Information Management Resource Kit

Module on Digitization and Digital Libraries

**UNIT 5. CREATION AND SHARING
OF DIGITAL LIBRARIES**

**LESSON 1. CREATING A DIGITAL
LIBRARY COLLECTION**

At the end of this lesson, you will be able to:

• identify the steps for planning and implementing a digital library collection development project

---

Introduction

Creating a digital library collection requires the careful planning, implementation and management of various processes. These are essential if the finished product is to successfully meet user needs and conform to accepted quality standards.

Creating a digital library collection involves the following three steps:

| PLANNING | IMPLEMENTATION | PROMOTION & PROVISION OF SERVICES |

In this lesson, we introduce you to these steps and discuss related issues.
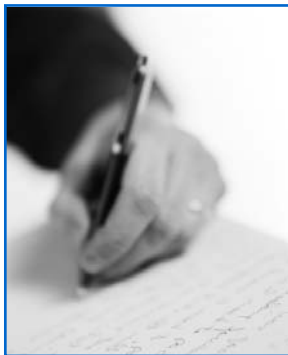
Digital library project planning

PLANNING

Planning mainly involves identifying various tasks related to creating a digital library collection, developing strategies for handling these tasks, identifying required resources and formulating a timeline for accomplishing these tasks.

If you have a large digital library project, you may consider conducting a **feasibility study** to assess the viability of the project before detailed planning. The outcome of the feasibility study could be a **formal proposal for obtaining management approval** for the project.

Digital library project planning

Here is a simple checklist of key tasks and associated considerations for planning your digital library project (**Plan Checklist**).

This is a general checklist – you can adapt this to prepare a checklist specific to your collection.

You will find it very useful to prepare a written **plan document** based on your responses to such a checklist. This plan document will be invaluable during project implementation.

In the next screens, we will introduce the main section of the Plan Checklist, so you can have an overall idea of what it is about before using it.

Click here to view and print the plan checklist

Digital library project planning

I. Define need, purpose and user community

The first step in planning your digital library collection development project is to specify the **need** for creating the digital library collection, its **purpose** and **target user community**.

You should indicate if management, the users or others have expressed this need, and define what this need is.

The purpose could be improving preservation of some rare or delicate material, improving access to and the visibility of certain material, or facilitating reuse of documents.

It is important to identify the target user community for your digital library collection and their profile.

Digital library project planning

I. Define need, purpose and user community

II. Select and analyze source material
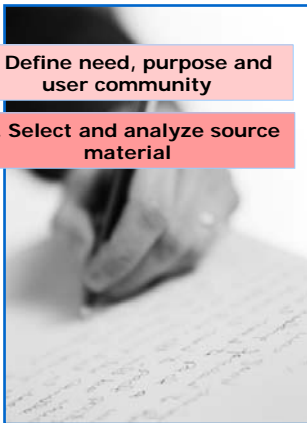
You should then define what **source material** that constitute your digital library collection and the **key attributes** of this source material.

Examples of source material include: project reports, staff publications, working papers, theses, audio and video lectures, songs and musical scores, etc.

Volume is defined as the number of documents and pages to be included in the collection, and their projected growth.

Specify what portion of the material is **to be digitized**, and if all the material or only a subset will be covered in the digital library collection.

Remember to assess **copyright** restrictions.

Digital library project planning

I. Define need, purpose and user community

II. Select and analyze source material

III. Determine digital library collection requirements and features

You should define the **key features of the digital library collection** you plan to build:

• identify the **nature of the collection** (static or dynamic);

• establish the **permitted usages** you will allow users, and the kind of **delivery** (CD-ROM or online or both) to be used;

• define **metadata**, **search and retrieval** requirements;

• assess the **document formats** to be used for storing and delivering documents, and the **user end requirements** to handle these formats;

• plan a strategy for maintaining **backup copies**;

• assess the **digital library software** to be used.

Digital library project planning

I. Define need, purpose and user community

II. Select and analyze source material

III. Determine digital library collection requirements and features

IV. Plan approach to digitization

An important task in creating the digital library collection is the conversion of source material available only in hardcopy into digital format. You should be clear about the related requirements and processes, namely:

• what the **digitization requirements** are,

• how you are going to convert the source material into required digital form (**in-house or external**), and

• the **workflow** involved in digitizing your source material.

Digital library project planning

Before proceeding, let's put the following processes related to digital library collection creation in the right sequence:

Digitization	☐
Metadata assignment	☐
Preparation of source material for digitization	☐
Loading to repository	☐
Selection of source material	☐

Please order these items using the dropdown boxes and press Check Answer

---

Digital library project planning

I. Define need, purpose and user community

II. Select and analyze source material

III. Determine digital library collection requirements and features

IV. Plan approach to digitization

V. Determine resource requirements for project implementation

You should identify the **resources and money** required for creating and maintaining your digital library collection.

You need to identify:

• what **IT infrastructure** is required for establishing and maintaining your digital library collection,

• what the **personnel requirements** are, and

• what the **financial requirements** are for setting up and maintaining the collection (budgetary break-up).

Digital library project planning

I. Define need, purpose and user community

II. Select and analyze source material

III. Determine digital library collection requirements and features

IV. Plan approach to digitization

V. Determine resource requirements for project implementation

VI. Prepare implementation schedule and timeline

Finally, you should define how the project is going to be implemented, and what the major **milestones and time requirements** are.

Project milestones are the major tasks identified using the plan checklist.

Total time required for establishing and launching the digital library collection mainly depends upon key factors such as collection size, the volume of material to be digitized, extent of metadata to be assigned and quality expectations.

Digital library project implementation

IMPLEMENTATION

Planning is followed by **implementation** – getting down to the actual steps required to set up the collection.

This means that you must obtain management approval for your plan and required resources before proceeding with implementation.

Digital library project implementation

You should identify and designate a **project manager** to lead the implementation of the digital library project.

For large digital library projects, it is essential to have a full time project manager for the project period.

Typically, this role can be taken up by an **existing library or IT staff member** on a part or full time basis depending on the project size.

In executing large digital library projects involving the participation of two or more divisions (or agencies), an advisory committee with representatives from key stakeholders interested in the success of the project could advise on and monitor project implementation.

Digital library project implementation

Implementing the digital library project involves the following activities. Note that these implementation steps are only suggestions. These steps are not implemented in the strict sequential order shown and many of these steps can be executed in parallel.

■ **Establish the project team:** You may need to hire new staff and/or re-assign existing personnel to the digital library project. Project staff also need training appropriate to the tasks they are expected to perform.

■ **Set up the IT infrastructure:** This includes setting up the digital library server, digitization equipment, and network connectivity.

■ **Procure and install digital library software:** For off-the-shelf digital library software (free or purchased), this will include tasks such as installation, configuration and testing of the software on the digital library server. If you plan to develop in-house software, this will require identifying/hiring programming staff and a system analyst to lead the development.

Digital library project implementation

■ **Finalize policies and specifications** related to source material, selection criteria, copyright, document formats, metadata, and search and retrieval, identified during the planning stage.

■ **Finalize workflows for digitization** and loading of content to the digital library.

■ **Set up the digital library collection site.** This mainly involves defining and configuring the skeleton digital library collection on the digital library server computer using the installed digital library software. Collection is configured as per various approved specifications (step 5 above). It is often useful to set up a prototype collection and get feedback from users to ensure that the collection configuration is appropriate.

■ **Establish contract with external vendor**, if digitization is outsourced, based on approved digitization requirements

■ **Obtain copyright permissions**, if necessary. If you are dealing with source material not owned or produced within your organization, this step should probably be handled right at the beginning, before you start implementation.
- Set up and manage the digitization workflow: Select and prepare source material for digitization
- Digitize source material and prepare electronic documents for adding to the digital library and for preservation
- Assess digitization quality (does it meet the approved digitization requirements?)
- Catalogue, classify and index electronic documents (metadata assignment)
- Assess metadata quality (does it meet approved metadata requirements?)
Manage files (e.g. naming of document files, their storage in various folders, linking with metadata)

Digital library project implementation

■ **Set up and manage the digitization workflow.**
- Select and prepare source material for digitization
- Digitize source material and prepare electronic documents for adding to the digital library and for preservation
- Assess digitization quality (does it meet the approved digitization requirements?)
- Catalogue, classify and index electronic documents (metadata assignment)
- Assess metadata quality (does it meet approved metadata requirements?)
- Manage files (e.g. naming of document files, their storage in various folders, linking with metadata)

■ **Develop the digital library collection website** and user interface. This mainly involves branding the collection by preparing an appropriate home page, collection description, help pages, etc.

■ **Release the digital library collection for use**

Digital library project implementation

Which of the following resources are related to the digitization part of the digital library collection development project?

- ☐ Scanner
- ☐ OCR software
- ☐ Digital library software
- ☐ Personnel doing proofreading
- ☐ Digital library server computer

Please select the answers (2 or more) and press Check Answer

Dissemination and provision of services

PROMOTION & PROVISION OF SERVICES

The digital library collection you have created should be visible and provide easy access for your users.

One way of achieving this is to include **links** (with a brief description) to the collection site in the appropriate pages of the library website and to other related online services in the organization.

If there is an organization wide search engine indexing internal websites, ensure that your collection site home page is included in the index.
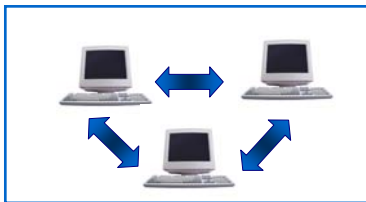
Dissemination and provision of services

A digital library collection is always accessed online, typically over the Internet.

○ True
○ False

Please select the answer of your choice

Dissemination and provision of services

In addition to (or in the absence of) remote online access to the digital library collection (intranet/ Internet), you may explore **other modes of providing access** to the digital library collection.

These include:

• setting up local public access computers on the library **LAN**,

• provision of **e-mail based services**, and

• **CD-ROM based** distribution of the collection.

Marketing and user support

The digital library should be systematically promoted to ensure widespread use. Promotional channels include:

• announcements through posters, leaflets, and emails;
• user orientation programmes; and
• specially designed brochures.

Users also have to be provided with support, both on-demand and in-anticipation. Suitable measures include:

• online help screens and tutorials;
• feedback forms;
• online contact information, and so on.

Sharing information and services

If some of the goals of your digital library are to provide open access to its contents and to provide wider access and improved visibility to your material, you can take several steps to achieve these.

These include:

• registration in **web directories** like Yahoo;
• request for inclusion of links to your digital library in web sites of other **similar digital libraries**; and
• registering your digital library in **digital library directories and portals**.

Sharing information and services

Digital libraries today use more powerful and automatic ways of **sharing their collections**. For example, two Internet-based protocols are very popular for this purpose. These are:

Z39.50 Information Retrieval protocol (http://lcweb.loc.gov/z3950/agency)	**OAIPMH** Open Archives Initiative Protocol for Metadata Harvesting, (http://www.openarchives.org/OAI/openarchivesprotocol.html)

Many library automation and digital library software packages support these protocols. If your digital library collection software is compliant with these protocols, you may want to ensure that these are enabled.

Guidelines and procedures

You can download and print the documents provided in this lesson here.

You may use them as tools for your job.

Plan Checklist - checklist of key tasks and associated considerations for planning your digital library project.

List of implementation activities – description of steps required to implement your digital library project.

Summary

Developing a digital library normally involves three steps: 1) planning, 2) implementation, and 3) promotion and provision of services.

1) **Planning** involves outlining various tasks related to the creation of the digital library, developing strategies for handling these tasks, determining resources required and a timeline for accomplishing these tasks. We presented a planning checklist that you can use in planning your digital library project.

2) **Implementation** involves setting up the IT infrastructure, establishment of the project team, and management of the workflow associated with the digitization, creation and release of the digital library collection, as per the plan.

3) **Promotion and provision of services**: after the collection is ready for use, it needs to be promoted, integrated with other library services and have its usage monitored.

Exercises

The following four exercises will help you test your understanding of the concepts covered in the lesson and provide you with feedback.

Good luck!

Exercise 1

Identify the three main reasons for creating a digital library collection.

☐ Improve access
☐ Improve visibility of library
☐ Improve preservation of rare and delicate material
☐ Improve competence of library staff
☐ Enable reuse of documents

Please select the answers (2 or more) and press Check Answer

Exercise 2

After specifying the purpose of the digital library collection, the next important step in planning a digital library project is to:

○ Establish the project team
○ Set up the IT infrastructure required for the digital library
○ Select the source material to be included in the collection

Please select the answer of your choice

Exercise 3

Three key resources are required for implementing a digital library project.

Two of these are the IT (Information Technology) infrastructure and financial resources.

What is the third one?

Type the answer in the relevant box

Exercise 4

Which of the following are promotional initiatives?

- ☐ online tutorials
- ☐ specially designed brochures
- ☐ online help screens
- ☐ feedback forms
- ☐ email announcements

Please select the answers (2 or more) and press Check Answer

If you want to know more...

Online resources

Building Digital Collections: Technical Information and Background Papers. National Digital Library Program (NDLP) at the Library of Congress.
http://memory.loc.gov/ammem/techdocs/index.html
Peter Noerr. Digital Library Toolkit. 3rd edition. Sun Microsystems, January 2003.
http://www.sun.com/products-n-solutions/edu/whitepapers/digitaltoolkit.html
Sitts, M.K., ed. Handbook for digital projects: a management tool for preservation and access. Northeast Document Conservation Center, Andover, MA (USA), 2000.
http://www.nedcc.org/digital/dighome.htm.
North Carolina ECHO (Exploring Cultural Heritage Online), State Library of North Carolina. Digitization guidelines (best practice guide). Revised - 07-03-2003.
http://www.ncecho.org/guidelines.asp
Kentuckiana Digital Library. Digital Library Production Guide version 1.0.
http://www.kyvl.org/kentuckiana/bpguide/about.shtml.
Z39.50 Information Retrieval protocol (http://lcweb.loc.gov/z3950/agency)
OAIPMH (Open Archives Initiative Protocol for Metadata Harvesting, http://www.openarchives.org/OAI/openarchivesprotocol.html)

Additional reading

Andrew Hampson, Stephen Pinfield and Ian Upton. Digitization of exam papers. The Electronic Library, 17, 4; Aug 1999; 239-46. Discusses complete workflow, project planning and management for digitizing and providing intranet access to exam papers.