the selection of criteria for inclusion in the collection.

Virtual Collections in i Lumina and Open Video

To ensure the schema was sufficiently general, we applied it to two very different digital libraries: iLumina, a library of sharable undergraduate teaching materials for science, mathematics, technology, and engineering; and Open Video, a shared digital video repository and test collection. Each digital library contains more than 1000 items and accepts contributions from anyone, subject to review before being made publicly available. Substantial collections of resources have been contributed to each digital library by a single person or organisation.

In iLumina's case, these collections include a group of light and electron microscope images (micrographs), several hundred "physlets," or small physics applets, and a collection of images and related information of butterfly and moth caterpillars. In the Open Video digital library, substantial contributions of video footage have come from a handful of organisations, including the Internet Archive, Carnegie Mellon's Informedia Project, and the University of Maryland's Human Computer Interaction Laboratory. A unique aspect of the Open Video Project is the large size of its video files, which has encouraged contributions from some organisations that lack the resources to store their video themselves. In both iLumina and Open Video the resources of their subcollections can be found through various searchirig and browsing mechanisms. However, for reasons discussed earlier, we felt that creating virtual collections to represent the contributed sub- collections would benefit both the contributors and the users of these digital libraries.

Specifically, our primary motivations for developing virtual collections were similar in each case: to highlight the work of authors/creators who contributed a critical mass of materials on a topic, to streamline the creation of itemlëvel metadata, and to provide users with another way of accessing and understanding the items available.

Defining a Collection-Level Schema

RSLP's collection description schema was chosen by iLumina and Open Video because the set of elements was universal, yet provided the flexibility for customisation, if needed. The RSLP schema was also selected because it is based on the Dublin Core schema. Dublin Core is a common item-level schema used by many digital libraries, which would facilitate mapping elements and exchanging data.

Previous work from the RSLP and the Collection Description Focus resulted in thorough documentation, which facilitated understanding and implementing the schema in a relatively short amount of time. Other projects currently use the RSLP schema to describe large, unrelated, relatively static physical collections in a digital environment. Our unique contribution is to use the RSLP schema to describe "born digital" objects of varying granularities, with varying relationships and at varying stages of collection growth in a digital library.

However, the fact that RSLP is typically applied to physical collections meant that some elements and cataloguing notes were not relevant to describing collectionsin a digital environment. This did not minimise the universal nature of the element set or render the schema unusable, but it did require us to review all the RSLP elements and choose the ones most appropriate to digital collections, iLumina and Open Video formulated requirements used to select RSLP elements, and, more generally, to measure the success of implementing the RSLP schema.

- **Identifying a subset of useful elements that would yield informative and easily understood collection descriptions**
- **Minimizing the cost, in time and resources, of creating collection- level metadata**

Useful collection descriptions can be created by identifying a subset of elements relevant to users, by ensuring that metadata is complete within a collection description and consistent across collections and by presenting descriptions in an easily understood interface.

Low-cost metadata creation can be accomplished by harvesting metadata automatically, by requiring the collection creator, rather than a cataloguer, to describe their collections and by providing an efficient cataloguing tool. Using the complete RSLP schema, collection-level descriptions were created for iLumina, Open Video and theirsub-collections. It was important to identify the metadata source (item-level record, collection, creator, subject-area reviewer) to track the cost of creating metadata. By starting with the complete schema we identified elements that aided understanding the collection.

This process also identified extraneous elements, which were not included in the collection record interface and the collection cataloguing tool being developed. The resulting subset of elements met our requirements: collection descriptions could be created with minimal cost while providing sufficient information to aid discovery.

Implementation of the Collection-Level Schema

The subset of elements used to catalogue collections in iLumina and Open Video; the RSLP suggested use for each field; and, the iLumina and Open Video decisions about the type of data to include in each field and who provides the information.

The RSLP schema contains 46 elements. Originally, iLumina and Open Video implemented a subset of eleven. After another iteration of testing and design, iLumina has implemented sixteen and Open Video seventeen RSLP elements. The element subset records four types of information about collections: a description, access policies, relationships to other collections, and collection owner contact information.

The subset was chosen because the initial cataloguing process consistently yielded data for these elements. The subset also matched the types of data reflected in item-level records. This provided users with consistent information between item and collection. During the initial implementation, four listed elements were not included in the subset: Type and the three elements related to time. Because the RSLP schema has been used to describe physical collections, the developers created a controlled vocabulary to distinguish between collection types.

We used the type element during the initial cataloguing process, but found that the collections in iLumina and Open Video were often of the same type, so the same vocabulary terms were used repeatedly with no distinction. Also, the terms would have to be explained to collection contributors and users, which could be a barrier to cataloguing, using, and comprehending the collections. Recently, however, Open Video incorporated the type element into its schema as a means to distinguish between virtual collections created for different purposes, such as collections organised around a specific contributor and collections containing resources from different contributors intended for a special purpose, such as a test collection.

Rather than using the RSLP controlled vocabulary for Type, which classifies collections by curatorial environment, content or policy, Open Video created a new vocabulary more appropriate to its online resources. iLumina has not yet incorporated the type element but the new vocabulary Open Video has implemented for Type may be integrated into iLumina in the future. Initially, iLumina and Open Video did not implement the three time elements because they seemed more applicable to physical collection.

However, informal feedback indicated that users preferred to see metadata about time because it aided understanding the collection. As a result, iLumina and Open Video included two elements. After identifying a useful subset of elements that would inspire our schema, we next considered how to minimise the cost of determining values for those elements and how to extend the possibilities for expressing relationships between collections. The cost of creating collection-level metadata can be reduced by automatically populating fields in the collectiondescription.

In iLumina and Open Video, "manually-entered" metadata is providedby the collection creator via a cataloguing tool or by a subject-area reviewer when the collection-level metadata is examined. "Automatically populated" metadata is derived from querying specific fields of item-level resources within the collection. The Alexandria Digital Library uses "automatic" to describe the process of harvesting inherent metadata from the resources themselves and not from item-level descriptions. In the case of iLumina and Open Video, collection descriptions are completely comprised of contextual metadata that is manually entered either at the item or collection level.

Currently three fields in the subset can be automatically populated with metadata from the item-level description. For collection description to be cost-effective, the cost of item-level metadata creation must be minimised and more fields in the collection description must be automatically populated. Implementing a cataloguing tool with a usable interface for collection contributors is another way to reduce the cost of creating collection-level metadata.

In the prototyped collection cataloguing tool, metadata for other fields will be supplied in drop-down menus with standardised vocabulary or text boxes that can be modified by collection contributors or reviewers. This will ensure consistency in collection description. Also, a well-designed interface with clear instructions should minimise the cost of metadata creation in terms of a contributor's time. For example, when a collection record is rendered in XML, the elements retain their RSLP attributes; however, field names were changed on the interface (RSLP attribute "Concept" becomes "Keyword" ; "Super Collection" becomes "Collection is Part Of").

Remarkably, iLumina and Open Video hope to pass the majority of the cataloguing costs on to its collection contributors as a trade-off for having the collection publicised, iLumina will incur some cost through the involvement of the subject-area reviewer as they error-check metadata and recommend changes. One aspect of metadata creation that iLumina contributors and subject-area reviewers share is identifying the relationships between collections and expressing them through the relational fields. These relationships can be applied to collections of varying sizes and granularity, which shows the relational fields for the iLumina Digital Library, which shows the Physlets virtual collection within iLumina.

Though relationships are currently noted manually, in the future, relationships between collections could be inferred automatically. For example, when the Physlet record notes in field "Collection is Part Of" that it is contained in iLumina, then the iLumina record would automatically reflect the Physlet collection in the field Contains Subcollections. As collection-level metadata becomes widely used, we believe the relational attributes will be essential not only for discovering resources within single repositories, but also across digital libraries, such as the National SMETE Digital Library (NSDL).

As it is currently envisioned, the NSDL will be a highly distributed set of collections and sub-collections tied together by a core integration system that coordinates services on the collections for users across the country. However, the larger and more distributed the NSDL becomes, the more difficult it will be for users to find valuable resources and the (often small) collections they need.

By explicitly representing not only a wealth of virtual collections, but also the relationships among them, regardless of their physical location, a collection-level metadata schema should greatly improve the navigability of the NSDL.

Digital Collections Selection Criteria

Digital Collections Selection Criteria are applied by organisations (typically libraries) creating a digital library which of their existing holdings and forthcoming acquisitions to digitize for inclusion.

In fact, strategy with defined selection priorities for digitization is critical, and should consider both preservation and access. Factors to consider are:

- the value of materials;
- the condition of materials;

- use of materials; and
- Material characteristics ensuring a high level of success.

For the Library of Congress, items of national interest were prime candidates both to improve access and reduce wear and tear on the physical copies.

In the early discussions about digitization of library materials the selection decisions were often proposed based on a desire for better access to that item's content, and not on the condition or value of the original item. In 2001, Paula De Stefano wrote that a use-based group of criteria was promising, as it is "fundamental to collection development and is the common thread in all selection decisions".

In practice, however, her study showed that most digital projects focused on special collections, which are generally not the most popular items in the overall collection. The persistent risk of disappearing "last copies". And the declines seen in the condition of national treasures, as exemplified by the 2005 Heritage Health Index Report on the State of America's Collections provide the rationale for establishing priorities and balancing access with preservation needs.

The transient nature of electronic information can contribute to a phenomenon called "memory loss." This is a result of data extinctions as technologies become obsolete. There is also a drift away from original bibliographic contexts as time passes.

Comprehensive Considerations for Selection

- Assessment of the intellectual and physical nature of the source materials;
- the number and location of current and potential users;
- the current and potential nature of use;
- the format and nature of the proposed digital product and how it will be described, delivered, and archived;
- how the proposed product relates to other digitization efforts; and
- Projections of costs in relation to benefits.

REFERENCES

De Stefano, Paula. (2001, January). Selection for digital conversion in academic libraries. College & Research Libraries 62(1), 58-69.

Gertz, J. (2000 April). Selection for preservation in the digital age: An overview. Library Resources & Technical Services, 44(2), 97-104.

Hazen, Dan; Jeffrey Horrell; Jan Merrill-Oldham (August 1998). "Selecting Research Collections for Digitization". Council on Library and Information Resources.

Marcum, Deanna B. (2 July 2007). "Digitizing for access and preservation strategiesof the Library of Congress". First Monday[Online] 12 (7). Retreived8 September 2011.

Silipigni Connaway, L, et. als. (2006, July). Last copies: whats at risk?. College & Research Libraries, 67(4), 370-9.

Teper, Thomas H. "Where Next? Long-Term Considerations for Digital initiatives Kentucky Libraries. 65(2) (2001):12-18.