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## 1 Introduction

The Brazilian legislative system promotes social inclusion by providing access to legislative information. This in turn strengthens democracy and citizenship under the human, ethical and political dimensions. "Digital inclusion" of the Senate personnel and the public in general is a key element in the whole process. The Federal Senate has started a new phase of technological innovations with the adoption of information exchange standards so as to increase accessibility, receptivity, flexibility and cooperation, both nationally and internationally.

The proposal includes adequate digital information management and new technologies in data processing and communication to create a new in-house scenario. At the same time, this system will enable both state and municipal legislative assemblies to share political and legislative information. It would also improve the availability of information to senators in their state of origin. State representatives, town councilmen and every regular citizen would also benefit from the system. In addition, the mass of information will be accessed by the Legislatures of all Portuguese-speaking countries.

The implementation of the project **The Federal Senate Digital Library: information for all** will include the following actions, which are based on the Federal Government Program called Information Society in Brazil, carried out by the Ministry of Science and Technology:

**Democratization of services to strengthen citizenship** - to promote information access and offer alternative solutions based on new technology and means of

communication. It also aims at encouraging shared Internet access, as well as fomenting information projects to develop citizenship, social unity and digital inclusion.

**The Federal Senate at everyone's reach** – to boost investments in information services specially to publicize digital information about policies, proposals and decisions made in the Federal Senate.

**Accessibility to citizens with disabilities** – to propagate assistive technologies to the disabled, thus providing access to the information available in digital format.

**Contents and political identity** – to generate contents and applications that provide digital information to the political and legislative fields in matters of federal and regional relevance. It also aims at fomenting the preservation and propagation of the political history and juridical legislative information.

**Electronic publications** – to create digital collections other than those already created by the Federal Senate Editorial Board. Such collections would encompass the senators' political trajectory, in addition to municipal, state and federal historical and political background, and their respective legislation.

**Advanced infrastructure and new services** – to implement a basic information infrastructure, along with the adoption of security and privacy policies and mechanisms. It also aims at fomenting the implementation of high performance processing networks and adopting new Internet protocols and standards.

**Promotion of agreements and contracts of legislative exchange** – to develop an international network to exchange information among the parliaments of various countries in Latin America, The Caribbean and other Portuguese-speaking countries, in addition to other institutions, such as the US Library of Congress.

With the adoption of new technologies, libraries have sought solutions to simplify data collection, organization and dissemination so as to make information more widespread and effective. Such considerations may refer to the principles presented by the IFLA<sup>1</sup> Committee on Free Access to Information and Freedom of Expression (FAIFE) in the IFLA Internet Manifesto:

- "Intellectual freedom is the right of every individual both to hold and express opinions and to seek and receive information; it is the basis of democracy; and it is at the core of library service.
- Freedom of access to information, regardless of medium and frontiers, is a central responsibility of the library and information profession.
- The provision of unhindered access to the Internet by libraries and information services supports communities and individuals to attain freedom, prosperity and development.
- Barriers to the flow of information should be removed, especially those that promote inequality, poverty, and despair."

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<sup>1</sup> International Federation of Library Association and Institutions

Within this context, inaccessibility to electronic sites excludes a significant number of people with disabilities. Sensitive to this issue, the Brazilian Government created a program to promote Internet access to special needs users.

The program defines accessibility as the conditions necessary for a use that is safe and autonomous (totally or partially) of spaces, urban furnishing and equipment, buildings and transportation services, as well as devices, systems and means of communication and information by people with disabilities or people with reduced mobility.

The Federal Senate, aware of such needs, is developing a variety of projects to promote accessibility to people with special needs. Among the services offered by the Senate is the creation of an easily accessible digital collection. A Digital Library Committee was created therefore by the Senate Director General Ordinance n.º 115, from May 17, 2006.

## **2 Objectives**

### **2.1 General objective**

The creation of an institutional collection to store, preserve, disseminate and provide access to digital documentation, the contents of which bear an interest to the Legislative. The Federal Senate Digital Library (BDSF) will make digitally stored information available to any citizen, via Internet.

### **2.2 Specific objectives**

- Provide Internet access to the information and services offered by the Senate Digital Library to every citizen, including the disabled.
- Offer an adequate infrastructure of information and equipment in loco to both regular and disabled users. This will be done with the use of a variety of assistive technologies and services in suitable places within the Senate Library.
- Integrate the elements of the BDSF solution with the resources available in the conventional Senate library.

## **3 Digital Libraries - a brief introduction**

Information and Communication Technology (ICT) has made considerable advances possible to support the diversity of existing businesses. Library Science more specifically has been profiting from such advances, which have promoted increased efficiency.

Most libraries worldwide have adopted the digital library concept, which has increased the reach of information, by means of a technological structure based on Information and Communication Technologies. The concept of a digital library can be defined in a variety of ways. The expressions Virtual Library, Digital Library and Hybrid Library are often used interchangeably. For the present paper, the expression adopted is Digital Library.

Below, some concepts regarding a digital library are presented:

"Digital Libraries acting as knowledge depositories can be considered as complex information systems, development and use of which require solution of numerous scientific, technological, methodological, economic, legal and other issues." (Kalinichenko et al, 2002).

"A digital library is an assemblage of digital computing, storage, and communications machinery together with the content and software needed to reproduce, emulate, and extend the services provided by conventional libraries based on paper and other material means of collecting, cataloging, finding, and disseminating information. A full service digital library must accomplish all essential services of traditional libraries and also exploit the well-known advantages of digital storage, searching, and communication". (LEVY cited by BAX, 1997)

Some scholars, such as Lagazone et al (2005), believe that digital libraries have not as yet reached technological maturity. They state that such libraries are in their technological teens, which is a reason for both optimism and concern. Two aspects may favor optimism towards digital libraries: the number and importance of institutions engaged in researching the subject and the already existing digital libraries.

The list below was downloaded from the IFLA page "Digital libraries: resources and projects". Although it focuses on European countries and the United States, the list is enough to give an idea of the advancement verified in the area:

- The World Digital Library (<http://www.worlddigitallibrary.org>)
- Center for Intelligent Information Retrieval (<http://ciir.cs.umass.edu/>)
- Center for the Study of Digital Libraries (<http://csdl.tamu.edu/>)
- Center for Electronic Texts in the Humanities (<http://www.ceth.rutgers.edu/>)
- Center for Research on Information Access (<http://www1.cs.columbia.edu/~klavans/cria.html>)
- Electronic Text Center at the University of Virginia (<http://etext.lib.virginia.edu/>)
- Center Information Management, Integration, and Connectivity (<http://cimic.rutgers.edu/>)
- Digital Library of European Countries (Eberhat).

Numerous other research centers and projects are under way in Europe, Australia, US, New Zealand and many other countries. In Brazil, the following digital library programs are in progress:

- Theses Databank – CAPES ([www.capes.gov.br](http://www.capes.gov.br))
- Unicamp Digital Library (<http://libdigi.unicamp.br/>)
- National Library (<http://.bn.br/>)
- Paulo Freire Digital Library (<http://www.paulofreire.ufpb.br/paulofreire/principal.jsp>)
- Virtual Library of Literature ([www.prossiga.br/pacc/bvl](http://www.prossiga.br/pacc/bvl))
- Brazilian Institute of Scientific and Technological Information IBICT (<http://www.ibict.br>);
- Federal Senate – Academico Luiz Viana Filho Library (<http://www.senado.gov.br/biblioteca>)
- Superior Court of Justice Library (<http://bdjur.stj.gov.br/dspace/>)

- SciELO – Scientific Electronic On Line ([www.scielo.org](http://www.scielo.org))
- University of São Paulo (<http://www.biblioteca.unesp.br/bibliotecadigital/>)

The increasing use of the Internet worldwide and in Brazil brings to mind a controversial issue to both indoctrinators and scholars in the field of copyrights law: legal protection of all forms of intellectual production. Digital libraries, as information repositories accessible on the web, contribute to compound the issue as they allow public access to documents in digital format.

Recently, Google was criticized for its proposal of digitizing entire library collections as to allow public access, without negotiating with the authors of individual works. Easy Internet access to contents, information, databases and other types of intellectual products brings to mind the issue of unauthorized reproduction of any type of media. That is to say that this matter is not new, as it may seem at first. Perhaps the new aspect of the problem is how quickly and easily unauthorized web access of copyrighted works can be done.

One of the components of the Senate Digital Library is assistance to the visually impaired and to other disabled persons. In these specific situations, Brazilian copyright legislation makes concessions for the disabled.

Digital books will also make-up the BDSF collection. Not only are they easy to handle, carry and store, as they have lower production costs since no printing is involved. Law n.º 10.753/03, that provides for the National Policies on Books, ensures access of the visually impaired to books. The benefit of digital books is also extended to other handicapped people, such as those with Parkinson's disease and dyslexia, since digital books eliminate the user's need to flip through printed pages or to read small print.

#### **4 Methodology for building the Federal Senate Digital Library (BDSF)**

The BDSF solution presents two different “components” which, albeit related, require different methodology, equipment and technology:

- The first component is the Digital Library itself, which is in short the assemblage of resources that will provide Internet access for worldwide users.
- The second component is the Accessibility Room, which is a physical place within the Senate Library containing resources to provide the disabled with easy access to the information available both in the physical Senate Library and in the Digital Library.

The implementation of this project will follow these steps:

- a) identification of the public to be assisted;
- b) description of the digital collection (search and selection of the information to be made available by the BDSF);
- c) definition of the services to be offered;
- d) selection of the metadata model to be adopted;
- e) selection of the electronic files format;
- f) definition of the technological standards and infrastructure for the BDSF development and management;
- g) selection of the BDSF management software;
- h) adjustment of the site to international accessibility standards;

- i) digital conversion of part of the collection; and
- j) elaboration of digital documents.

The full BDSF project execution is designed to take five years. Digital conversion of the collection, along with the elaboration of digital documents and the technological structure planned for this project are already under implementation.

The Federal Senate Digital Library was adequately built to meet both the needs of institutional and external users. A personalized architecture was developed to meet the information needs of each user, taking into consideration both their characteristics and limitations.

The Digital Library user is every person, including the disabled, with an interest in legislative matters and who has a computer with minimal settings to allow Internet access. Access to the Senate Library page is done through the Federal Senate site.

#### **4.1 Description of the digital collection**

BDSF collections are composed of digital documents such as: electronic Federal Senate digitized publications, which have already been printed on paper and publicized in various sites, together with information taken from the Senate databases. Documents that have originally been produced in electronic format (CD-ROM, DVD etc.) will also be included.

To store the BDSF digital documents, policies were adopted to ensure their fidelity, preservation and longevity. These policies will also address the issue of content accessibility to people with special needs. The dissemination of electronic documents will be based on the current copyright legislation.

BDSF maintains a virtual collection containing information and the intellectual production of senators, employees and departments of the House related to the legislative, juridical and political fields. The BDSF project proposes to centralize the access and retrieval of all publications, thus becoming the institutional repository of the Federal Senate. The project will also adopt the concept of "open archives" (OAI – Open Archives Initiative), which allows for Internet access of both intellectual production of the Federal Senate and various other digital works.

##### **4.1.1 Collection of the Senate Editing and Printing Special Secretariat (SEEP)**

The Senate publishes updated national legislation as well as important works that contribute to the historical and political Brazilian thought. The current digital collection is composed of 130 titles. Initially, the following works published by the Senate will be digitally available: The Constitution, the Senate standing rules, codes and statutes. In a second phase, other publications approved by the SEEP Publishing Board will also be available in digital format, in accordance with copyright rules.

SEEP publications are currently formatted for paper printing and must be transformed into an easily accessible format prior to inclusion in the digital collection. Digital

talking books will also be produced for this collection and to make them accessible, the works will be converted into the DAISY<sup>2</sup> format. (Daisy Consortium <http://www.daisy.org/>)

#### **4.1.2 The Federal Senate Intellectual Production**

This collection is composed of the intellectual production of senators, employees and departments of the House dealing with legislative, juridical and political fields, and is already digitally converted in its majority. According to a survey recently carried out in the site of the Federal Senate, there are approximately 1,500 archives of electronic publications. This collection will be changed to allow internal browsing. In addition, each individual work will have a corresponding version in the DAISY digital talking format.

#### **4.1.3 Rare Works Collection**

The Federal Senate has a valuable collection of rare works, few copies of which exist in other institutions. The rare works collection is composed of approximately 6,000 volumes, among books and periodicals. Currently, this collection is available only for consultation in loco, under the supervision of Library employees, since the mere handling of works may lead to damage. Digital conversion of this collection will provide Internet access, without a risk of damaging the originals.

This work is extremely important, as it will contribute to the preservation of and safe access to rare works. The collection will be digitized with high quality and resolution to generate "master" files in image format. These "master" files will be converted into files of lower quality and resolution to compose the "digital books" to be browsed via Internet.

#### **4.1.4 Collection of newspaper clippings**

The Library of the Federal Senate has been keeping newspaper clippings since 1974. Today, the collection contains 2 million and 700 thousand selected clippings of 12 newspapers: "O Globo, O Dia, Jornal do Brasil, Tribuna do Brasil, Tribuna da Imprensa, O Estado de São Paulo, Folha de São Paulo, Jornal da Tarde, Gazeta Mercantil, Correio Braziliense, Jornal de Brasília" and "Valor Econômico".

To start the paper clipping collection, the Library selected several subjects deemed relevant for the Senate and the society:

- each newspaper clipping generates a corresponding image and plain-text file;
- the adopted solution allows for the retrieval of the image file and the query in the text-only file.

The NewsBank (Bnot) is a newspaper clippings electronic service on matters of relevance to the Federal Senate, implemented as of 2004; it uses a tool that captures, stores and provides instant access to articles published in newspapers available in the web. This collection contains today ca. 54 thousand records of full-text articles.

All data in the database are currently stored in HTML format; access to the database is restricted to Federal Senate users only; it is one of the most important information sources in the Senate Library. Full-text versions of following newspapers are available in

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<sup>2</sup> DAISY = Digital Accessible Information System

the Federal Senate NewsBank: "O Globo, Valor Econômico, Jornal do Brasil" and "Estado de São Paulo".

#### **4.1.5 Collection of articles from the Federal Senate magazines**

The Federal Senate Digital Library (BDSF) also provides access to full-text articles from two magazines periodically published by the Senate.

**"Revista de Informação Legislativa – RIL" (Journal on Legislative Information):** published since 1964, contains articles authored by the Subsecretariat of Technical Editions and by collaborators. The articles deal mainly with matters relevant to the Legislative Branch, in the fields of Law and related Sciences.

**"Senatus" magazine** published by the Secretariat of Information and Documentation (SIDOC) of the Federal Senate. It deals with issues in the field of Social Sciences and matters related to legislative activity.

In order to provide digital access to these publications, the Library will have to digitize the RIL journals collection prior to 1997, which only exist in paper format, and convert them into text format (without visual checking). The digitized collection and text format files will also be re-issued in Digital Talking Book format in order to allow the use of voice synthesizers by the handicapped.

#### **4.1.6 Pointers to electronic resources relevant to the Legislative**

Today, The Federal Senate Library site ([www.senado.gov.br/sf/biblioteca](http://www.senado.gov.br/sf/biblioteca)) provides access to full- or partial-text information on books, journals and magazines articles, and also access to rare works. The Virtual Library provides links to sites in the Internet, which can support the legislative activities. Each electronic resource is catalogued by title, subject matter and URL, besides a short description of its contents.

Those sites are minutely studied in order to disclose all services and products provided to the community by those entities, tracking the paths and pointing them to users, thus trying to facilitate access to that information.

## **5 Services Provided**

According to Murilo Bastos da CUNHA, a digital library should provide the following services:

- a) users' remote access by means of a computer connected to a network;
- b) shared use of a document between two or more users;
- c) inclusion of library or documentation center products and services;
- d) availability to collections of current documents, providing not just bibliographic reference, but also access to the full-text, -sound and-image records;
- e) on-line access provision to other external information sources (libraries, databases, etc);
- f) use arrangements in such a way that local libraries do not need to own the document requested by users;
- g) use of several media to support information record.

All above mentioned services will have to be considered when building the Senate Digital Library. Furthermore, the specific features of the users, the Library and even the Federal Senate itself were taken into account and given precedence in the definition of the library architecture.

Even after relevant advances in assistive technologies, - a set of hardware and software designed to assist disabled people who need help in order to cope with their everyday life, - the number of people using such technologies is still small in Brazil. The reasons therefore may be lack of knowledge, lack of incentive by the family, or even the high purchase cost of computer equipment.

These technologies include keyboards, screens, screen reading software, Internet browsers, text-to-speech converters, and voice recognition programs. This initiative by the Federal Senate, together with initiatives by philanthropic institutions throughout the country, are helping to provide access to information to all disabled people.

Inside the Senate Library, those users are accommodated in a special room where work stations with "assistive technologies" are available, together with staff trained to meet their needs. People with disabilities have access to following services:

- guide to access the Library site and digital works;
- guide to bibliographic research and to databases search tools;
- Access to and transfer of spoken text and plain text documents through the Internet;
- Reproduction of user supplied existing works in a variety of media; and
- Availability of assistive technology resources to the disabled person.

## **6 Implementation of version 1.0 of the Federal Senate Digital Library software**

Specific software is critical to manage the collections and the functionalities of a digital library; it may be developed in-house or adapted from software currently available in the market. The solution to be adopted will depend on the choice of some variables, such as the desired metadata model, functionalities and services to be provided.

The Brazilian government's policy is to foster the use of free software by government institutions, having in view the attempt to minimize ICT costs. The Federal Senate has already adopted the Free Software as a matter of public policy.

Furthermore, the choice of Free Software opens possibilities in the fields of knowledge production and circulation, access to new technologies and stimulus to software development in cooperative environments, national software development, and last but not the least, the possibility to transfer the adopted solution to other institutions of the Legislative or other branches without undue worry about patents or copyrights, and minimizing costs in the overall government budget.

The choice of a free solution is extremely desirable, especially after the following conclusions by the World Bank and the Committee for Democracy in Information Technology:

- only 12.46% of the Brazilian population have access to computers and only 8.31% are connected to the Internet; and
- ca. 97% of these few digital included are concentrated in the urban area, stressing even further the gap between included and excluded and practically leaving the rural zones in digital darkness.

After technical feasibility studies and maturity analysis of software capable to support the Federal Senate Digital Library, DSpace was finally chosen. DSpace was developed jointly by MIT Libraries and HP, and is now freely available to research institutions worldwide as an open source system that can be customized and extended.

DSpace is a groundbreaking digital library system that captures, stores, indexes, preserves and redistributes the information of an organization in digital formats. DSpace is a category of digital library software known as institutional repository software. DSpace includes the concepts of "communities" and "collections", where the organization departments and respective collections are mapped. A DSpace Community is an administrative unit that produces research, has a defined leader, has long-term stability, and can assume responsibility for setting Community policies. DSpace content consists of collections produced by the institution communities, which are managed, preserved, and distributed by the library through DSpace.

In the case of the BDSF, "communities" and "collections" were initially created and produced obeying the criteria of document types, themes and categories. Each collection can still be divided into subcollections, specific units bound to a type of collection and its growth will depend on BDSF's reality and needs.

BDSF has adopted the Dublin Core metadata standard. It is the most recommended format at the international level and the more often adopted by *Open Archives Initiatives-Protocol for Metadata Harvesting (OAI-PMH)*, created by "The Open Files Initiative". Its elements allow expressing the contents of a digital document in a bibliographic form and particularizing it among several other stored materials. For the query, retrieval, or submission of materials, the qualified version Dublin Core Libraries Working Group Application Profile (LAP) has been adopted.

The Federal Senate Digital Library identifies and organizes sets of digital documents by means of metadata (data on data), which on turn provide access to the text, sound and image of each digital object. The relevance of metadata is justified by the need to encrypt the available documents in the BDSF in standard mark-up formats and languages, so as to facilitate the user's interoperability, access and maintenance, effective retrieval and localization of the digital collection.

## **7 File format selection**

### **7.1 Plain text files**

The solution adopted by the Federal Senate Digital Library (BDSF) is not restricted to one kind of file, as this would limit the access to a number of tools. Therefore, for each work within the collection, there will be as great a number as possible of formats compatible with accessibility, i.e., capable of being processed by assistive technology programs, like voice synthesizers.

The image format should be used for some works. Such format, though not allowing for edition/research in the document itself, will show details, like a photograph of the work. In this way, images and details may be accessed during the research.

Table 1. File formats allowing for accessibility

<b>Format</b>	<b>Extensions</b>	<b>Remarks</b>
Plain text	.txt	Only format compatible with DOSVOX program and understood by all other programs.
Formatted document	.doc and .rtf	Most text editors work with or understand MSWord (.doc) or Rich Text Format (.rtf) native formats.
Web page	.htm and .html	It is important that the content be compatible with XHTML and must conform with accessibility rules, for instance, restrict the use of tables and use alternate text assignment for images.
Portable Document Format	.pdf	The file should be created with the option "Tagged PDF" in order to facilitate the simultaneous use of assistive technology software.
Daisy Standard	ncc*.*	It is necessary to adapt commands to the Portuguese language.
Image document	.jpg and .tiff	These are formats that allow for the display of the image of the digital object.

Other formats accessed by programs used in large scale or included within the "free software" philosophy may be used.

## **7.2 Digital talking books (DTB)**

With the assistance of BDSF' existing resource, any kind of user, including those visually impaired or with any other reading disability can have access to articles, books, newspapers, and magazines. As culture, education and information become globalized, libraries have sought international collaboration to develop a new generation of Digital Talking Books (DTB) and provide handicapped users with access to information.

The main libraries that produce Braille books have started a joint work as of 1994 in order to establish an international standard for the production of digital talking books (DTB) and Braille books. This standard of the new generation of digital talking books is called "Digital Accessible Information System" - DAISY.

The IFLA-advised DAISY standard is a modality of book accessible in digital format, which integrates visual reading resources synchronized with audio narration with full browsing possibilities (remarks, mark-ups and image display), providing the user, among others, with the possibility to insert mark-ups, change sentences, paragraphs, sections, chapters, pages, go forward, go backward, smoothly browsing the document while maintaining the synchronism between written text and audio narration.

## **8 Adaptation of the site to international standards of accessibility**

The Federal Senate Library's web page is being rebuilt according to accessibility standards specified by W3C (World Wide Web Consortium) and WAI (Web Accessibility Initiative). The principles of universal design are being complied with, valuing simple and

intuitive use, and providing accessibility to as great a number of people as possible. Among other things, it will allow for the use of voice synthesizers, screen readers, plain-text browsing, letter size definitions, keyboard browsing and provision of text equivalent for images.

Instances of synthesizers are Dosvox, Virtual Vision 5, Jaws for Windows, Windows Eyes, IBM Home Page Reader, EaseReader (Daisy-format reader), EasePublisher (Daisy-format publisher). The Federal Senate site already provides, in its Home Page, a text conversion program into Brazilian Sign Language (Libras).

## 9 Conclusion

The project called "**The Federal Senate Digital Library - BDSF : information for all**" provides interaction between works developed by the Federal Senate and the ordinary Brazilian citizen, filing information both in digital format and in paper in order to facilitate access to knowledge. It proposes actions for the adequate management of digital information, new computer technologies and communication, in order to model a new scenario of access to information.

BDSF intends to keep a virtual collection featuring information and intellectual production by senators and House personnel, which are somehow related to the legislative, juridical and political fields. In its capacity of institutional repository of the Brazilian Senate, BDSF proposes access centralization and retrieval of all articles already published. Furthermore, an essential goal of this project is the concept of "open archives", OAI - Open Archives Initiative, which provides via the Internet access to several digital works stored therein by other search systems existing in the web.

BDSF is being built in accordance with accessibility standards as specified by W3C - World Wide Web Consortium, and WAI - Web Accessibility Initiative. The principles of universal design are being complied with in its home page, valuing simple and intuitive use, and accessibility to as great a number of people as possible. Inside the Senate Library, users are accommodated in a special room where work stations with "assistive technologies" are available, together with staff trained to meet their needs.

The final results of the developments by BDSF Committee, as related to planning and implementing of the first stage of the project and its respective activities, can be considered extremely positive. A BDSF prototype has been successfully presented and tested and a second version is already being implemented and soon will be available on the Internet. Though some software components are still being tested, the Accessibility Room is already in use. Procurement of these components is already under way and soon they will be totally available.

BDSF is a reality right here and right now - it provides an effective opportunity for the dissemination of information generated within the Federal Senate, helping consolidate democracy, either by providing information to the public or by enhancing the law making process. Technology resources have successfully achieved a "Digital Democracy" and enhanced citizens' quality of life by means of a more adequate legislation.

## 10 Bibliography

BASEVI, Teresa Helena da Rocha. **Implantação da biblioteca digital jurídica** – BDJur. Brasília, s. ed., 2004. 48 p.

BRUNO, Gilberto Marques. **Considerações sobre os direitos autorais no WWW**. Available in: < [http://www1.jus.com.\\_/doutrina/texto.asp?id=2173](http://www1.jus.com._/doutrina/texto.asp?id=2173)>. Access on: June 6, 2004.

CHOWDHURY, G. G. e CHOWDHURY, Sudatta. **Introduction to digital libraries**. London: Facet Publishing, 2003. 359 p.

CUNHA, Murilo Bastos da. Desafios na construção de uma biblioteca digital. **Ciência da Informação**, Brasília, v. 28, n. 3, p. 225-266, Sep./Dec. 1999.

DEEGAN, Marilyn e TANNER, Simon. **Digital futures: Strategies for the information age**. New York: 2002. 276 p.

DRABENSTOTT, Karen M. e BURMAN, Celeste M. Revisão analítica da biblioteca do futuro. **Ciência da Informação**, Brasília, v. 26, n. 2, p. 180-194, May/Aug. 1997.

EBERHART, George M. Europe unites to create its own digital library. **American Libraries**. Chicago, v. 36, n. 6, p. 20, June/July 2005. Available in: <<http://proquest.umi.com/pqdweb?index=37&did=918647091&SrchMode=3&sid=3&Fmt=3&Vinst=PROD&Vtype=PQD&RQT=309&Vname=PQD&TS=1138630366&clientId=42542>>. Access on: Jan.18, 2006.

FRUMKIN, Jeremy. Digital libraries: modern practices, future visions: Defining digital libraries. **OCLC Systems and Services**. Bradford, v. 20, n. 4, p. 155, 2004. Available in: <<http://proquest.umi.com/pqdweb?did=774224981&sid=1&Fmt=3&clientId=42542&RQT=309&Vname=PQD>>. Access on: Jan. 30, 2006.

KALINICHENKO, Leonid A., et. Al. Digital libraries: advanced methods and technologies, digital collections. In: ALL-RUSSIAN SCIENTIFIC CONFERENCE, 4., 2002, Dubna. **Conference Report** Dubna: RCDL, 2002. Available in: <<http://www.dlib.org/dlib/january03/kalinichenko/01kalinichenko.html>>. Access on: Jan 31, 2006.

KOEHLER, Wallace. Digital libraries, digital containers, “library patrons”, and visions for the future. **The Electronic Library**, Oxford, v. 22, n. 5, p. 401, 2004. Available in: <<http://proquest.umi.com/pqdweb?index=8&did=769524101&SrchMode=3&sid=2&Fmt=3&Vinst=PROD&Vtype=PQD&RQT=309&Vname=PQD&TS=1138629376&clientId=42542&aid=2>>. Access on: Jan 31, 2006.

LAGOZE, Carl, et al. What is a digital library anymore, anyway? : beyond search and access in the NSDL. **D-Lib Magazine**, v. 11, n. 11, nov. 2005. Available in: <<http://www.dlib.org/dlib/november05/lagoze/11lagoze.html#n1>>. Access on: Jan 20, 2006.

LANCASTER, F. W. **Avaliação de serviços de bibliotecas**. Brasília : Briquet de Lemos, 2004. 356 p.

OPEN Archives Initiative. Available in: <[www.openarchives.org](http://www.openarchives.org)>. Access on: July 15, 2006.

ROES, Hans. Digital libraries and education: trends and opportunities. **D-Lib Magazine**, v. 7, n. 7/8, July/Aug. 2001. Available in: <<http://www.dlib.org/dlib/july01/roes/07roes.html>>. Access on: Jan 30, 2006.

SOCIEDADE de informação no Brasil: livro verde. Organizado por Tadao Takahashi. Brasília, Ministério de Ciência e Tecnologia, 2000. 195 p.