

Qualified Dublin Core Metadata Best Practices for GREDOS

FRANCISCO JOSÉ GARCÍA PEÑALVO, JOSÉ ANTONIO MERLO
VEGA, TRÁNSITO FERRERAS FERNÁNDEZ, ABEL CASAUS PEÑA,
LORENZO ALBÁS ASO, and M^a LUISA ATIENZA DÍAZ

University of Salamanca, Salamanca, Spain

The aim of this article is to present the work carried out to create GREDOS, the Institutional Repository of the University of Salamanca. Besides introducing GREDOS and explaining how the project was developed, we also present our best practices manual in the use of Qualified Dublin Core Metadata (QDCM). The guidelines followed in the use of metadata, standardization, work methodology, and the digitalization parameters employed are described. Some practical examples of descriptions of different digital resources of varied typology are provided. We conclude by showing the final outcome of the project.

KEYWORDS *GREDOS, institutional repository, University of Salamanca (Spain), metadata, best practices, Qualified Dublin Core*

WHAT IS GREDOS AND WHAT WERE ITS ORIGINS?

GREDOS is the institutional repository of the University of Salamanca. Its objective is to collect, organize, preserve, and disseminate the academic, administrative, and historical production of the University of Salamanca (Spain). GREDOS had its origins in a grant (2007) received from the Spanish Ministry of Culture to digitalize holdings, apply Open Access and create institutional repositories. The University of Salamanca presented the project “Stationer: Institutional Repository of Salamanca,” and once it was completed it was named GREDOS.

The main goal of this project was to create a digital institutional repository that would respond to the demands of the Open Archives

Address correspondence to Francisco José García Peñalvo, Pro-Vice-Chancellor of Technological Innovation, University of Salamanca, Patio de Escuelas, 1, 37008, Salamanca, Spain. E-mail: fgarcia@usal.es

Initiative-Protocol for Metadata Harvesting (OAI-PMH) protocol, to be able to offer to the members of the academic community and to society, in general, access to, dissemination of, and preservation of the digital material created by the institution and its members, as well as the digitalised holdings that make up the rich bibliographical and documental heritage of the University of Salamanca.

The contents of the repository were to be the outcome of integrating the information contained in the archival, photographic, and audiovisual documents of important personal holdings such as the personal archive of Miguel de Unamuno and the personal archive of the creator of Doñana National Park—the biologist José Antonio Valverde—with the bank of digital images of the document holdings; the published articles and the digital documents comprising the portal “Triunfodigital.com” (the magazines “Triunfo,” “Tiempo de historia,” and “Hermano Lobo”); the journal entitled Cuadernos de la Cátedra Miguel de Unamuno; and different documents from the archives and audiovisual recordings of Latin American writers from the Cultural Centre “Pablo de la Torriente Brau” of Havana, Cuba, an institution with which the University of Salamanca has a collaboration agreement.

The University Institute for Community Integration (INICO) and the Department of Applied Economics of the University of Salamanca also participated in this first stage with state of the art scientific research.

Table 1 gives a summary of the collections described and the number of digital objects and digitalizations carried out in the first stage of GREDOS. The data shown are from 2 September, 2008.

THE GOAL OF QDC METADATA BEST PRACTICES

The goal of Qualified Dublin Core Metadata Best Practices is to provide a guide for creating metadata records for the digital resources in GREDOS. The creation of metadata for digital resources is an important part of digitalization projects and should be incorporated as an objective in the work plan of the project. This guide is based on the Dublin Core Metadata Initiative (DCMI).

Developing metadata best practices in line with standards achieves the following: assurance of quality in the metadata records; increased possibility of discovering the resource; increased interoperability of the GREDOS collections (see collections in Table 1); increased interoperability among other digital repositories and libraries participating in the OAI (Open Access Initiative); ease in being picked up by contents providers such as DRIVER; information to users about the structure of the digital object and the visualizer necessary for accessing the digital resource; and assistance in the management of long-term preservation of digital archives.

Some of the resources that were to form part of GREDOS were already in digital form, but in most cases they were physical resources such as

TABLE 1 GREDOS Summary of the Collections

Collections	Records described	Digitalizations	Records with digital objects
Archivo de Neuropatología	5,064	10,025 slides	1,507
Archivo Fotográfico Candy. Cursos Académicos	84	1,061 negatives	84
Archivo Fotográfico Candy. Cursos de Verano	36	5,155 negatives	36
CCMU 1 (1948)	7		
CCMU 2 (1951)	5		
CCMU 3 (1952)	6		
CCMU 4 (1953)	5		
CCMU 5 (1954)	2		
CCMU 6 (1955)	7		
CCMU 7 (1956)	7		
CCMU 8 (1958)	7		
CCMU 9 (1959)	8		
CCMU 10 (1960)	5		
CCMU 11 (1961)	5		
CCMU 12 (1962)	4		
CCMU 13 (1963)	8		
CCMU 14–15 (1964–1965)	14		
CCMU 16–17 (1966–1967)	12		
CCMU 18 (1968)	6		
CCMU 19 (1969)	7		
CCMU 20 (1970)	9		
CCMU 21 (1971)	12		
CCMU 22 (1972)	20		
CCMU 23 (1973)	13		
CCMU 24 (1976)	20		
CCMU 25–26 (1978)	12		
CCMU 27–28 (1983)	14		
Correspondencia de Ricardo Espinosa Maeso	51	103 pp.	51
Correspondencia de Dorado Montero	56		
Correspondencia de Unamuno	936	1,842 pp.	501
CPTB. <i>Palabra de Pablo</i>	8		8
CPTB. <i>Boletín Electrónico Memoria</i>	97		97
CPTB. <i>Cuadernos Memoria</i>	21		21
CPTB. <i>Palabra Viva</i>	21		16
José Antonio Valverde. <i>Evolución</i>	19	384 pp.	19
José A. Valverde's Cuadernos de Campo	655	5,380 pp.	655
Departamento de Economía Aplicada. Documentos de Trabajo	16		16
Expedientes Personales de Profesores USAL	266	1,356 pp.	16
INICO. Actas	4		4
INICO. Boletín Integra	28		14
INICO. Investigación	3		3
Ricardo Espinosa. Extractos y Transcripciones de Documentos	0		
Ricardo Espinosa. Manuscritos	1		
Total	7,562	23,965	3,048

photographs, texts, and audio, thus requiring digitalization (see digitalizations in Table 1).

Metadata: Generalities

The term *metadata* has many definitions. The one that was quickly accepted and is used most frequently is: descriptive information of digital resources. The metadata term emerged with the arrival of the World Wide Web and is the modern term for the bibliographical information that libraries have traditionally kept in their catalogues. The creation of metadata is absolutely necessary for the dissemination of collections via the Internet.

Metadata are associated with a digital resource in order to guarantee its discovery, use, management, and preservation. Metadata are commonly classified into three types, with some correlations among them:

- Descriptive metadata: information used to index, describe, and identify a digital resource. Some examples are: the title of the resource, the author of the resource, and the subject of the resource.
- Structural metadata: information used to visualize and navigate the digital resources; information on the internal organization of the digital resource; information on the visualizer or plug-in reader necessary to open the digital resource.
- Administrative metadata: information needed to manage the resource over time, including technical information such as image resolution, file size, file format, hardware/software used to produce the digital resource, and so on.

Qualified Dublin Core for GREDOS

The metadata records for the GREDOS repository are based on the Dublin Core Metadata Initiative (DCMI) Data Element Set. The DC is composed of 15 elements, all of which are optional and repeatable and able to be associated with as many optional links as necessary.

In our descriptions we have used the Qualified Dublin Core (QDC), which is an extension of the Dublin Core in which some of its elements are accompanied by a qualifier to make them more restrictive. The choice of the metadata used in our descriptions is related to the different document types.

The 15 elements of the Dublin Core format can be classified according to three aspects:

1. Contents: Title, Subject, Description, Source, Type, Relation, and Coverage
2. Intellectual property: Creator, Publisher, Contributor, and Rights
3. Application: Date, Format, Identifier, and Language

The Dublin Core standard incorporates the suitable characteristics for our repository:

- Ease of creation and maintenance. The Dublin Core is intended to be as simple and as accessible as possible, so that any unspecialized person can easily and efficiently create descriptive records for online resources, at the same time providing optimal retrieval in an online context.
- Its terminology is easily understandable.
- Its scope is international, since the participation of representatives from all over the world in establishing the Dublin Core specifications has meant that online resources are multicultural and multilingual.
- Extendibility. Even though the Dublin Core Metadata Element Set was developed with simplicity in mind, the need to specify the search for resources was also taken into account. As the norm evolves, the Dublin Core Metadata Element Set can also serve as a basis of descriptive information that will be used through the Internet, allowing additional elements to be added for dealing with certain disciplines or subjects.

Dublin Core is relatively easy to learn and to use because its elements provide essential information about the resource.

GREDOs GUIDELINES AND STANDARDS

Before commencing work, we created a document entitled *Dublin Core Cualificado: documento de trabajo* (*Qualified Dublin Core: Working Document*; Ferreras, 2008), which has been the main point of reference for the staff assigned to describe the GREDOS resources with metadata. This document was written in Spanish mainly following the DCMI and the guidelines for DRIVER, Version 1.0. (2007); also taken into account were the Marc 21 format and the Reglas de Catalogación (Cataloguing Regulations) of the Spanish Ministry of Culture.

The *Directrices para proveedores de contenido: Exposición de recursos textuales con el protocolo OAI-PMH* (DRIVER, 2008) [*Guidelines for Content Providers: Exposing Textual Resources with OAI-PMH* (DRIVER, 2008)] guides administrators of new repositories in defining data administration policies, administrators of existing repositories in the steps to follow in order to attain better services, and also those who are developing platforms of repositories for the incorporation of additional functions in future versions.

We followed the *MARC to Dublin Core Crosswalk* (2008) to convert the correspondences of some descriptions in Marc 21 format to Qualified Dublin Core.

In the standardization of names, descriptors, and subject headings in the metadata records, the main tool used has been the Catálogo de Autoridades (Catalogue of Authorities) of the University of Salamanca Library and Archives Services. When information could not be found there we also used the following: Library of Congress Authorities, Autoridades de la Biblioteca Nacional de España, Autoridades del CSIC, Repertoire des Vedettes Matière de Laval, Autorités BNF and RAMEAU, as well as other sources.

Also taken into account in the standardization of points of access, abbreviations, and bibliographical references were the Reglas de Catalogación (Rules of Cataloguing; 2006) published by the Spanish Ministry of Culture.

The Methodology Followed in Gredos

After establishing and writing up the QDC best practices, selecting and training the interns who were to work on the project along with permanent staff members, and organizing the work process, we began to digitalize and describe the resources.

A database was created with Drupal, in which digital objects were described on templates set up with the necessary fields according to the QDC Best Practices Guidelines. The pertinent QDC elements were selected and adapted for each type of document. When *Symposia* (the platform developed by Innovative for the creation of repositories) had been configured and was available for massive loadings, the digital objects, together with their corresponding descriptions, were loaded onto the new repository program.

DIGITALIZATION PARAMETERS FOR GREDOS

The parameters for digitizing the documents to be included in the Institutional Repository of the University of Salamanca were configured taking into account aspects of preservation and dissemination, as well as the medium of each document. Tables 2 shows the parameters of images to preservation and Table 3 shows the parameters to publication.

TABLE 2 Parameters of Images for Preservation (High Resolution)

Document type	Definition	Resolution	Size	File type	Compression	Nomenclature
Paper	Original color: Color: 24 bits Original b/w: Gray scale, 8 bits	300–600 ppp	100%/1:1	TIF	Not compressed	Serial
B/W Negatives and slides	Gray scale: 8 bits	2,400 ppp	100%/1:1	TIF	Not compressed	Serial
Color negatives and slides	Color: 24 bits	2,400 ppp	100%/1:1	TIF	Not compressed	Serial
Glass slides	Color: 24 bits	1,000 ppp	100%/1:1	TIF	Not compressed	Serial

TABLE 3 Images for Publication (Web Query)

Document type	Definition	Resolution	Size	File type	Compression	Nomenclature
Paper	Original color: Color: 24 bits Original b/w: Gray scale, 8 bits	150 ppp	100%/1:1	JPEG or PDF	JPEG: Medium	Serial
B/W Negatives and slides	Gray scale, 8 bits	300 ppp	100%/1:1	JPEG or PDF	JPEG: Medium	Serial
Color negatives and slides	Color: 24 bits	300 ppp	100%/1:1	JPEG or PDF	JPEG: Medium	Serial
Glass slides	Color: 24 bits	300 ppp	100%/1:1	JPG	JPEG: Medium	Serial

EXAMPLES OF RECORDS IN GREDOS

Below we give a representative example of each of the document types as regards their form and the collections with which our institutional repository was inaugurated.

MANUSCRIPT DOCUMENT

Metadata used for manuscripts in the Field Notebooks Collection of José Antonio Valverde, as it shows in the table which follows.

Collection	Cuadernos de campo de José Antonio Valverde (Field Notebooks of José Antonio Valverde)
Title	General norm: Observe spelling rules. Use uppercase letters in the first letter of the first word and in proper nouns. Create a descriptive and concise title. Do not use a full-stop. E.g.: Pica pica
Authors	Standard field Form: Surnames, Given Name, Dates Surnames, Given Name, "Pseudonym," Dates E.g.: Valverde Gómez, José Antonio, 1926–2003
Key Words	Standard field Specific: Use descriptive key words of the species studied (scientific name, common name, family). Descriptive key words of the places of study. E.g.: Pica pica; Urraca; Corvidae; Córvidos; Ornitología; Morfometría; Valladolid (España: Provincia); Burgos (España: Provincia); Cantabria (España)
Key Words in English	Standard field Specific in English: Use descriptive key words of the species studied (scientific name, common name, family). Descriptive key words of the places of study. E.g.: Pica pica; Black-billed magpie; Corvidae; Ornithology; Morphometrics; Valladolid (Spain: Province); Burgos (Spain: Province); Cantabria (Spain)

(Continued on next page)

Abstract	<p>Norm: Brief description of the work carried out and a list of the species studied.</p> <p>E.g.: Recopilación de observaciones de anidamiento, cría y comportamiento general de Urracas (<i>Pica pica</i>) en diferentes enclaves de las provincias de Valladolid, Burgos y Cantabria, así como datos morfométricos, y el análisis de un nido, realizados todos entre el 8 de junio de 1942 y el 15 de abril de 1951. Se incluyen varias ilustraciones y manuscritos.</p>
Abstract in English	<p>E.g.: Compilation of nesting, breeding, and general behavior observations of the Black-billed Magpie (<i>Pica pica</i>) in different areas of the provinces of Valladolid, Burgos, and Cantabria, as well as morphometric data and the analysis of a nest, carried out between the 8th of June of 1942 and the 15 of April of 1951. Some illustrations and manuscripts are included.</p>
Date of Creation	<p>Standard field</p> <p>Norm: Indicate the date of creation of the original using the format: YYYY-MM-DD.</p> <p>Casuistics: If no date appears and it cannot be ascertained: [ND]. Also only the following may appear: YYYY-MM or YYYY.</p> <p>In the case of the Field Notebooks, since they are not dated and it was not possible to ascertain the dates, we used: [ND]</p>
Temporal Coverage	<p>Standard field</p> <p>General norm: Serves to express the time period referred to in the document contents. In the case of the Field Notebooks, the date when the study or corresponding research was carried out is used</p> <p>E.g.: 1942-06-08 to 1951-04-15</p> <p>How to express dates in Temporal Coverage:</p> <ul style="list-style-type: none">– A range of several years: YYYY–YYYY. E.g.: 1901–1918.– A month in a specific year: Month YYYY. E.g.: August 1980.– Several months in a year. If consecutive: Month–Month YYYY. E.g.: March–May 1990.– If not consecutive: Month, Month, Month, YYYY. E.g.: March, May, June 1990.– If it is a year and mainly one month: YYYY (mainly Month). E.g.: 1986 (mainly August).– Several years in the same decade: ca. YYYY (decade). E.g.: ca. 1980 (decade).– If the date is uncertain: ca. YYYY. E.g.: ca. 1987.
Type	<p>Working Paper</p>
Spatial Coverage	<p>Standard field</p> <p>General norm: Describe the characteristics of the geographical area of the resource contents.</p> <p>In this case, the geographical places or areas where the study or corresponding research as carried out are expressed.</p> <p>E.g.: Valladolid (Spain: Province); Burgos (Spain: Province); Cantabria (Spain: Province)</p>
Format	<p>application/pdf</p>
Type of Extent	<p>Pages</p>
Extent	<p>9</p>
Language	<p>Spanish</p>
Requires	<p>Adobe Acrobat</p>
Rights	<p>University of Salamanca</p>
File(s)	<p>JAVCC_015_Ppic.pdf</p>

PUBLICATION

Metadata used for the Collection of the Department of Applied Economics. Working Documents (see the following table).

Collection	Departamento de Economía Aplicada. Documentos de trabajo (Department of Applied Economics. Working documents)
Title	Factores determinantes del salario relativo de los trabajadores cualificados en la industria manufacturera española, 1989–1998
Authors	Standard field Form: Surnames, Given name, Dates Surnames, Given name, “Pseudonym,” Dates Apellidos, Nombre, “Seudónimo,” Fechas E.g.: Carrasco Gallego, José Antonio
Key Words	Standard field E.g.: Disparidades salariales (España); Industria; Productos manufacturados; Trabajo cualificado; Mercado de trabajo
Key Words in English	Standard field E.g.: Wage differentials (Spain); Industries; Manufactures; Skilled labor; Labor market
Abstract	E.g.: Dos son las teorías más extendidas que tratan de explicar la evolución del salario relativo de los trabajadores cualificados respecto de los no cualificados: la laboral y la comercial. En este trabajo se revisan los determinantes que cada postura sostiene que influyen en el salario relativo. A continuación se observa la evolución de los mismos en las ramas manufactureras españolas entre 1989 y 1998 y se realizan previsiones de los signos de los determinantes según las teorías anteriormente señaladas. Finalmente se realiza, mediante las técnicas econométricas de datos de panel, la contrastación de la capacidad de cada una de las dos teorías para explicar el salario relativo en el sector de la industria manufacturera española.
Abstract in English	E.g.: There are two theories that explain the evolution of relative wages (ratio of the wage of qualified workers to the wage of nonqualified workers): the labor perspective and the trade approach. Firstly, we review the factors that determine the relative wage under each theory. Then, we study the evolution of these in the Spanish manufacturing industry from 1989 to 1998 and we make forecasts of the signs of the factor coefficients. Finally, we prove what the best theory is to explain the evolution of the relative wage in this context, using panel data econometrics.
Publisher	Standard field University of Salamanca (Spain). Department of Applied Economics
Date of Issue	2004–09
Type	Working Paper
Citation	Norm: Express the bibliographical citation of the resource being described. E.g.: Carrasco Gallego, José Antonio. Factores determinantes del salario relativo de los trabajadores cualificados en la industria manufacturera española, 1989–1998. Salamanca: University of Salamanca, Departamento de Economía Aplicada, 2004
Format	application/pdf
Type of Extent	Pages
Extent	23
Language	Spanish
Requires	Adobe Acrobat
Rights	University of Salamanca
File(s)	dctea_07_04.pdf

ASSIGNING OF NAMES TO THE FILES OF THE
REPOSITORY COLLECTIONS

Names were assigned to files in a standard way to avoid confusion when digitalising and making the correspondence between the description and the digital object. These are the norms we followed:

Collections	Names of files
Archivo de Neuropatología	Form: Abbreviation of the name of the collection, "ANDIR," followed by year of creation and slide number. E.g.: ANDIR1982-0048-0050.zip ANDIR2001-1631.jpg
Archivo fotográfico Candy. Cursos académicos	Form: The name of the file is composed of the academic year followed by "ca" and a correlative number within each year (without mentioning the event). E.g.: 1963_64ca1.zip; 1963_64ca2.zip
Archivo fotográfico Candy. Cursos de verano	Form: For each record the images are grouped into Zip files of approx. 25 photographs each, and an attempt is made to fit all of the photographs referring to the same event in the same file (except when there are too many of the same event). The name of the file is composed of the year followed by "cv" and a correlative number within each year (without mentioning the type of event) E.g.: 1966cv1.zip; 1966cv2.zip; 1966cv3.zip
CCMU 1 (1948) Cuadernos de la Cátedra	Form: Abbreviation "ccmu" followed by the no. of the issue, the year and the currrens no. assigned to the article: Ccmun°_Year_ currrens no.pdf E.g.: ccmu1_1948_0001.pdf
Miguel de Unamuno Correspondencia de Ricardo Espinosa Maeso	Form: The name of the file is composed of the abbreviation "rem" followed by the surname or two surnames (if there is homonymy), the initials of the given name and the currrens no. assigned to the document if there is more than one by the same author: remSurnamesInitialname.pdf E.g.: remLazaroCarreterF.pdf; remGlezCallePedroU2.pdf
Correspondencia Dorado Montero	Form: The name of the file is composed of the abbreviation "pdm" followed by the surname or two surnames (if there is homonymy), the initials of the given name and the currrens no. assigned to the document if there is more than one by the same author: pdmSurnamesInitialname.pdf E.g.: pdmBobadillaE1.pdf; pdmBustamanteASd.pdf
Correspondencia Unamuno	Form: The name of the file is composed of the abbreviation "cmu," the author's surname and first initial of given name, and currrens no. assigned to the document: cmu_Surname_InitialNo.pdf

(Continued on next page)

Collections	Names of files
CPTB. Palabra de Pablo	E.g.: cmu_Darío_R8.pdf; cmu_Villarreal_C1.pdf Form: The name of the file is composed of the abbreviation “ptb” and the abbreviated title of the document: ptb_title.pdf E.g.: ptb_algebra_y_politica.pdf; ptb_cartas_cronicas.pdf
CPTB. Boletín electrónico Memoria	Form: The name of the file is composed of “boletín_memoria” followed by the number of the bulletin: boletín_memoria_number.pdf E.g.: boletín_memoria_006.pdf; boletín_memoria_009.pdf
CPTB. Cuadernos Memoria	Form: The name of the file is composed of the abbreviation “memo” followed by the number of the <i>cuaderno</i> : memo_number.pdf E.g.: memo_10.pdf
CPTB. Palabra viva	Form: The name of the file is composed of the abbreviation “pv,” followed by the surnames of the first author (interviewee), and the current number assigned to the sound file. E.g.: \pv_oliver_labrador01.mp3; pv_oliver_labrador02.mp3; pv_castellanos.mp3
Cuadernos de campo de José Antonio Valverde	Form: The name of the file is composed of the abbreviation “JAVCC,” current no. of the notebook, abbreviation of the title: JAVCC_number_abbreviation.pdf E.g.: JAVCC_007_Ccoo.pdf; JAVCC_026_Suni.pdf
Departamento de Economía Aplicada. Documentos de trabajo	Form: The name of the file is composed of the abbreviation “dctea,” number, year: dctea_number_year.pdf E.g.: dctea_04_04.pdf; dctea_02_04.pdf
Expedientes personales de profesores USAL	Form: The name of the file is composed of the abbreviation “exp,” followed by the surnames, initial of given name: exp_Surnames_Initial given name.pdf E.g.: exp_AlcaydeVilar_F.pdf
INICO. Actas	Form: The name of the file is composed of the word “Actas” followed by the number of the proceeding and the year: Actas ^o -Año.pdf E.g.: Actas1–2002.pdf; Actas2–2003.pdf
INICO. Boletín Integra	Form: The name of the file is composed of the word “Integra” followed by the number of the bulletin: Integrano.pdf E.g.: Integra25.pdf; Integra28.pdf
INICO. Investigación	Form: An abbreviated title has been assigned to each file in this collection. E.g.: declaracion_salamanca_completo.pdf
Ricardo Espinosa. Manuscritos	Form: The name of the file is composed of the abbreviation “pdm” followed by the surname then given name: pdmSSurnameGivenname.pdf E.g.: pdmCastellanosIsrael.pdf

FINAL PRODUCT: GREDOS

On 6 March, 2009, the University of Salamanca presented its institutional repository known as GREDOS (Gestión del REpositorio DOcumental de la universidad de Salamanca) as the focal point of its Digital University strategy under the Open Access philosophy, consistent with the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, which the University of Salamanca adopted at its Governing Council on 27 February, 2009.

GREDOS represents the University of Salamanca's strategy for organizing the digital document collection that it generates and safeguards. It is conceived as a tool for the processing, storage, and retrieval of collections in a digital format produced or held by the University of Salamanca. The entire contents of this repository is available through open access, which means that it may be consulted in its entirety at no charge, thanks to the license "Creative Commons Reconocimiento-No comercial-Sin obras derivadas 3.0 España," which preserves the copyright of the material stored.

The repository has four sections:

1. Digital Library: Digital collections of the University of Salamanca heritage, created by digitizing historical documents and specific holdings deposited in the University of Salamanca. Manuscripts such as the *Libro de Buen Amor* or the *Liber Canticorum* can be consulted here. This section likewise offers open access to hundreds of early books and complete collections of magazines of historical value, such as *Triunfo* or *Hermano Lobo*.
2. Scientific Repository: This is a collection of the writing done by researchers at the University of Salamanca, including PhD dissertations, final projects, articles published in scholarly journals, publications by *Ediciones de la Universidad de Salamanca* (our own publishing house), digital books, proceedings of conferences, and all kinds of material that is the product of research carried out in the departments and a research institutes of the University of Salamanca.
3. Teaching Repository: This area groups the teaching resources generated by the University: course material, tutorials, and educational videos. This section also holds the digital documents produced by university lecturers that can be useful for teaching.
4. Institutional Archives: This contains institutional, informative, normative, and administrative documents of the University of Salamanca, as well as personal archives.

The internal documents of the University of Salamanca can be found here, especially administrative documents, such as regulations, academic handbooks, speeches, and photographs. An important part of the archives is devoted to the personal collections of professors of this University, among which stand out the historical holdings, such as those of Miguel de Unamuno or Dorado Montero, together with those of other professors, such as Ricardo Espinosa, José Antonio Valverde, Antonio López Eire, and José Iglesias, who have donated their personal archives.

GREDOS stands out from other products of Spanish universities for several reasons. In the first place, because it is integrative, collecting all the digital production of the University of Salamanca in one repository. Our intention was to make available in the depository, with the minimum requirements imposed by the license selected, any document generated by this University and meant to be shared. But the main difference is that GREDOS came to light with more than 51,300 registers of its own (more than 125,000 documents) that can be freely accessed, which positions it from the start at the head of Spanish academic repositories, especially if we consider that the average number of registers in those repositories is approximately 9,000 and that not all of them are of open access for users from outside that institution.

The contents of GREDOS will be constantly added to, guaranteed by the new regulations governing PhD dissertations, Final Projects of Master's degrees and Bachelor degrees and the Research Projects and Teaching Innovation convened by the University of Salamanca.

By the end of 2009, the number of documents in GREDOS is expected to double, as all the digitalized documents presently available are included, while the scholarly production continues to be incorporated and researchers are trained in the AutoArchive. At the time of its launch the scientific information surpassed one thousand documents.

This initiative forms part of the Digital University strategy and the University of Salamanca's commitment to open access, which began when it formally joined the Berlin Declaration and is manifested, for example, in the mandatory open access to PhD dissertations and the results of research projects financed by the University of Salamanca.

IMAGES OF GREDOS

Images 1–4 show the final appearance, and briefly summarize the product final of the repository.

English Portuguese Universidad Digital | Accesibilidad | Ayuda | Directorio | Correo | Mapa web Mi USAL Buscar

UNIVERSIDAD DE SALAMANCA GREDOS REPOSITORIO DOCUMENTAL

Estudios Investigación Internacional La Universidad

Estás en: Inicio > La Universidad > Servicios a la comunidad > Repositorio Institucional

Gestión del Repositorio Documental de la Universidad de Salamanca

Palabra Clave Buscar

Búsqueda avanzada
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Biblioteca Digital



Colecciones patrimoniales de documentos históricos y fondos específicos digitalizados de la USAL.

Repositorio Científico



Investigación científica producida o editada por los departamentos y centros de la Universidad de Salamanca.

Repositorio Docente



Documentos de carácter didáctico producidos por la Universidad de Salamanca y entidades colaboradoras.

Archivo Institucional



Documentos de carácter institucional, informativos o administrativos de la Universidad de Salamanca.

area de usuarios

- Depositar documentos
- Acceder a mi Espacio
- Guía para depositar
- Solicitud de acceso

GREDOS

El sistema de Gestión del Repositorio Documental de la Universidad de Salamanca (GREDOS) ofrece la consulta en línea de documentos digitales con contenidos históricos, científicos, didácticos e institucionales. La Universidad de Salamanca difunde en acceso abierto a través de GREDOS colecciones patrimoniales, documentos científicos y recursos docentes e informativos.







Estudios Investigación Internacional La Universidad

Aviso legal | Política de privacidad | Información y contacto

Universidad de Salamanca 2009

IMAGE 1 GREDOS's Home Page.

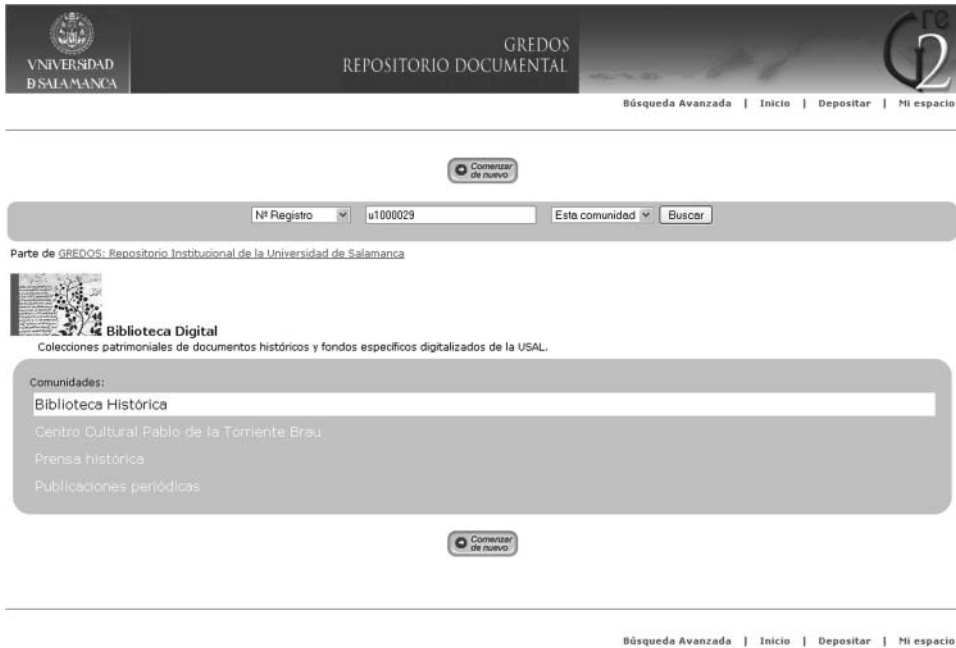


IMAGE 2 Community example.

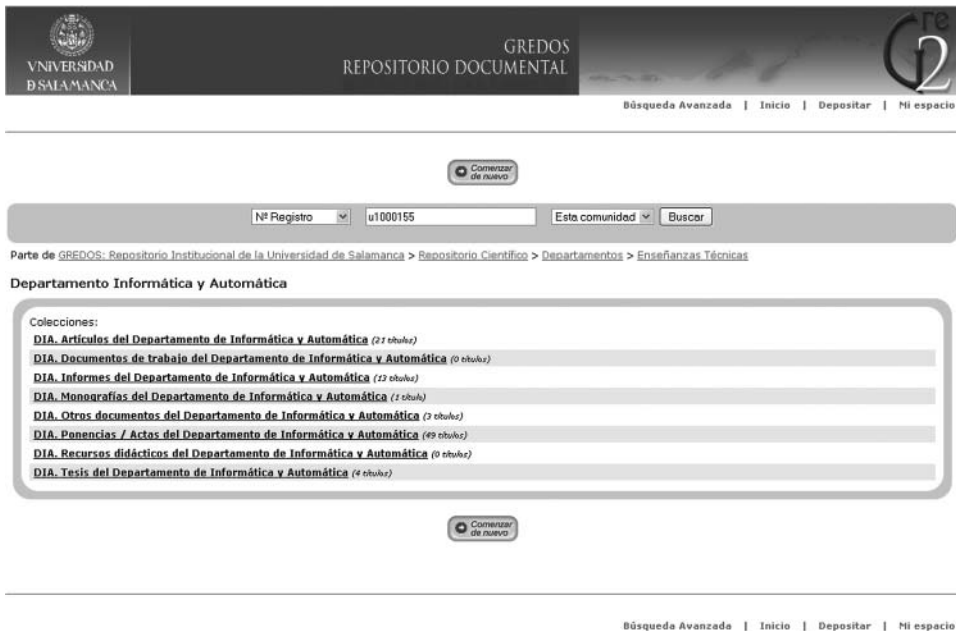


IMAGE 3 Collection example.

The screenshot displays the GREDOS Repositorio Documental interface. At the top, the header includes the University of Salamanca logo, the text 'GREDOS REPOSITORIO DOCUMENTAL', and a search bar with 'Búsqueda Avanzada | Inicio | Depositar | Mi espacio'. Below the header, there is a 'Comenzar de nuevo' button and a search bar containing 'Nº Registro' and 'd1044503'. The main content area is titled 'Información digital' and features two PDF icons labeled 'LBA01.pdf' and 'LBA02.pdf'. The central part of the interface contains a table with the following information:

Autor:	Ruiz, Juan, Arcipreste de Hita
Título:	Libro del buen amor
Alternativo:	Ms. 2663
Fecha:	2009-02-04
Creado:	1401/1500
Materia:	Manuscritos medievales
Descripción:	Manuscrito número 2663 de la Biblioteca Histórica de la USAL
Idioma:	spa
Identiicador :	http://hdl.handle.net/10366/d10445031
Fuente:	Catálogo de manuscritos de la Biblioteca Universitaria de Salamanca I, M
Tipo de documento:	Libro
Formato del archivo:	aplicación/pdf
Extension:	106 p.
Require:	Adobe Acrobat

To the right of the table is a large image of a manuscript page with handwritten text in a medieval script. Below the table, there is a 'Comenzar de nuevo' button. At the bottom of the interface, the search bar is repeated: 'Búsqueda Avanzada | Inicio | Depositar | Mi espacio'.

IMAGE 4 Digital Item and digital object example.

REFERENCES

- Biblioteca de la Universidad de Salamanca. (n.d.) *Catálogo de autoridades de la USAL* [USAL Authorities Catalog]. Retrieved September 4, 2009, from <http://bauta.usal.es/aut/>
- Biblioteca de la Universidad de Salamanca. (n.d.) *Catálogo de la Biblioteca* [Library Catalog]. Retrieved September 4, 2009, from <http://brumario.usal.es/>
- Biblioteca Nacional de España. (n.d.) *Autoridades de la Biblioteca Nacional de España* [Authorities of The National Library of Spain]. Retrieved September 4, 2009, from <http://catalogo.bne.es/uhtbin/authoritybrowse.cgi>
- Bibliothèque National de France. (n.d.) *Autorités BNF et RAMEAU*. Retrieved September 4, 2009, from http://catalogue.bnf.fr/jsp/recherche_simple_champ_unique.jsp?nouvelleRecherche=O&nouveaute=O&host=catalogue
- Consejo Superior de Investigaciones Científicas. (n.d.) *Catálogo de autoridades del CSIC* [CSIC Authorities Catalog]. Retrieved September 4, 2009, from http://aleph.csic.es/F?func=file&file_name=find-b&local_base=MAD10

- DRIVER. (2007, August 31) *Escenario de implementación de las directrices del proyecto DRIVER [DRIVER. Deployment scenario Driver Guidelines]*. Retrieved September 4, 2009, from http://www.driver-support.eu/documents/DRIVERS_escenario_ES1%200.pdf
- DRIVER Guidelines, V.1.0. (2007). Retrieved September 4, 2009, from http://www.driver-support.eu/documents/DRIVER_guidelines_1%200.pdf
- Dublin Core Metadata Initiative. (2007). Retrieved September 4, 2009, from <http://dublincore.org/>
- Dublin Core Metadata Initiative. (2008, January 1). *Metadata terms*. Retrieved September 4, 2009, from <http://dublincore.org/documents/dcmi-terms/>
- Dublin Core Metadata Initiative, National Information Standards Organization, and American National Standards Institute. (2001). *The Dublin Core Metadata Element Set*. Bethesda, MD: National Information Standards Organization. Retrieved September 4, 2009, from <http://www.niso.org/standards/resources/Z39-85.pdf>
- Dublin Core Metadata Initiative Usage Board. (2004). *DCMI Metadata Terms*. Dublin Core Metadata Initiative. Retrieved September 4, 2009, from <http://www.dublincore.org/documents/dcmi-terms/>
- Ferreras Fernández, T. (2008). *Dublin Core Cualificado: Documento de trabajo [Qualified Dublin Core. Working Paper]*. Salamanca, España: Servicios de Archivos y Bibliotecas de la USAL. Retrieved September 4, 2009, from <http://hdl.handle.net/10366/d10441803>
- Gill, T., Gilliland, A. J., Whalen, M., & Woodley, M. S. (2008). *Introduction to metadata* [Electronic edition, Version 3.0]. Retrieved September 4, 2009, from http://www.getty.edu/research/conducting_research/standards/intrometadata/index.html
- Gilliland-Swetland, A. J. (1998). *Introduction to metadata: Pathways to digital information*. Retrieved September 4, 2009, from <http://www.getty.edu/research/institute/standards/intrometadata/>
- Library of Congress. (2008a). *Dublin Core to MARC Crosswalk*. Retrieved September 4, 2009, from <http://www.loc.gov/marc/dccross.html>
- Library of Congress. (2008b). *METS: Metadata Encoding & Transmission Standard official Web site*. Retrieved September 4, 2009, from <http://www.loc.gov/standards/mets/>
- Library of Congress. (2008c). *MODS User Guidelines (Version 3.0)*. Retrieved September 4, 2009, from <http://www.loc.gov/standards/mods/v3/mods-userguide.html>
- Library of Congress Authorities. Retrieved September 4, 2009, from <http://authorities.loc.gov/webvoy.htm>
- Méndez Rodríguez, E. (2002). *Metadatos y recuperación de información: estándares, problemas y aplicabilidad en bibliotecas digitales [Metadata and information retrieval Standards, problems and applications in digital libraries]*. Gijón: Trea.
- Ministerio de Cultura. (2006). *Reglas de catalogación [Cataloging Rules]* (Rev. ed.). Madrid, España: Ministerio de Cultura. Secretaría General Técnica.
- OCLC/RLG Working Group on Preservation Metadata. (2002). *Preservation metadata and the OAIS information model: A metadata framework to support the preservation of digital objects*. Dublin, Ohio: OCLC Online Computer Library Center. Retrieved September 4, 2009, from http://www.oclc.org/research/projects/pmwg/pm_framework.pdf

- OCLC. PREMIS data dictionary for preservation metadata, Version 2 (2008). Retrieved September 4, 2009, from <http://www.loc.gov/standards/premis/v2/premis-2-0.pdf>
- Open Archives Initiative. Retrieved September 4, 2009, from <http://www.openarchives.org>
- Society of American Archivists. (2004). *Describing archives: A content standard*. Chicago: Society of American Archivists.
- Université de Laval. *Repertoire des vedettes matières de l'Université de Laval [Repertoire of subject headings of Laval University]*. Retrieved September 4, 2009, from <http://www.collectionscanada.gc.ca/rvm-bin/search/l=1>
- Working Group on Preservation Issues of Metadata. (1998). Final report. Mountain View, California: RLG. Retrieved September 4, 2009, from http://www.rlg.org/en/page.php?Page_ID=8341

APPENDIX

Qualified Dublin Core best practices for descriptions in GREDOS

The DC elements used in the descriptions and the norms designed for their application appear below. The guidelines drawn up are for internal use, and adapted to our own case. Thus, for example, whether an element is mandatory or optional, standard or not, or whether its field of application is or is not that of its origin are norms that we ourselves established in this manual for best practices.

TITLE

Mandatory: Yes.

Repeatable: No.

Name of term: Title.

Label: Title <dc:title> </dc:title>

Norms of application: When the document described does not have a title, a descriptive and concise one must be created, respecting spelling rules.

Use uppercase letters at the beginning of the first word and for proper nouns. Do not use a full stop.

OTHER TITLES

Mandatory: No. Optional.

Label: Alternative <dcterms:alternative> </dcterms:alternative>

Norms of application: We use this field only if we have another form of the title in another language.

AUTHOR(S)

Mandatory: Yes.

Repeatable: Yes.

Standard field: Yes.

Label: Creator <dc:creator> </dc:creator>

Norms of application: For person names, use the form: Surname(s), Given Name, Dates. Organizations, bodies: Use the form in the original language: Name of Organization, body (Place).

SUBJECT

Mandatory: No. Optional.

Repeatable: Yes.

Standard field: Yes.

Label: Subject <dc:subject> </dc:subject>

Norms of application: Use subject headings constructed as such only in book descriptions. Use the standard forms of USAL Library Catalogue of Authorities, ALC, ABNE, ACSIC, LAVAL, BN-Opale, and other sources.

KEY WORDS

Mandatory: Yes.

Repeatable: Yes.

Standard field: Yes.

Label: Subject <dc:subject> </dc:subject>

Norms of application: Use the standard forms of USAL Library Catalogue of Authorities, ALC, ABNE, ACSIC, LAVAL, BN-Opale, and other sources. The form should be that of key words and not the form of subject headings.

KEY WORDS IN ENGLISH

Mandatory: Yes.

Repeatable: Yes.

Standard field: Yes.

Label: Subject <dc:subject> </dc:subject>

Norms of application: Use the standard forms of USAL Library Catalogue of Authorities, ALC, ABNE, ACSIC, LAVAL, BN-Opale, and other sources. The form should be that of key words and not the form of subject headings.

ABSTRACT

Mandatory: Yes.

Repeatable: Yes.

Standard field: Yes.

Label: Abstract <dcterms:abstract>Resumen<dcterms:abstract>

Norms of application: Free text. Summary of the contents of the resource. Follow spelling rules. Use full stop.

ABSTRACT IN ENGLISH

Mandatory: Yes.

Repeatable: Yes.

Standard field: No.

Label: Abstract <dcterms:abstract> <dcterms:abstract>

Norms of application: Free text in English. Summary of the contents of the resource. Follow spelling rules. Use full stop.

PUBLISHER

Mandatory: Yes, where applicable.

Repeatable: Yes.

Standard field: Yes.

Label: Publisher <dc:publisher></dc:publisher>

Norms of application: Person's name; use the form Surname(s), Given name, Dates.

Organizations, bodies: Use the form in the original language: Name of Organization, body (Place).

CONTRIBUTOR(s)

Mandatory: Yes, where applicable.

Repeatable: Yes.

Standard field: Yes.

Label: Contributor <dc:contributor></dc:contributor>

Norms of application: Person's name; use the form Surname(s), Given name, Dates. Organizations, bodies: Use the form in the original language: Name of Organization, body (Place)

DATE THE RESOURCE WAS DESCRIBED IN THE REPOSITORY

Mandatory: Yes.

Repeatable: No.

Standard field: Yes.

Label: Date <dc:date></dc:date>

Norms of application: Always indicate the date when the description of the resource was made in the repository.

DATE OF CREATION

Mandatory: Yes, where applicable.

Repeatable: No.

Standard field: Yes.

Label: Created <dcterms:created></dcterms:created>

Norms of application: Always indicate a date, either that of creation or publication, or both if applicable. This date refers to the date of creation of the scientific result of the original resource to be described. For example, the date of creation of a letter is the date it was written.

Forms:

YYYY-MM-DD

YYYY-MM

YYYY

[ND] (If the document has no date).

DATE ISSUED

Mandatory: Yes, where applicable.

Repeatable: No.

Standard field: Yes.

Label: Issued <dcterms:issued></dcterms:issued>

Norms of application: Always indicate a date, either that of creation or issue, or both if applicable. This date refers to the date of formal publication of the scientific result of the original resource to be described. For example:

the date of issue of a working document is the date it was first made public.

Forms:

YYYY-MM-DD

YYYY-MM

YYYY

TEMPORAL COVERAGE

Mandatory: No. Optional.

Repeatable: No.

Standard field: Yes.

Label: Temporal <dcterms:temporal></dcterms:temporal>

Norms of application: Indicates the period of time the document contents refer to. It is not necessarily a numerical field.

Forms:

- A range of several years: YYYY–YYYY. Example: 1901–1918.
- A month in a specific year: Month YYYY. Example: August 1980.
- Several months of a year. If consecutive: Month–Month YYYY. Example: March–May 1990.
If not consecutive: Month, month, month YYYY. Example: March, May, June 1990.
- If it is a year and mainly one month: YYYY (mainly month). Example: 1986 (mainly August).
- Several years in the same decade: ca. YYYY (decade). Example: ca. 1980 (decade).
- If the date is uncertain: ca. YYYY. Example: ca. 1987.

SPATIAL COVERAGE

Mandatory: No. Optional.

Repeatable: No.

Standard field: Yes.

Label: Spatial <dcterms:spatial></dcterms:spatial>

Norms of application: Indicate the characteristics of the geographical area of the contents of the resource.

Forms:

Geographical names (USAL Catalogue of Authorities)

Point <http://dublincore.org/documents/dcmi-point/>

ISO 3166 <http://www.iso.ch/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/index.html>

Box <http://dublincore.org/documents/dcmi-box/>

TGN <http://www.getty.edu/research/tools/vocabulary/tgn/>

TYPE

Mandatory: Yes.

Repeatable: Yes.

Standard field: Yes.

Label: Type <dc:type> </dc:type>

Norms of application: Use the following typology; always repeat the dc element

Type to express it in English as well.

Artículo/Article

Libro/Book

Carta/Letter

Tesis doctoral/Doctoral thesis

Discurso/Lecture

Boletín de noticias/Newsletter

Trabajo de investigación/Research paper

Audio/Audio

Video/Video

Imagen/Image

Documento de trabajo/Working paper

Expediente personal/Personal File

Tarjeta de visita/Visiting card

Telefonema/Telephoned telegram

BIBLIOGRAPHIC CITATION

Mandatory: No. Optional.

Repeatable: No.

Standard field: Yes.

Label: bibliographicCitation

<dcterms:bibliographicCitationr> </dcterms:bibliographicCitationr>

Norms of application: There are diverse systems besides the Cataloguing Rules for writing bibliographical citations. The latest DRIVER guidelines (v. 2, Nov. 2008) recommend the use of the APA style, and we thus follow this style for building the bibliographical citations of the resources described.

SOURCE

Mandatory: No. Optional.

Repeatable: Yes.

Standard field: No.

Label: Source <dc:source> </dc:source>

Norms of application: This DC element serves to indicate the current location of original archive documents on paper (correspondence and personal files) that have been digitalized to be included in GREDOS.

IS PART OF

Mandatory: Yes.

Repeatable: No.

Standard field: No.

Label: isPartOf <dcterms:isPartOf> </dcterms:isPartOf>

Norms of application: Indicate the collection that the resource belongs to.

FORMAT

Mandatory: Yes.

Repeatable: No.

Standard field: Yes.

Label: Format <dc:format></dc:format>

Norms of application: Physical or digital manifestation of the resource. Follow the DRIVER recommendations: "According to recommended practice, use the IANA registered list of Internet media types (MIME types) to select a term. The format should be that of type/subtype, such as: application/pdf, image/jpeg; audio/mp3

EXTENT

Mandatory: Yes.

Repeatable: No.

Standard field: Yes.

Label: Extent <dcterms:format></dcterms:format>

Norms of application: Indicate the size or duration of the resource. Use, where applicable: Pages, MB, Minutes.

LANGUAGE

Mandatory: Yes.

Repeatable: Yes.

Standard field: Yes.

Label: Language <dc:language></dc:language>

Norms of application: The language of the intellectual contents of the resource. Use the corresponding ISO 639-3 code, and repeat the field indicating the complete form of the name of the language in Spanish.

Forms:

Spanish/spa

English/eng

French/fre

Portuguese/por

German/ger

Latin/lat

Classical Greek/grc

Esperanto/epo

REQUIRES

Mandatory: Yes.

Repeatable: No.

Standard field: Yes.

Label: Requires <dcterms:requires></dcterms:requires>

Norms of application: Express the computer requirements for visualizing the digital resource. For example: Adobe Acrobat, Image visualizer.

RIGHTS

Mandatory: Yes.

Repeatable: Yes.

Standard field: No.

Label: Rights <dc:rights></dc:rights>

Norms of application: Information on who owns the intellectual property rights of the resource.

FILE NAME

Mandatory: Yes.

Repeatable: Yes.

Standard form: Yes.

Label: Filename <iiidcfilename>

Norms of application: Used to define the name of the file accompanying the description.