

# Digital Preservation: key technical and strategic issues

Biblioteca Nacional Digital - [Madrid, ca. 1750] - Mozilla Firefox

http://purl.pt/5243/1/


Obra [Madrid, ca. 1750]

Ficha bibliográfica (visualização [ISBD](#))

[645663]

[MADRID  
[Madrid [Visual gráfico : Fuente Sol]. - [S.l. : s.n., ca. 1750]. - 1 gravura : água-forte, aguarelada. - Tít. ms no verso. - Data baseada por características formais. - Dim. da comp.: 23,1x39 cm

CDU 908(460)Madrid  
"17" (084.1)  
725.94(460) (084.1)  
762"17" (084.1)



Tipo:Image/jpeg Tamanho:212 KB

© Biblioteca Nacional Digital - ContentE v.1.0 - 2006-02-03T10:45:44

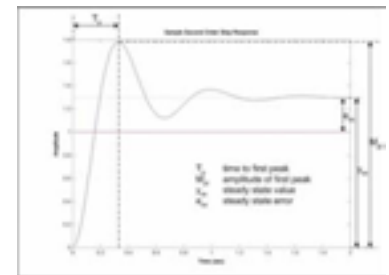
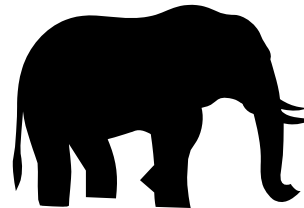
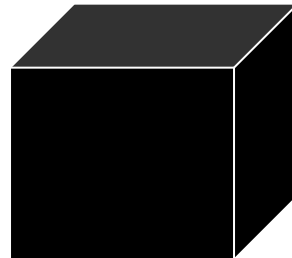


# Digital Preservation

## 1. The case in Portugal...



## 2. What is really the issue?



# Digital Preservation in Portugal

- Political awareness (scientific and cultural heritage)
  - Government (Ministry of Culture and Ministry of Science and Higher Education) might be slightly aware (MinervaPLus, etc.), but so far there is not any “top-down” relevant initiative... (but we are having a new government...)
  - Several digitization projects have been in place in the country, but preservation has not been an issue...
- Real actions in the field
  - (yet very) Few universities are running institutional repositories...
  - National Library, National Archives, and the Institute for the Museums, are very well aware of the problem!!!
    - They are partners of the forthcoming PREDICA - Network of Excellence on Preservation and High Quality Digitization (coordinated by INESC)
  - National Library has been addressing the issue in the scope of the National Digital Library Initiative (1998...present) >>>>>

# BN - National Library of Portugal

- Patrimonial and Regulatory Library
  - Legal Deposit
    - BN and 10 more libraries (including Brazil)
    - Covering only printed materials
    - New law awaited...
  - Coordination of PORBASE
- Major renovation in the middle of the 90's
  - >300 employees
  - New I&D structure (>30 employees...)
    - New computing department (12 employees)
  - New initiatives
    - BND: National Digital Library

# National Library of Portugal (with INESC-ID)

- **BN: Enterprise Architecture and Technology**
  - SOA: Service Oriented Architecture (web services, OAI, ...)
  - Flexible, scalable and trusted storage technology...
  - Structural metadata (METS, UNIMARC, Dublin Core, ...)...
  - Open software and standards...
- **BND: Contents**
  - Selective archiving of web sites and on-line documents
  - voluntary deposit of thesis and other documents
  - in-house digitization
  - electronic publishing...
- **BN: Expertise**
  - NEDLIB, DELOS, TEL, MinervaPLus, ...
  - Coordination of the IFLA's UNIMARC activities...
  - BND: Biblioteca Nacional Digital (National Digital Library Initiative)
  - Learning, trying and training people (lack of critical mass)
  - Partnership...

DIMIC - Instituto Superior Técnico, IST Press - Mozilla Firefox


http://dimic.porbase.org/obra/ncb/1186226/index.html

### Instituto Superior Técnico, IST Press

**Título:** Sistemas digitais  
**Sub-título:** fundamentos algébricos  
**Editora:** Instituto Superior Técnico, IST Press  
**Data de publicação:** 2003  
**Autores:** Sérro, Carlos;  
**Nº de Depósito Legal:** 194223/03  
**ISBN:** 972-8469-25-X  
**NCB PORBASE:** 1186226

**Conteúdos**

[Imagem da capa](#) [ BKB - image/png ]



[Outros](#) [ 1KB - text/plain ]  
 Descrição: sobre o autor

**Resumo**

"Esta obra, o primeiro de três temas gerais de Sistemas de Trabalho de grande envergadura, desconheço qualquer obra sobre o mesmo tema, nem conheço que ofereçam a mesma profundidade da matéria que revelou ao entregar-se a forma cuidada como cumpriram propósitos, são justificadas pela autor."

José Alfredo Ribeiro da Silva M.  
 Professor Catedrático da Faculdade de Engenharia do Porto

**Índice**

PREFÁCIO xi  
 1 SISTEMAS DE NUMERAÇÃO  
 1.1 SISTEMAS DE NUMERAÇÃO  
 1.1.1 Representação dos números  
 1.2 O Sistema de Numeração  
 1.2.1 Propriedades do sistema

PORBASE - Base Nacional de Dados Bibliográficos (OPAC) - Mozilla Firefox

http://opac.porbase.org/pac23/pac.js?session=1H2B0E155305.9085&menu=search&aspect=b

**Resultado da Pesquisa**

162 títulos verificam: Instituto Superior Técnico

**Colectão:** Seleccionar colectão...  
**Área Geográfica:** Seleccionar área geográfica...  
**Tipo Biblioteca:** Seleccionar tipo biblioteca...  
**Língua:** Seleccionar língua...  
**País de Publicação:** Seleccionar país...  
**Tipo de Documento:** Seleccionar tipo documento...

Seguintes:

1. Étude analytique et application des équations variationnelles de la génératrice à redresseur  
 por *Garrido, M. S.*  
 1979  
[Adicionar à lista](#)
2. Relatório sobre a disciplina Sistemas de controlo e de comunicação de 60 ano do curso de engenharia electrotécnica do Instituto Superior Técnico, Janeiro 1970  
 por *Moura, José Manuel Fonseca de*  
 1979  
[Adicionar à lista](#)
3. Aplicação de um modelo matemático ao canal de rega de Salvaterra [ Texto policopiado ]  
 por *Rijo, Manuel,* 1994-1996  
[Adicionar à lista](#)
4. A siderurgia em Portugal : um programa  
 por *Costa, Nóbrega de,* 1973-1996  
 1994  
[Adicionar à lista](#)

DIMIC - Depósito de Monografias Comerciais - Mozilla Firefox

http://dimic.porbase.org/editora/9728469

**Dimic** Biblioteca Nacional Digital

Login

**Ficha Descritiva da Editora**

Nome: Instituto Superior Técnico, IST Press  
 Variantes de Nome: I. S. T. Press  
 Instituto Superior Técnico, IST Press  
 Prefixos de ISBN: 972-8469  
 Morada: Av. R. do Visco Pais  
 Código Postal: 1096  
 Local: Lisboa  
 Telefone: 218417659  
 Fax: 218417614  
 Página na Internet:  
 Email:

[Obras com conteúdos \(23\)](#) [Obras na PORBASE](#)

Biblioteca Nacional - DIMIC 2008-02:1.2724:08:25

**Voluntary Deposit of Digital Copies of Printed Works (DIMIC)**

**The digital is helping in the preservation of the paper 😊**

# Voluntary Deposit of Thesis and Dissertations (DiTeD)

Depósito de Dissertações e Teses Digitais - Mozilla Firefox

http://di.ted.bn.pt/

DiTeD | Como Participar na Sociedade DiTeD | Contactos | Links Relacionados | Instituições Participantes | Perguntas Frequentes

Língua / Language: Português

Estadísticas

Últimos documentos depositados:

Registos e Documentos	Documentos Digitais
Registos Digitais	23
Documentos Digitais Parciais	1628
Registos sem Documentos Digitais	29
Total de Registos	1680

Documentos Gêneros

Tese - não definida	6
Tese de Doutoramento	301
Tese de Mestrado	1346
Tese de Licenciatura	15

Documentos:

- Título: [O governador Francisco Xavier de Mendonça Furtado no Grão-Pará e Maranhão \(1751-1759\) - contribuição de seu epistolário para a história portuguesa do Brasil](#)  
Gênero: Tese de Mestrado  
Autor: [Rodrigues, Maria Isabel de Silva Reis Vieira](#)  
data: 1997
- Título: [Emigração familiar para o Brasil - Condição de Guimarães, 1830-1914 - uma perspectiva microanalítica](#)  
Gênero: Tese de Mestrado  
Autor: [Cunha, Cármen A. Sarmiento](#)  
data: 1997
- Título: [D. Lauriano de Almeida - 1.º Governador de Minas Gerais - uma tarefa complexa](#)  
Gênero: Tese de Mestrado  
Autor: [Gonçalves, Paulo Frederico Ferreira](#)  
data: 1996
- Título: [As cortes constituintes, 1821-1822 e a Independência do Brasil](#)  
Gênero: Tese de Mestrado  
Autor: [Cardoso, José Moreira](#)  
data: 1997
- Título: [A empresa mineira e a edificação da brasilidade](#)  
Gênero: Tese de Mestrado  
Autor: [Cardoso, José Moreira](#)  
data: 1996
- Título: [A emigração arquipelágica para o Brasil 1888-1911](#)  
Gênero: Tese de Mestrado

Registo 30714 - Mozilla Firefox

http://di.ted.bn.pt/30714/index.html

Registo de Documento

Título	O governador Francisco Xavier de Mendonça Furtado no Grão-Pará e Maranhão
Subtítulo	(1751-1759) - contribuição de seu epistolário para a história portuguesa do Brasil
Autor	Rodrigues, Maria Isabel de Silva Reis Vieira
Classificação e Indexação	(ICD): 32 - Política
Resumo	
Orientador	Serão, Joaquim Yacobiim, 1993
Instituição	Faculdade de Letras -- Universidade de Lisboa -- Instituições portuguesas
Data de Publicação	1997 / - / -
Gênero	Tese de Mestrado
Local de Publicação	Lisboa - editor: [s.n.]
Língua	Português
N.º	987185

Cópias Digitais

Cópias Locais Incompletas

Ficheiro	Data	Descrição	Tamanho	Tipo	Time
<a href="#">16.7310_1.pdf</a>	2006/01/13	Volume 1: Parte, introdução, bibliografia e índice 621 (kb)		application/pdf	

Cópias Impressas

Biblioteca Cota

BN	S.C. 79360 V.
BN	S.C. 79361 V.
ULB	TH-H 226

# Selective Web Harvesting (RECOLHA)

Projecto Recolha: Biblioteca Nacional Digital - Coleção : Sociedades Ci

http://recolha1.bn.pt/export/RECOLHA\_1\_20060310195454/

Coleção : Sociedades Científicas Portuguesas

Dados da coleção	
<b>Título</b>	Sociedades Científicas Portuguesas
<b>Editora</b>	Biblioteca Nacional
<b>Data</b>	2005-01-06T12:26:24+00:00
<b>Indentificador</b>	2e4f2fb5-5fde-11d9-83db-4563efade62c
<b>Língua</b>	pt

[Mais dados técnicos](#)

- Sociedades Científicas Portuguesas
  - APAET - Associação Portuguesa de Análise Experimental de Tensões
    - [2005/08/18](#)
  - Artigos da Revista de Medicina da Criança e do Adolescente (SPP)
    - [2005/09/07](#)
  - Boletim da Sociedade Portuguesa de Anestesiologia
    - [2005/09/07](#)
  - Boletim Informativo - SPTF
    - [2005/09/05](#)
  - Flyer Sociedade Portuguesa de Vida Selvagem
    - [2005/09/05](#)
  - NDCA - Núcleo de Doenças de Comportamento Alimentar
    - [2005/08/16](#)
  - Radioprotecção
    - [2005/09/05](#)
  - Revista Portuguesa de Estomatologia e Medicina Dentária
    - [2005/09/05](#)
  - Revista Portuguesa de Medicina Intensiva
    - [2005/09/07](#)
  - Revista Psicoterapia Breve
    - [2005/09/05](#)
  - Revista SPMI
    - [2005/09/07](#)

http://recolha1.bn.pt - Projecto Recolha: Bibliotec...

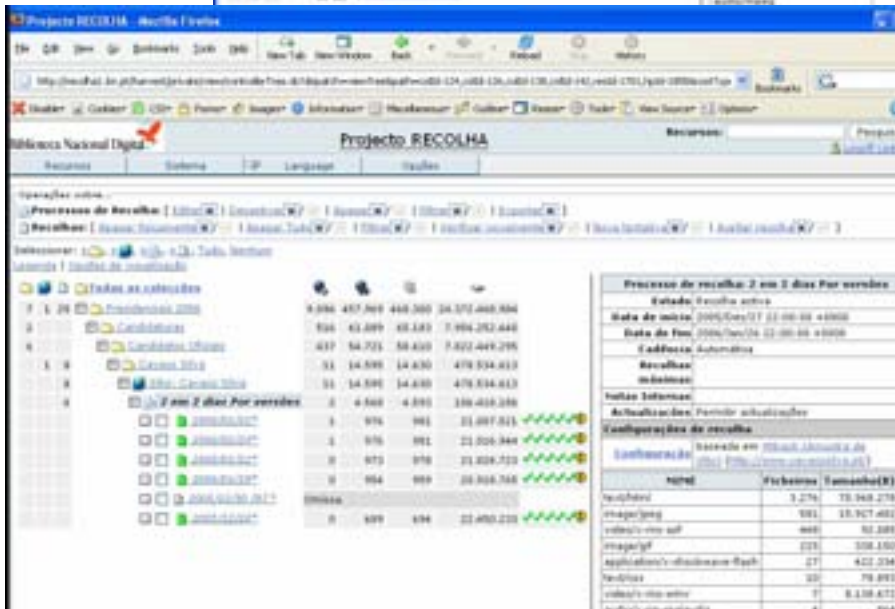
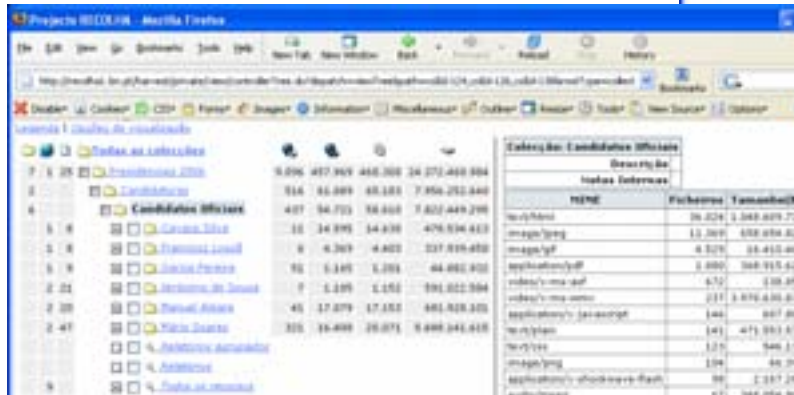
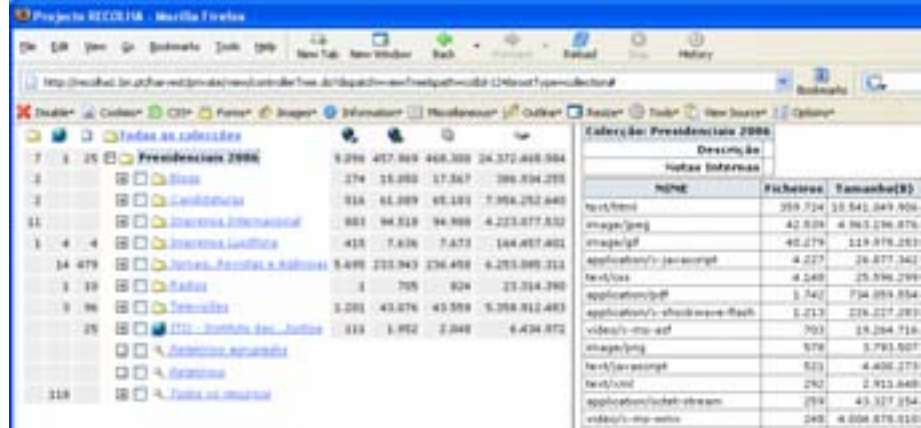
Estatísticas		
<b>Links</b>	29.177	
<b>Erros</b>	5.083	
<b>Ficheiros</b>	77.016	
<b>Tamanho(B)</b>	6.709.740.428	
Tecnologia de recolha		
<b>Ficheiros</b>	349	
<b>Tamanho(B)</b>	412.947.780	
<b>Data</b>	2006-03-08T02:06:19+00:00	

MIME	Ficheiros	Tamanho(B)
application/msword	131	24.207.086
image/jpeg	5.184	272.975.983
application/x-msdos-program	3	2.248.704
application/vnd.ms-excel	1	98.304
video/x-msvideo	3	958.976
chemical/x-xyz	6	560
application/octet-stream	593	196.754.202
application/x-tar	1	491.520
image/pjpeg	1	54.405
image/x-xbitmap	2	1.598
application/x-shockwave-flash	161	13.028.979
application/x-java-applet	1	17.142
text/css	78	296.995
image/x-icon	3	1.858
image/tiff	15	89.645.598
audio/basic	2	269.459
audio/x-wav	1	90.700
video/mpeg	1	1.273.860
image/bmp	3	130.346
image/gif	3.429	29.555.878
application/pdf	2.741	2.848.717.719
text/rtf	5	177.548
application/vnd.ms-powerpoint	27	21.971.968
text/xml	65	210.079
application/x-msmetafile	2	42.800
text/html	15.874	169.548.425
text/plain	56	2.857.237
video/unknown	1	21.400
image/png	627	2.226.956



# Selective Web Harvesting (RECOLHA)

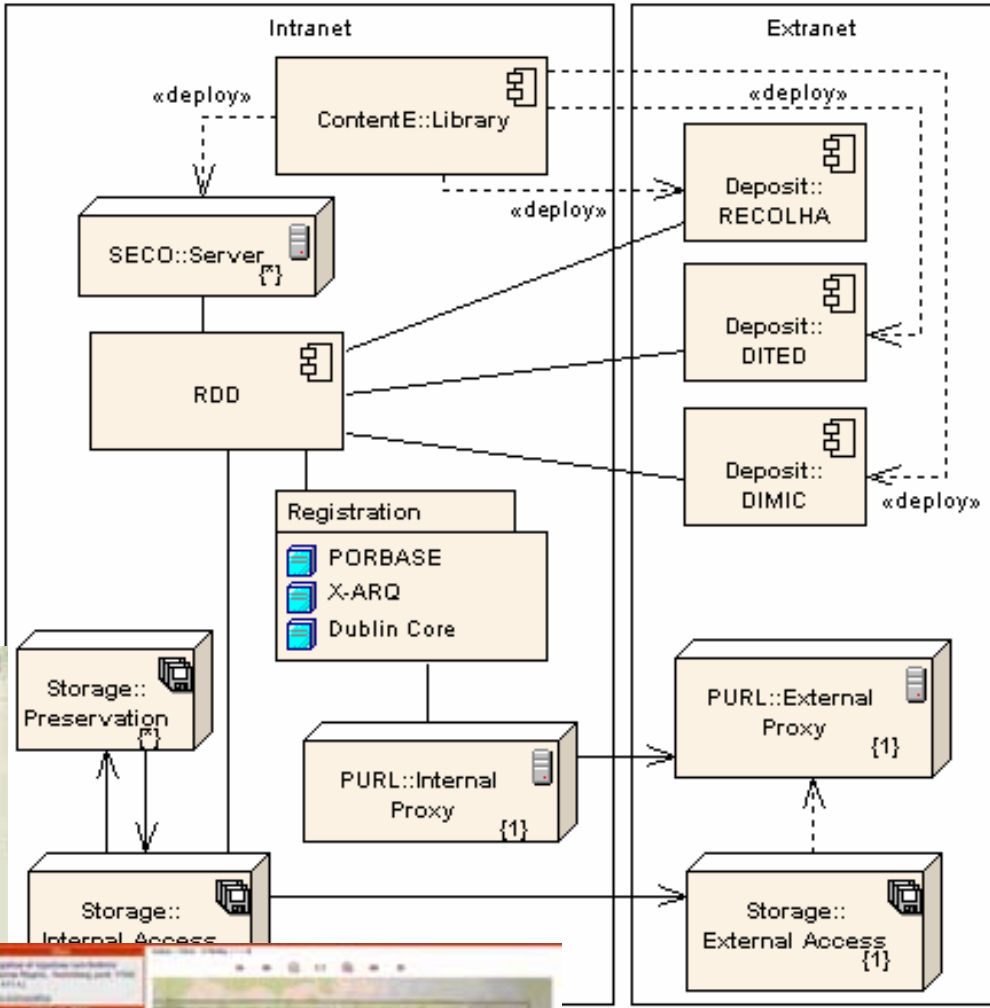
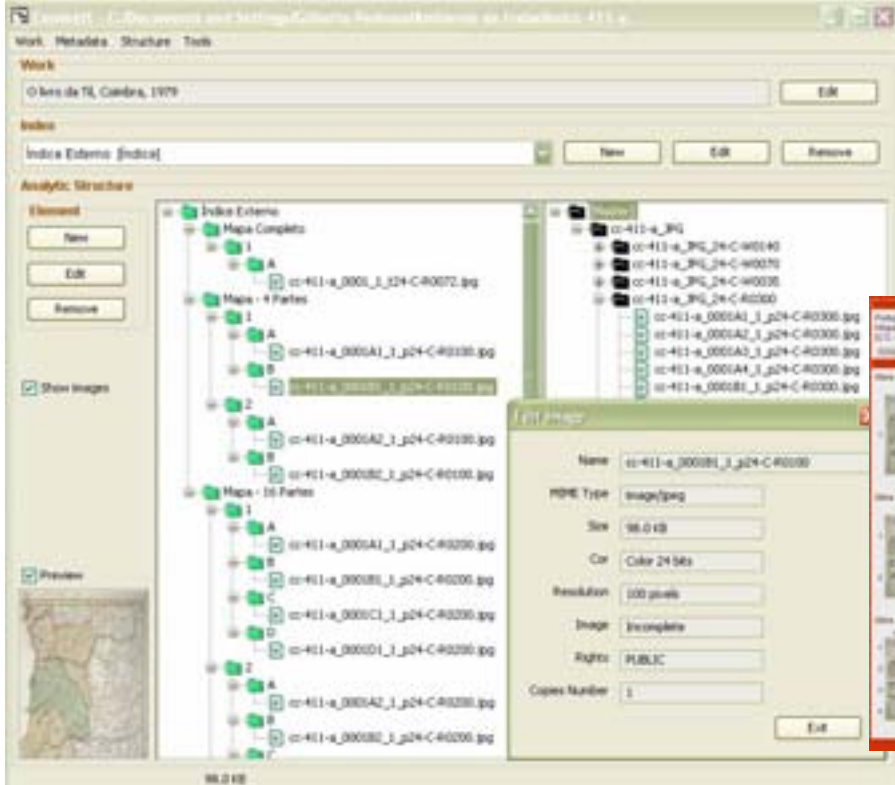
## Experimental Phase (>0,5 TB)



```

<?xml version="1.0" encoding="utf-8" standalone="no" ?>
< mets OBJID="cod-256" LABEL="[Plantas e desenhos para uma igreja] [COD-256]"
  xmlns="http://www.loc.gov/METS/" xmlns:xlink="http://www.w3.org/1999/xlink"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="
  http://schemas.bn.pt/mets/v1.5/metsv1.5.xsd">
  < metsHdr CREATEDATE="2005-05-29T03:41:42" LASTMODDATE="2006-03-08T17:
  < dmdSec ID="dmd.PORBASE.UNIMARC.1058883">
    < mdRef LOCTYPE="URL" xlink:type="simple" xlink:href="cod-256_metadata/desi
    MDTYPE="OTHER" OTHERMDTYPE="UNIMARC" MIMETYPE="application/xml" LA
  </dmdSec>
  < amdSec>
    < techMD ID="t1">
      < mdRef ID="technical0" LOCTYPE="URL" xlink:type="simple" xlink:href="cod-25
      MDTYPE="OTHER" OTHERMDTYPE="BND-CONTENTE" MIMETYPE="application,
    </techMD>
    + < techMD ID="t0">
  < rightsMD ID="r2">
      < mdRef ID="rights0" LOCTYPE="URL" xlink:type="simple" xlink:href="cod-256_r
      MDTYPE="OTHER" OTHERMDTYPE="RIGHTSMD" MIMETYPE="application/xml"
    </rightsMD>
    + < rightsMD ID="r1">
  </amdSec>
  + < fileSec>
  < structMap TYPE="LOGICAL">
    < div ID="w" LABEL="[Plantas e desenhos para uma igreja]" DMDID="dmd.PORB.

```



**METS in place...**

# Generic Search Engine (MITRA)

The screenshot shows a Mozilla Firefox browser window titled "Mitra Results - Mozilla Firefox". The address bar contains the URL: <http://busca.bn.pt/Handler?verb=search&encoding=UTF-8&html=true&osl=http%3A%2F%2Fmitra2.bn.pt%3A80%3A>. The search bar shows the query "O livro de cesário verde" and the search button is labeled "Pesquisar". The search results are displayed in a list format, with the first result being "O Livro de Cesario Verde: 1873-1886".

**Pesquisar:**  tudo  BND  BN  PORBASE  DiTeD

**Pesquisar por:** "O livro de cesário verde"  [Pesquisa Avançada](#)

... tudo Results: 0 - 10 de cerca de 2 para "O livro de cesário verde".

**O Livro de Cesario Verde: 1873-1886**  
Autor: Verde, Cesário, 1855-1886  
Data/Tipo: 1887 / material textual, impresso  
Descrição: Monografia  
Biblioteca Nacional Digital - O Livro de Cesario Verde - Biblioteca Nacional Digital - **O Livro de Cesario Verde**  
Obra Ficha bibliográfica (visualização ISBD ) [367624] **VERDE, Cesário**, 1855-1886 **O Livro de Cesario Verde** : 1873-1886. - Lisboa : Typographia Elzevieriana, 1887. - XIX, 103, [5] p. : 18 cm [http](http://)

**Memórias**  
Autor: Portugal, Biblioteca Nacional  
Data/Tipo: 2002 / multimédia  
Descrição: Monografia Tit. retirado da pág. de acolhimento  
Memória | Literatura, Lista de obras Memória | Literatura, Lista de obras - - 150 p. ; 11 cm **VERDE, Cesário**, 1855-1886 **O Livro de Cesario Verde** : 1873-1886 Lisboa : Typographia ... | Língua | Literatura | **Livro** | Música ... , António Feliciano de, 1800-1875 **O presbyterio**

Coloque uma barra de pesquisa para o Mitra no seu site  
[Sobre o Mitra](#)  
[Zona de ajuda](#)

Search powered by: **Mitra** *Lucene*

Done AdBlock

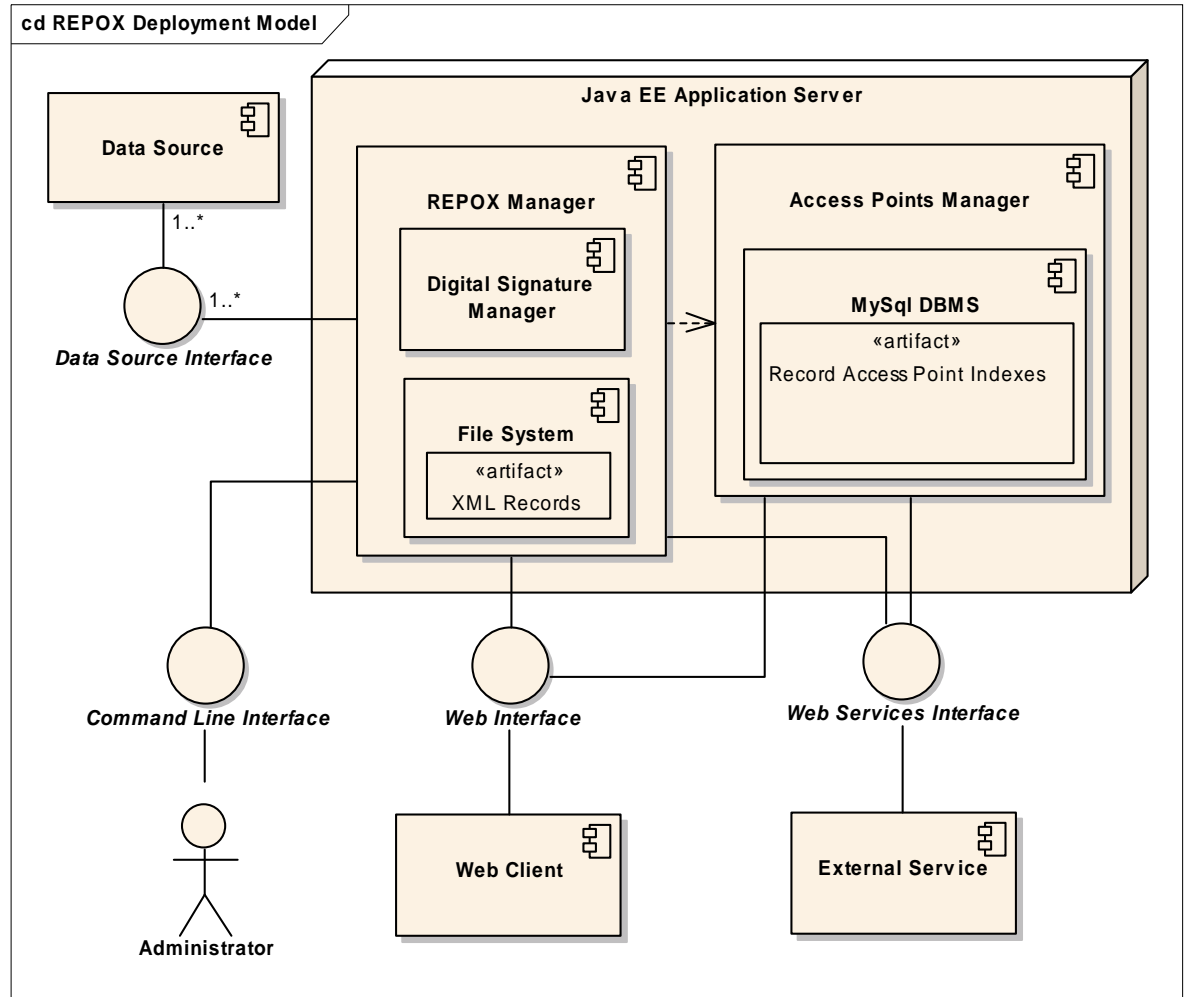


# Preservation of Metadata (REPOX)

```

<?xml version="1.0" encoding="ISO-8859-1" ?>
- <record xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:marc="http://www.bn.pt/standards/metadata/marcxml/1.0/" xmlns="http://reporbase.org/xml/repor/1.0/"
  xsi:schemaLocation="http://www.bn.pt/standards/metadata/marcxml/1.0/ http://xml.bn.pt/schemas/Unimarc-1.0.xsd,
  http://reporbase.org/xml/repor/1.0/ http://reporbase.org/xml/repor-1.0.xsd" control-number="10045">
- <version control-number="10045" date="2005-08-31">
  <event type="RECORD_CHANGE" user="iquinta" />
- <content>
  - <marc:record>
    <marc:leader>00539cam 02200205 04500</marc:leader>
    <marc:controlfield tag="001">10045</marc:controlfield>
    + <marc:datafield ind1="" ind2="" tag="100">
    + <marc:datafield ind1="0" ind2="" tag="101">
    + <marc:datafield ind1="" ind2="" tag="102">
    - <marc:datafield ind1="1" ind2="" tag="200">
      <marc:subfield code="a">Contos</marc:subfield>
      <marc:subfield code="f">Eça de Queiroz</marc:subfield>
    </marc:datafield>
    + <marc:datafield ind1="" ind2="" tag="205">
    + <marc:datafield ind1="2" ind2="" tag="225">
    - <marc:datafield ind1="" ind2="1" tag="700">
      <marc:subfield code="a">Queirós,</marc:subfield>
      <marc:subfield code="b">Eça de,</marc:subfield>
      <marc:subfield code="f">1845-1900</marc:subfield>
      <marc:subfield code="3">10520</marc:subfield>
    </marc:datafield>
    + <marc:datafield ind1="" ind2="0" tag="801">
    + <marc:datafield ind1="" ind2="" tag="966">
    </marc:record>
  </content>
</version>
- <version control-number="10045" date="2005-08-01">
  <event type="RECORD_CREATION" user="msantos" />
- <content>
  - <marc:record>
    <marc:leader>00539cam 02200205 04500</marc:leader>
    <marc:controlfield tag="001">10045</marc:controlfield>
    + <marc:datafield ind1="" ind2="" tag="100">
    + <marc:datafield ind1="0" ind2="" tag="101">
    + <marc:datafield ind1="" ind2="" tag="102">
    - <marc:datafield ind1="1" ind2="" tag="200">
      <marc:subfield code="a">Contos</marc:subfield>
      <marc:subfield code="f">Eça de Queiroz</marc:subfield>
    </marc:datafield>
    + <marc:datafield ind1="" ind2="" tag="205">
    + <marc:datafield ind1="2" ind2="" tag="225">
    + <marc:datafield ind1="" ind2="1" tag="700">
    + <marc:datafield ind1="" ind2="0" tag="801">
    + <marc:datafield ind1="" ind2="" tag="966">
    </marc:record>
  </content>
</version>
</record>

```



Google Scholar search results for "O Livro de Cesário Verde".

Results 1 - 10 of about 21 for "O Livro de Cesário Verde"

[2006] **O Livro de Cesário Verde**  
C Verde - Europa-América  
Cited by 1 - Web Search - Encontre na PORBASE

[2010] **O Livro de Cesário Verde e poesias dispersas**  
C Verde - Europa-América  
Cited by 1 - Web Search - Encontre na PORBASE

[2010] **O Livro de Cesário Verde, 1873-1886**  
C Verde, S Pinto - 1887 - Lisboa: Typ. Elzeviriana

PNB - Base Nacional de Dados Bibliográficos (OPAC) - Mozilla Firefox

BASE NACIONAL DE DADOS BIBLIOGRÁFICOS  
O Catálogo Coletivo em Linha das Bibliotecas Portuguesas

Pesquisar por:

Informação e ampliar

- Extensões

Outras obras deste autor

- Verde, Cesário, 1855-1886
- Pinto, Silva, 1945-1911, et. B.

pesquisar no catálogo por Autor

- Verde, Cesário, 1855-1886
- Pinto, Silva, 1945-1911, et. B.

Ver formato UNIMARC. Exportar registro em IS20709

Done

O Livro de Cesário Verde - Biblioteca Nacional Digital - Mozilla Firefox

http://url.pt/123

Ficha Bibliográfica (visualização BND)

[367624]

VERDE, Cesário, 1855-1886  
O Livro de Cesário Verde : 1873-1886. - Lisboa : Typographia Elzeviriana, 1887. - XIX, 103. [5] p. ; 18 cm http://url.pt/123 - Inocência XIII 20

CDU 821.134.3-1\*19\*

Exemplares na BND [notas sobre os conteúdos]

- URL 123/4 Cópia pública, 142 KB - Dig
- URL 123/3 Cópia pública, 4,4 MB, 1 fic
- URL 123/2 Cópia pública, 4,4 MB, 5 fic
- URL 123/1 Cópia pública, 6,1 MB - Dig
- URL 123/0 Cópia privada, 13,5 MB - Dig

Outros exemplares:

Biblioteca Nacional  
Cota local: F. 3389 - Microfilme  
Cota local: L. 1838 V. - Digitalizado em: PURL  
Cota local: RES. E38 P. - Ex. n.º 41. - Assin.

Ver na PORBASE - Base Nacional de Dados Bibliográficos  
Este registro: 367624  
Obras de: Verde, Cesário [1855-1886]; Pinto, S.

The European Library - pt - Mozilla Firefox

http://www.the-european-library.org/pt

The European Library

pesquisa | coleções | bibliotecas | títulos | sobre

pesquisa simples | pesquisa avançada | resultados

pesquisa avançada

Insira o seu termo de pesquisa e efectue a sua pesquisa em [tudo de uma só vez](#). Para resultados mais específicos [selecione as suas coleções](#).

1 SELECIONE AS COLEÇÕES

- colecção de livros antigos online
- selecção de coleções por país

2 INTRODUZA A SUA PESQUISA

Introduza o seu termo de pesquisa para um ou mais campos:

Qualquer campo

Título

Autor

Ano

UNIMARC

pesquisa

Done

# Interoperability

# In short:

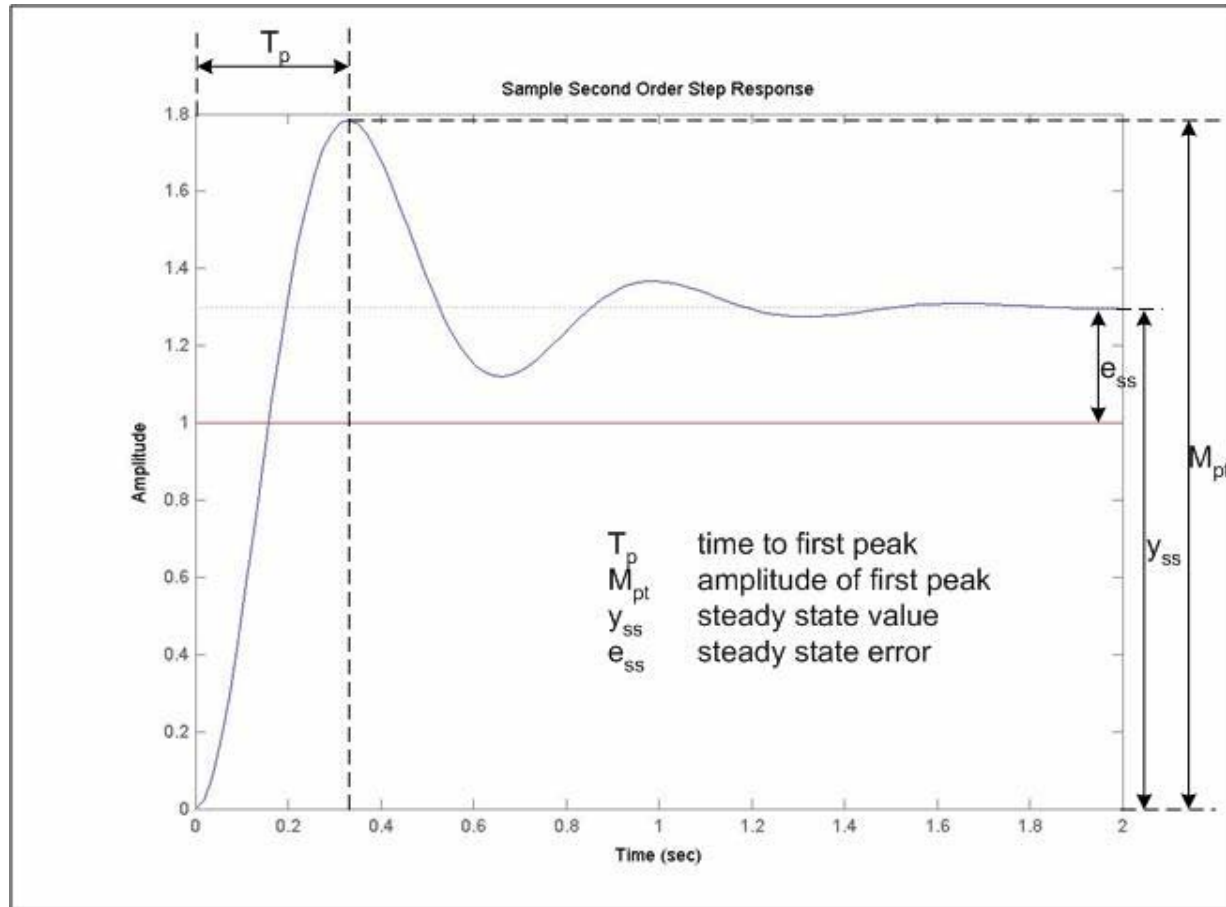
- Services
  - Voluntary deposit
  - Selective harvesting
  - Search
    - Interoperability
      - PORBASE, TEL, TUMBA, B-ON, Google Scholar
  - Storage (Preservation???)
- Technology / Architecture
  - SOA – Service Oriented Architecture
  - Open standards and open source software
  - OpenURL / URN / PURL
- Strategy
  - Many actions running in parallel, but small steps!!!

# Portugal

- BN:
  - 40TB of contents (digitized, harvested and deposited)...
    - Master copies
    - Access copies
  - 30.000 titles (maps ... .. periodicals)
  - only 15% is now on-line, the remaining will become during 2006...
- Strategy
  - Cooperation
    - ...PREDICA - Center of Excellence...
- ...and its all!!!
  - Wait and see what comes out of the new Public Administration structure...
- Is all of this bad or good? Lets talk a bit about that >>>>>>>>>



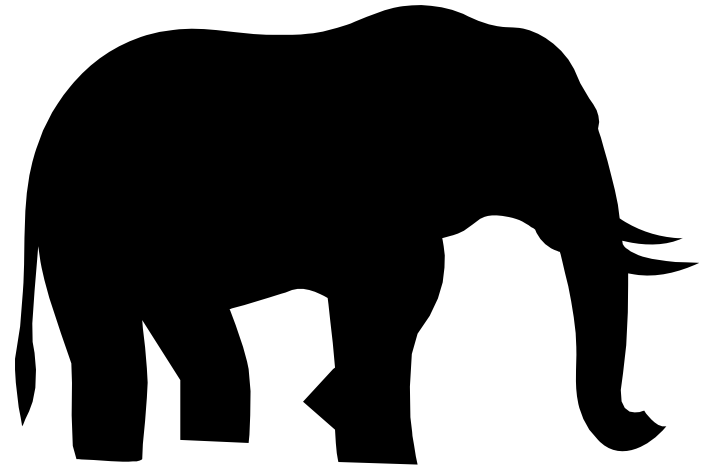
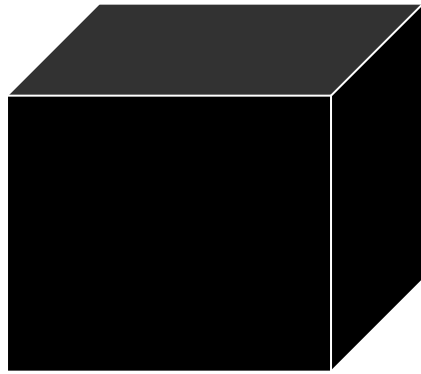
# The problem of Digital Preservation in my eyes (please be aware that I used to wear glasses...)



[http://ece.uwaterloo.ca/~se380/lab2\\_secordstep.jpg](http://ece.uwaterloo.ca/~se380/lab2_secordstep.jpg)

It is “just” a **SECOND ORDER** problem!!!

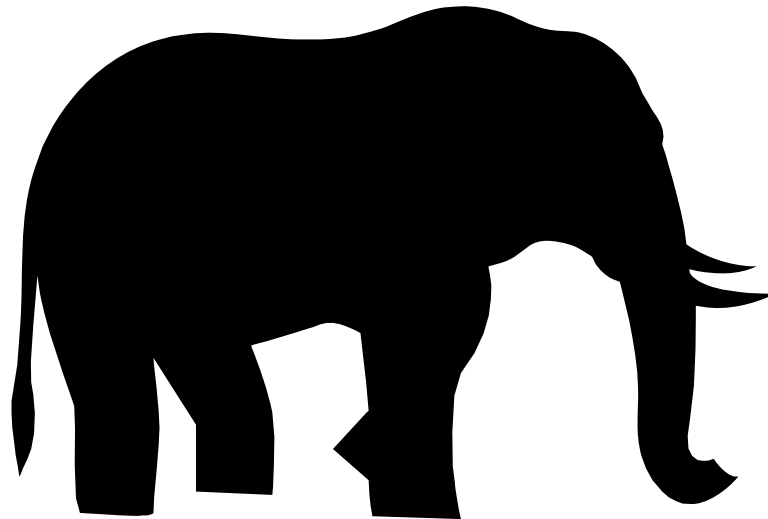
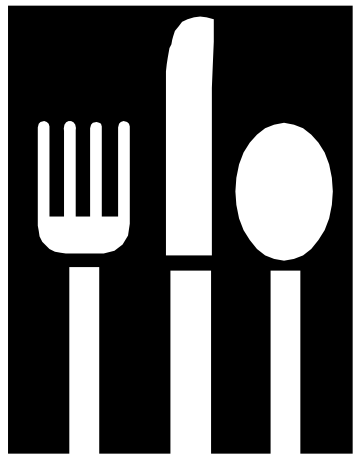
# The problem of Digital Preservation in the eyes of “a normal person”...



**It is really a dark big problem...**

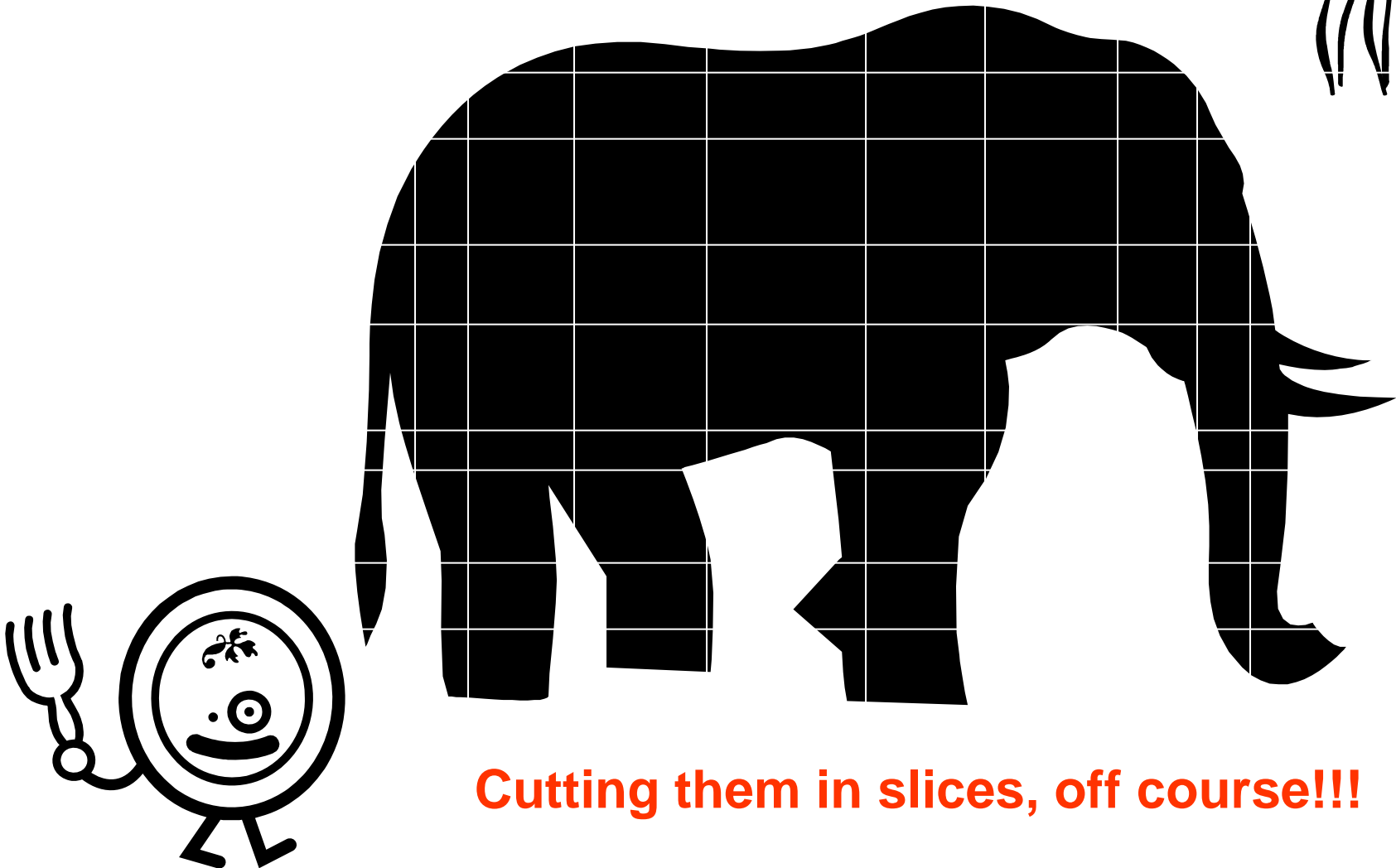
**...so big, that it can be of the size of an elephant!!!**

The problem of Digital Preservation in the eyes of an engineer...



**How to eat an elephant???**

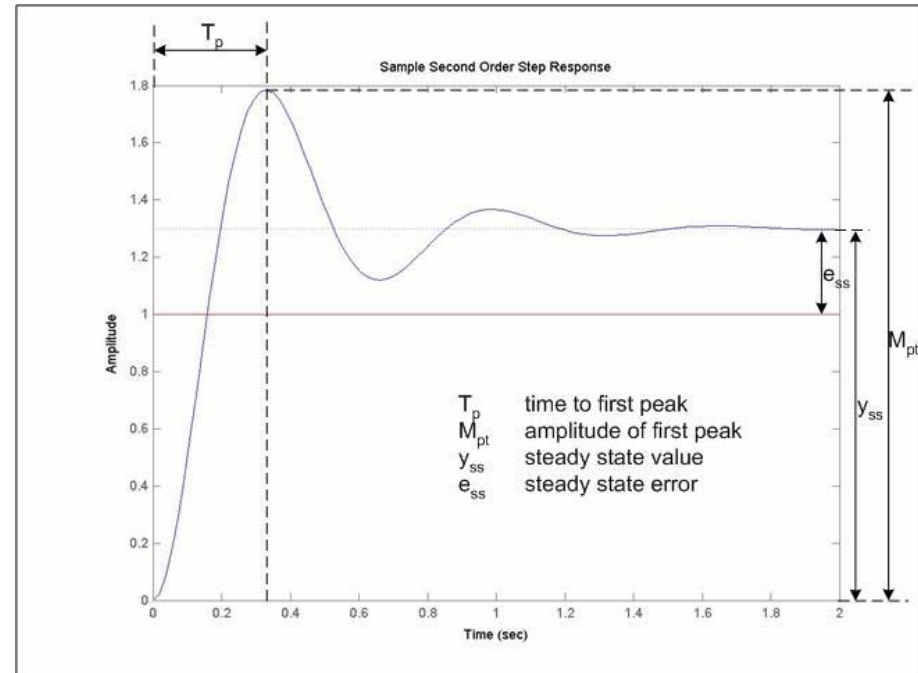
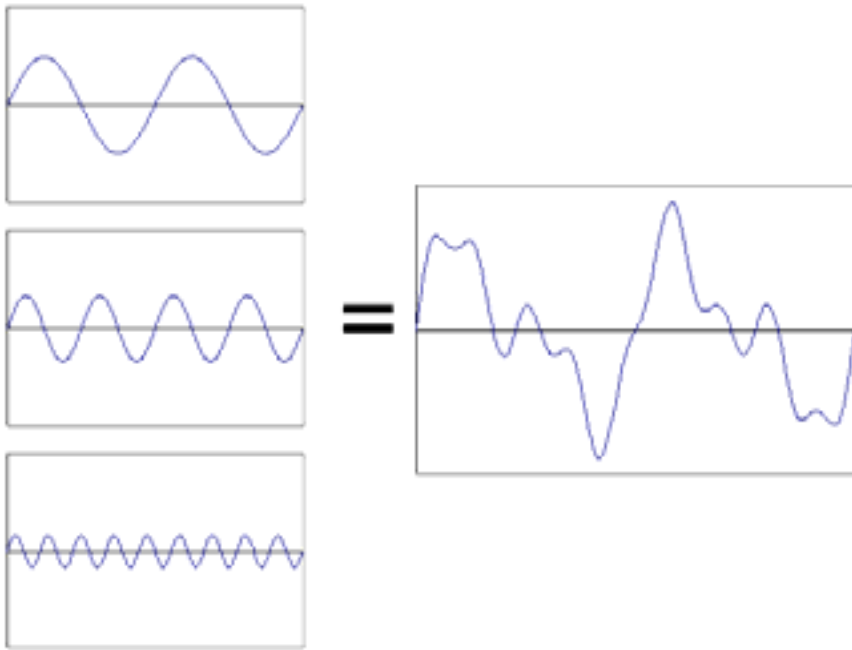
# How engineers eat elephants?



**Cutting them in slices, off course!!!**

Not so innovative, after all...

Mr. Fourier(1768-1830) had discovered that a long time ago! And not just for elephants, but for everything around us...



<http://www1.minn.net/~keithp/pictures/fourier.gif>

**In the eyes of Mr. Fourier, everything around us can be studied and expressed as a sum of nice sinusoids!!!...**



**But what is the best way to  
slice the problem and  
identify what parts are more  
relevant and what parts are less  
relevant?**

**“Simply” start making the  
right questions!!!**

# The case of how to make the right questions in the eyes of Mr. Zachman (Zachman Framework for Enterprise Architecture 1987)

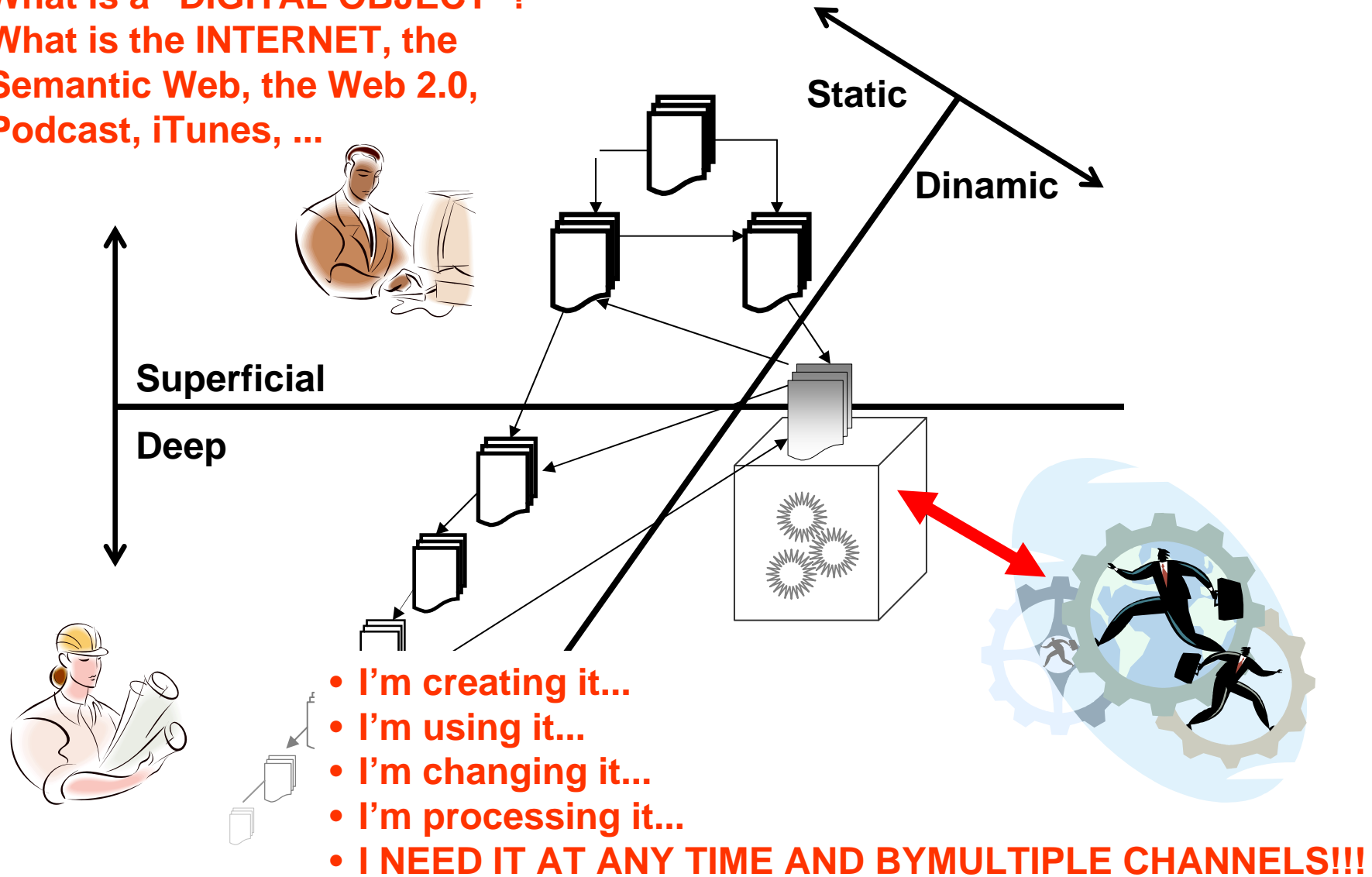


<b>View</b>	<b>Data (What)</b>	<b>Function (How)</b>	<b>Network (Where)</b>	<b>People (Who)</b>	<b>Time (When)</b>	<b>Motivation (Why)</b>
<b>Scope/Contextual (Planner view)</b>	Things important to the business	Processes the business performs	Locations in which the business operates	Organizations important to the business	Events significant to the business	Business goals/strategies
<b>Business Model/Conceptual (Owner view)</b>	e.g., Semantic Model	e.g., Business Process Model	e.g., Business Logistics System	e.g., Work Flow Model	e.g., Master Schedule	e.g., Business Plan
<b>System Model/Logical (Designer view)</b>	e.g., Logical Data Model	e.g., Application Architecture	e.g., Distributed System Architecture	e.g., Human Interface Architecture	e.g., Processing Structure	e.g., Business Rule Model
<b>Technology Model/Physical (Builder view)</b>	e.g., Physical Data Model	e.g., System Design	e.g., Technology Architecture	e.g., Presentation Architecture	e.g., Control Structure	e.g., Rule Design
<b>Detailed Representations/ out-of-context (Subcontractor view)</b>	e.g., Data Definition	e.g., Program	e.g., Network Architecture	e.g., Security Architecture	e.g., Timing Definition	e.g., Rule Specification
<b>Functioning Enterprise</b>	e.g., Data	e.g., Function	e.g., Network	e.g., Organization	e.g., Schedule	e.g., Strategy



# Digital Preservation: What?

- What is **DIGITAL INFORMATION**?
- What is a “**DIGITAL OBJECT**”?
- What is the **INTERNET**, the **Semantic Web**, the **Web 2.0**, **Podcast**, **iTunes**, ...



# Digital Preservation: What?

http://www.abc.es

abc.es

Últimas Noticias 79 años, Luis Valls Taberner

Substitan las cartas

Actualizado: 2:37 p.m.

### JUNTA GENERAL DE ACCIONISTAS

## Miranda dice que la opa de E.ON confirma que Endesa «vale más»

El consejero delegado de Endesa, Rafael Miranda, afirmó hoy que los mejores términos económicos de la oferta de compra de E.ON respecto a la de Gas Natural confirman lo acertado de las decisiones adoptadas por su equipo gestor para defender los intereses de los accionistas y que la eléctrica "vale más". [+]

- El Gobierno desvía a Bruselas y cambia la ley para que la CNE pueda bloquear la opa de E.ON

- Montilla acusa a las principales eléctricas de manipular los precios del mercado

- La CNMf empieza a Gas Natural a que concrete su opa sin modificar el precio

### EN COTAS MUY BAJAS

## La DGT recomienda no viajar sin cadenas ante la previsión de nieve en gran parte de la Península

La DGT advierte de que las cadenas pueden ser necesarias para desplazamientos por carretera en toda la Península por el temporal de nieve que azota a España. [+]

- La previsión meteorológica, al detalle

- Dos puertos de montaña de la red secundaria, cerrados por la nieve

COMO EL VIRUS ATRO

### OTROS BLOGS

«Las Aguafiestas», con su parodia sobre la Guardia Civil, ganan el concurso de chirigatas

La chirigota "Los Aguafiestas", disfrazados de la Guardia Civil de Tráfico, que parodiaron a los agentes y la lucha de la alcaldesa contra la gripe aviar cortando la cabeza a los pollos con mala cara... [+]

- El Carnaval, en imágenes

### SÁBADOS DE ABC

- Caballeros: Diez años del milagro
- La risa es lo que nos queda
- La escultura hecha jese

### MOTOR

Ranking de los coches más vendidos

http://www.abc.es

Noticias

Actualizado: 2:37 p.m.

Google

Diets on line

### Otros blogs

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- El Carnaval, en imágenes

### gente

## Rocío Jurado podría volver a España la próxima semana

La chibonera regresaría, según ha podido saber ABC, en un avión medicalizado de alquiler, puesto que es impensable que la más grande pueda venir de Hourtou en un aparato normal. [+]

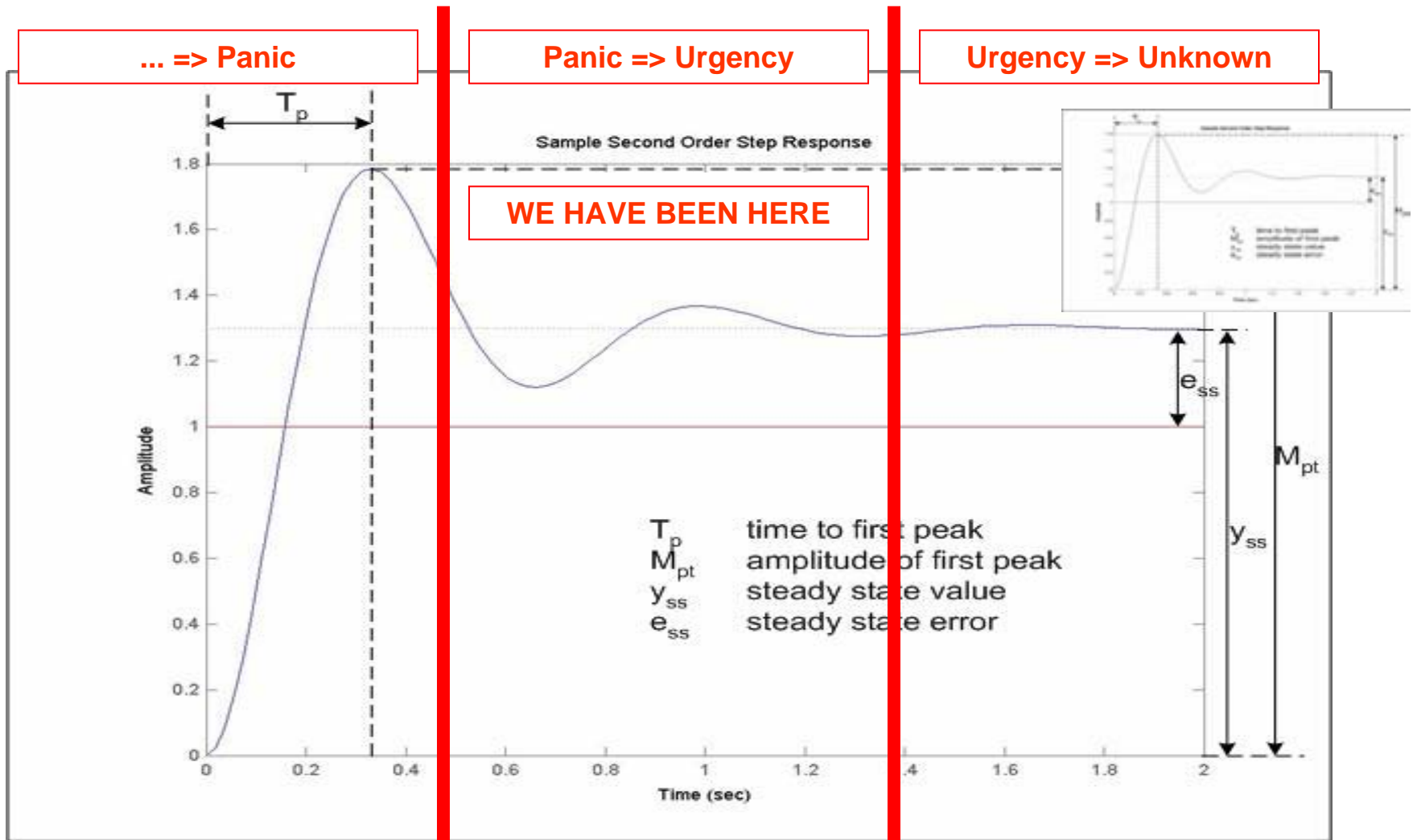
- Especial La «Mar Grande»

Múica

## Niña Pastori se arroja con canciones de otros artistas en «Joyas peritadas»

Tiene estos días Niña Pastori doble celebración. Se cumplen, por un lado, diez años desde que

# Digital Preservation: What?

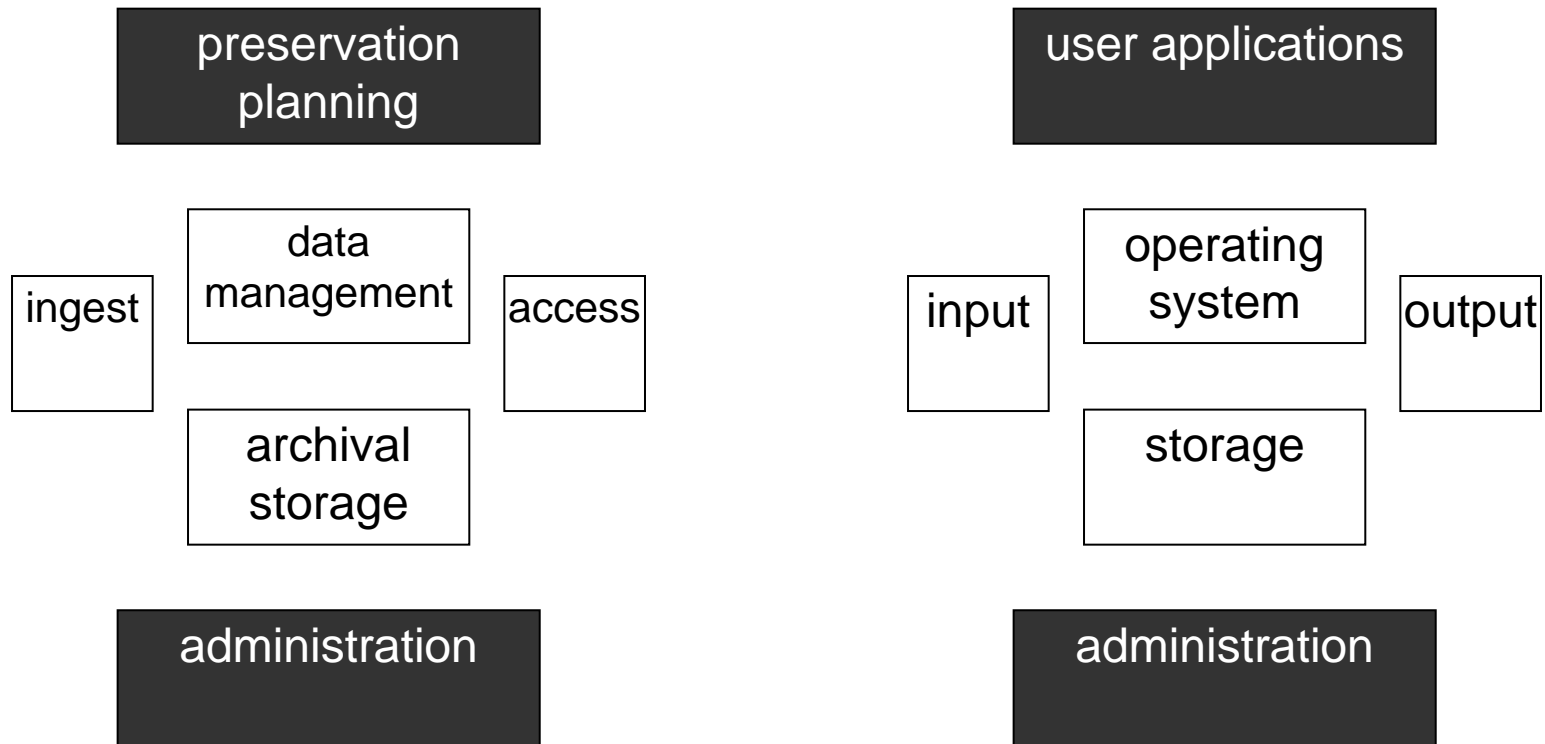


Physical (emulation,  
digitization, ...)

Logical (web harvest,  
legal/... deposit)

Conceptual (information  
SELF...)

# Digital Preservation: How?



We should be careful with possible false sense of security...

# Digital Preservation: How?

## What About Standards (IMHO)?

- Considering that
  - Technological innovation is not going to wait for us!!!
  - We can not wait for the ultimate solutions
- Than we need to rethink what it really means standardization?
  - IMHO, it might be not anymore ONLY to assure that I'm following the acronyms (OAIS, OAI-PMH, DC, UNIMARC, METS, ISO-xpto, ...), but ALSO to assure that **I HAVE THE RIGHT ORGANIZATIONAL STRATEGY AND I HAVE ALL THE KNOWLEDGE AND FLEXIBILITY TO PROVIDE ANY KIND OF NEW SERVICE, AT ANY MOMENT, AND AT AN AFFORDABLE COST!!!**
- Concluding
  - Standardization can not be only an objective, but a mean!
  - Standardization can not be a constraint, but freedom!
  - FLEXIBILITY not to stay, but to move, even if for that there the need to start by changing the standards (REIFICATION)!!!

# Digital Preservation: Where?

- “Where” depends a lot of the “What” and “Who”...
- Physical items are sometimes unique and/or difficult to reproduce
  - ⇒ Preservation of the artifacts!!!
- Digital items are easy to reproduce
  - ⇒ Preservation of the information
    - ⇒ What’s the role of REPLICATION???
    - ⇒ But what about highly dynamic environments???
    - ⇒ ...

# Digital Preservation: Who?

- Who is producing information?
- Who has rights on the information?
- Who can access and use information?
- Who are my costumers?
- Who are my partners?
- Who are my competitors?
- But the first question as to be always: Who am I?

# Digital Preservation: When?

- A common issue in technological problems is the risk of the earlier adopters (discredit and loose of motivation in case of failure)...
- Too soon can be disastrous!!!
- But also too late can be... simply too late!!!
- When ALWAYS?
- When WHEN POSSIBLE?
- When SOMETIMES?
- When NEVER?

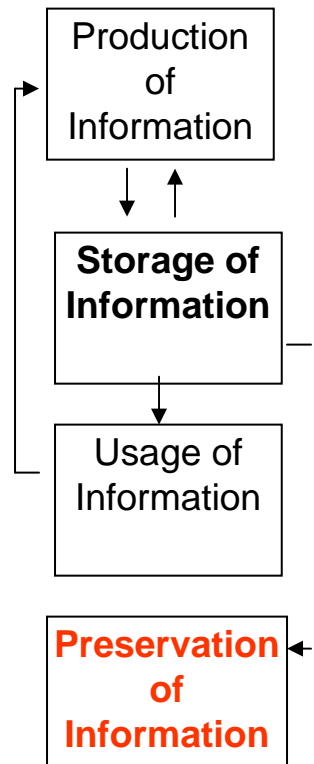


# Digital Preservation: Why?

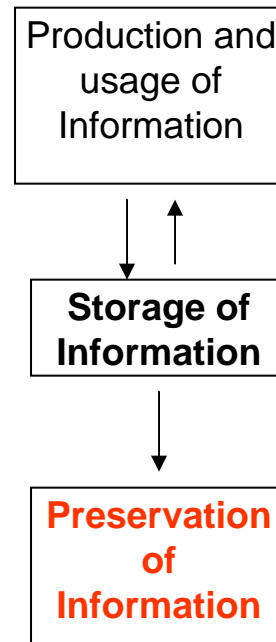
- *A REALLY GOOD QUESTION...*

# Digital Preservation: Revising the What?

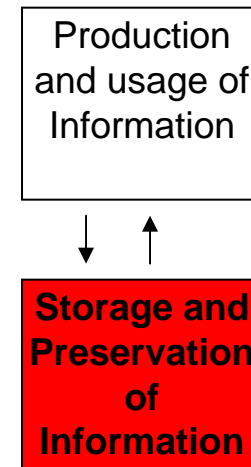
**Print-“like”  
(proprietary hw,  
CD/DVD, ...)**



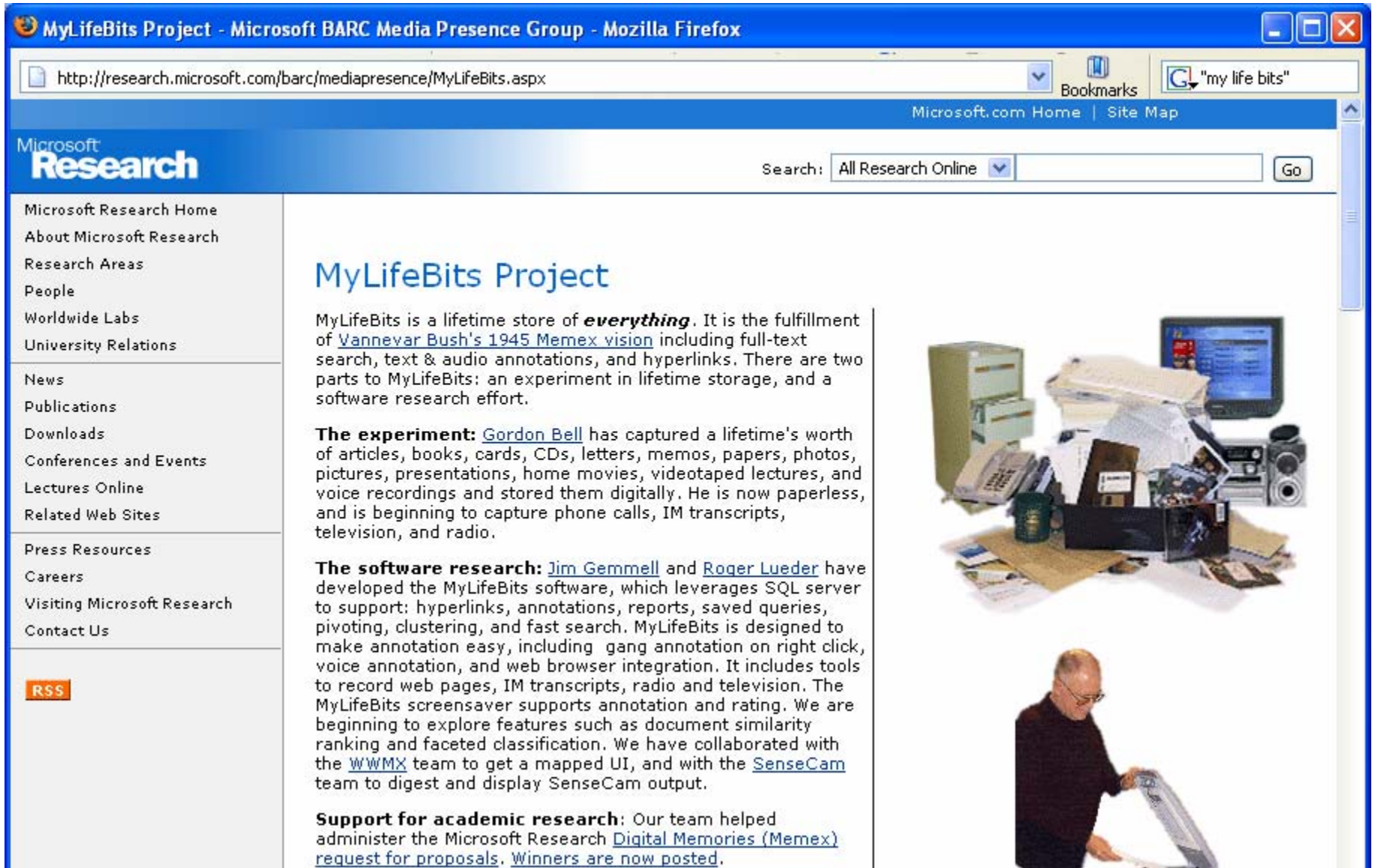
**Early digital  
(Web as a  
publishing  
space)**



**Full digital (ubiquity of  
the computing devices,  
but also multiple  
Internets!!! ...)**



# Digital Preservation: The ultimate What? How? Where? Who? When? Why? (just to make it looking worst)



The image shows a screenshot of a web browser window displaying the MyLifeBits Project page. The browser's address bar shows the URL <http://research.microsoft.com/barc/mediapresence/MyLifeBits.aspx>. The page header includes the Microsoft Research logo and a search bar with the text "All Research Online" and a "Go" button. The main content area features the title "MyLifeBits Project" and three sections of text. To the right of the text is a photograph of a desk cluttered with papers, a computer monitor, and other office equipment. Below the desk photo is a smaller photo of a man in a dark shirt looking at a laptop.

MyLifeBits Project - Microsoft BARC Media Presence Group - Mozilla Firefox

<http://research.microsoft.com/barc/mediapresence/MyLifeBits.aspx>

Microsoft Research

Search: All Research Online Go



## MyLifeBits Project

MyLifeBits is a lifetime store of *everything*. It is the fulfillment of [Vannevar Bush's 1945 Memex vision](#) including full-text search, text & audio annotations, and hyperlinks. There are two parts to MyLifeBits: an experiment in lifetime storage, and a software research effort.

**The experiment:** [Gordon Bell](#) has captured a lifetime's worth of articles, books, cards, CDs, letters, memos, papers, photos, pictures, presentations, home movies, videotaped lectures, and voice recordings and stored them digitally. He is now paperless, and is beginning to capture phone calls, IM transcripts, television, and radio.

**The software research:** [Jim Gemmell](#) and [Roger Lueder](#) have developed the MyLifeBits software, which leverages SQL server to support: hyperlinks, annotations, reports, saved queries, pivoting, clustering, and fast search. MyLifeBits is designed to make annotation easy, including gang annotation on right click, voice annotation, and web browser integration. It includes tools to record web pages, IM transcripts, radio and television. The MyLifeBits screensaver supports annotation and rating. We are beginning to explore features such as document similarity ranking and faceted classification. We have collaborated with the [WWMX](#) team to get a mapped UI, and with the [SenseCam](#) team to digest and display SenseCam output.

**Support for academic research:** Our team helped administer the Microsoft Research [Digital Memories \(Memex\) request for proposals](#). [Winners are now posted](#).



**So what?**

**Don't panic!**

**Just give your best to really understand your mission, analyze the problem, define your scope, and address what you are sure that you have the resources to address (time, people, technology, competencies and money) !!!**

**So what?**

**And also important:**

**Never do it alone (it is by itself a very heterogeneous issue –technical, legal, political, economic, ...)!!!**

**Look for complementary partnership (especially technical and scientific advising – universities, ...!!!)**

**Review yourself PERMANENTLY!!!**