

Use of Cardbox Database Software to update the Library and Information Service Intranet (Ezone) of a government department

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Introduction

This article will be of particular interest to those of you who already use the database program Cardbox, or are considering using it. However, others may find some useful ideas that they can adapt for their own systems.

The Department's Intranet is known as the Ezone and I will refer to it as such for the remainder of this article. The Library section of the Ezone was originally set up in 2001. It was designed using the FrontPage web editor, which we taught ourselves as we went along. Using FrontPage was very useful at a time when we had little experience in web design, but subsequently proved too labour-intensive for our purposes.

The basic structure, which we still use today, was developed at the outset. Some of the structure, which might be regarded as duplication, was forced on us by deficiencies in the Ezone as a whole. The main problems were that there was no search engine for the Ezone and there was no way to access the Library databases.

I would like to take this opportunity to pay tribute to the work of our Assistant Librarian at the time, Donal McSweeney, for his excellent work in setting up the Library Ezone and identifying many useful resources.

Basic structure

The main pages were:

Home Page	Electronic journals
What's New	Legal resources
Library information	Databases
Breaking news	Web links
Electronic documents	Selected useful web links

Page structure

The structure of each page differed according to the type of information. Some pages were

descriptive, but the main bulk of the pages were lists of links. Cardbox is particularly suitable for managing the list pages, but we also use it for the descriptive pages.

The pages were structured as follows:

- What's New Page
sorted in order of item added
- Breaking News
sorted by date and source
- Electronic documents
sorted by organisation / publisher and within each by title
- Electronic journals
sorted by title
- Legal resources
sorted by country and within each by type of legislation
- Databases
sorted by title
- Web links by subject

Each subject page was sorted by type of material, i.e. web resource, document, journal etc. Within each section material was sorted by title.

We should of course have sorted the material by subject within each page. This became more of a problem as the Library Ezone grew. However, as we were adding approximately 40 references per day, we did not have sufficient staff resources to classify the material by subject. Editing the Ezone with FrontPage was very labour intensive. For example, if an item was appropriate to more than one page, including the What's New page, the data had to be added to each separately. When adding electronic documents each document had to be manually copied over as well as entering the description and link. Not only was it not feasible with the available staff to structure each page by subject, but much non-Ezone work was being neglected as well.

This was a serious problem and became more so in 2005 when the post of Assistant Librarian fell vacant and appeared unlikely to be filled for several months. Even before this happened I had already begun to think about finding a more sustainable way of maintaining the site.

We had one great advantage. Because of the volume of material we were adding we had direct access to editing our part of the Ezone rather than submitting everything to the Webmaster. The other great advantage was that in the previous year a new version of the software we use to run the Library had been issued.

Cardbox¹ is a general-purpose database program, which is very versatile. We were using it for the core Library applications such as catalogue, periodicals, circulation etc., but were also using it for a variety of other purposes, not associated with dedicated Library management software.

¹ We use Cardbox 3.0 Professional Edition (www.cardbox.com/)

This software had two characteristics that suggested it could be used to generate our Ezone pages. The first was that data could be formatted in a variety of ways including HTML. A code could be inserted in the appropriate part of the HTML to indicate that the content of a particular field should be inserted at that point. The second characteristic was the use of VbScript to generate macros. *(Note: I use the terms macros and programs interchangeably throughout this text – they both perform the same function).* Vbscript replaced the proprietary macro language of the previous version of the software. I initially found Vbscript very intimidating as I have no training in programming, but we were so dependent on the automation using the proprietary macro language of the previous version, which at this point I had mastered, that I had to get to grips with VbScript. Otherwise we could not switch to the new version of the software, even though it was vastly superior to the already impressive Version 2.

I soon came to realise that VbScript was very powerful and could be used not only to automate Cardbox, but a variety of non-Cardbox activities as well. These included re-naming and moving files in Windows Explorer. This could greatly speed up adding electronic documents to the Ezone, as we could automate the process of adding the electronic documents. The automation would include copying the electronic document to the Ezone, updating the relevant Cardbox databases and writing out the relevant pages to the Ezone in a single operation. Using macros it was also possible to build in many shortcuts to speed data entry. The huge reduction in time this gave us enabled us to add subject classification to the records.

Conversion

The first part of the process was to design the necessary Cardbox databases. The core database is EzoneRefs. This is not unlike a Library catalogue database, but with several additional fields to help structure data on the HTML page, many added as the project developed. We have another database called What's New. The What's New database includes records from both EzoneRefs and also our existing legislation database. We later added two more databases, which I will describe later.

The initial problem was to convert the existing data. We started by manually entering the data in the database. We quickly realised that this was totally impractical. I did a bit of research and located a very useful freeware program called HtmlToText. Using this program the HTML page can be converted to text, with links enclosed inside square brackets e.g.

Animal Law [<http://www.animallaw.info/>.] - information about (mainly US) laws pertaining to the welfare and preservation of animals

Animal Welfare [<http://www.ufaw.org.uk/journal/Animal%20welfare.htm>] – Abstracts and Table of Contents

This is a structure that was easy to parse using VbScript in order to generate a comma delimited file, isolating the elements so they could be read into separate fields in the EzoneRefs database. Having read the references from the page into Cardbox we then tested the links for continued relevance and also added a subject classification. This is work still in progress, as we decided to make the new format pages available as soon as they were ready, rather than waiting until the complete site had been converted. As a result of further staff shortages this turned out to be a good decision.

For each converted subject page we now have two formats, one sorted by subject with subject

headings and the other sorted by type of material, to accommodate those who were used to the old format, though the layout of the page has changed. There is a link between the two formats. However, regardless of the number of Ezone pages on which the data needs to appear we only need to enter the data once, as the program looks after sorting the references and writing out the appropriate pages.

Part of the data entry format in Cardbox

We rarely enter data here directly. Most of the information is entered in input boxes, as prompted by the relevant macro. This has shortcuts and error checking built in. The macro then enters the data in the database.

Some subject pages could not sort adequately for Ezone presentation on the basis of the classification system alone, so we have extra sort codes to facilitate this.

Part of the HTML format design screen

Header section, which includes part of the HTML body section

Part of HTML that relates to the individual Cardbox records with references to the appropriate fields in the record that are to be inserted. These field references are individually colour coded.

All the HTML code that precedes the actual list of records goes in the header section of the Cardbox format, including the start of the table code (i.e. in the lines starting with H above). The section containing the codes for the Cardbox records goes in the middle section and the remaining code goes in the Cardbox format's footer section (*not illustrated*). Cardbox users will find a detailed description of how to simplify designing the HTML format in the Cardbox help file (Help point 519).

The role of some fields will be obvious (Author, title, etc). The role of the first field reference, the JT field, is not so obvious. This is what we call the jump table field. For each subject page there is a record that contains a table of the subjects on the particular page, with the bookmark links to the location of the subject on the page.

Example of the jump table record for the Animal Science subject page

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<p><strong><a><font color="#0099CC"><div align="left">

<table width="600" border="0" cellpadding="1" cellspacing="2">
<tr>
<td><a name="Top" href="#AnimalScience"><font face="Verdana" color="#FF9900"
size="1"><b>Animal Science </b></font></a></td>
<td align="left">&nbsp;</td>
<td align="left">&nbsp;</td>
<td align="left">&nbsp;</td>
<td align="left">&nbsp;</td>
<td align="left">&nbsp;</td>
</tr>

<tr>
<td><a href="#VetMed"><font face="Verdana" color="#FF9900" size="1"><b>Veterinary
Medicine </b></font></a></td>
<td align="left"><a href="#Viral"><font face="Verdana" color="#FF9900" size="1"><b>Viral
diseases </b></font></a></td>
<td><a href="#Parasitology"><font face="Verdana" color="#FF9900"
size="1"><b>Parasitology</b></font></a></td>
<td align="left">&nbsp;</td>
<td align="left">&nbsp;</td>
<td align="left">&nbsp;</td>
</tr>

<tr>
<td><a href="#AnimalWelfare"><font face="Verdana" color="#FF9900" size="1"><b>Animal
welfare</b></font></a></td>
<td align="left">&nbsp;</td>
<td align="left">&nbsp;</td>

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Note

The main reason I found VbScript intimidating was that, at the time I was learning it, Cardbox3 was still at the beta stage and the Cardbox macros and programming manual had not yet been written. The books that I was using gave no examples that were relevant to Cardbox or any other database program. However, they did alert me to the wider applications of VbScript. I later studied these in more detail, which contributed greatly to me designing the system in this article. The Cardbox macros and programming manual obviously makes learning VbScript for Cardbox a lot easier.

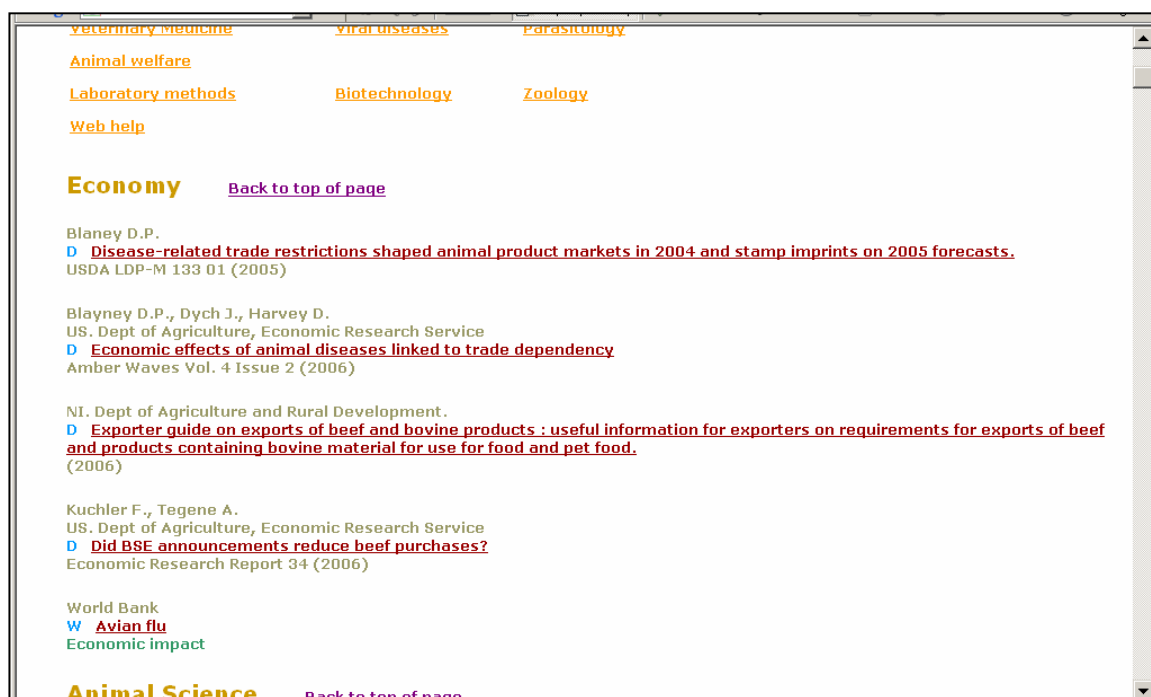
The books I, as a beginner, found most useful and least intimidating at the time were:

Ford, J.L. Learn VBScript in a Weekend. Indianapolis: Premier Press, 2002. It is aimed at beginner to intermediate. While it is not comprehensive, it covers most of the essentials and gives simple examples, which are relatively easy to follow, even though they tend to be web based.

Windows 2000 Scripting Guide. Redmond: Microsoft Press, 2002. Based in part on Microsoft's online reference material. It covers the essentials of VBScript in a logical sequence.

The corresponding page on the Ezone

(The links in yellow at the top correspond to the jump table field)



We don't use CSS (Style Sheets) as the HTML formatting codes in the HTML formats we design effectively perform the same function. They also give us a lot more control as we can control not only the look of the headers etc, but we can also control the look of the different elements of the record data. For example we use colour coding to identify the Author and Title, so that the Title stands out when someone is browsing quickly down a page.

We later added two more databases: EzoneUpdate and EzonePages

Because of the different requirements of each type of reference added to the Ezone, e.g. documents, legislation, useful websites etc., we use a different macro to write out each type of page, which includes selecting the records, sorting, selecting the correct format etc. and writing the relevant page. The EzoneUpdate database lists the relevant macros for each type of material. The appropriate macro can then be called using a function key or pushbutton.

The EzonePages database lists the various pages on the Library Ezone. If an item is appropriate to more than one page the relevant macro will ask us to mark the appropriate records in this EzonePages database (representing the individual Ezone pages). The item will then be written to each appropriate page. All the items are automatically included in the What's New page.

Breaking News

Each morning we list important articles relating to agriculture and the other subject areas for which our Department is responsible, including links to the relevant newspaper if the stories are available online. If not, we detail the page on which the article appears in the printed newspaper. A major problem we had with FrontPage was that it took a long time for pages to

save and even longer for the entire site to update, especially if writing directly to the Ezone server. This was because FrontPage had to update all its navigation links with each save. For this reason we were not able to take full advantage of having direct editing access to the Ezone. Instead our Assistant Librarian had a copy of the Library Ezone on his C drive and when finished adding items to a page he copied the page over to the Ezone. Even if we had been writing directly to the Ezone only one person could edit a page at a time.

Using Cardbox for data entry got over both these problems. Updating is now directly to the Ezone and is instant as each item is input. This has enabled us to divide out the work so that the breaking news is now available very early in the morning. Very occasionally two people will be trying to write out the new page at the same time and get an error message. This is not a problem, as the next item that is entered will automatically update the page, including all previous entries. The macro features many data entry shortcuts.

Legislation updates

The basic structure of the legislation pages has remained the same with the conversion. However we have added a major enhancement. We now track the status of the Department's legislation, checking each new Statutory Instrument (SI) on receipt to see if it amends or revokes any previous legislation. The system we use for this is a very good illustration of the advantages of using Cardbox to manage our section of the Ezone, so I will describe it in some detail.

The setup for adding legislation to the Ezone comprises three databases.

1. SI-REG

This database, which was set up by the Library, is maintained by the Registry Section in the Department, which manages the legislation at the preparation stage – printing, publication, etc. For our Library this database has two advantages. We use it to ensure we are not missing any legislation and we access it when adding a new SI to the Ezone to get the title details of the new legislation. This saves us having to enter the title manually.

2. SI

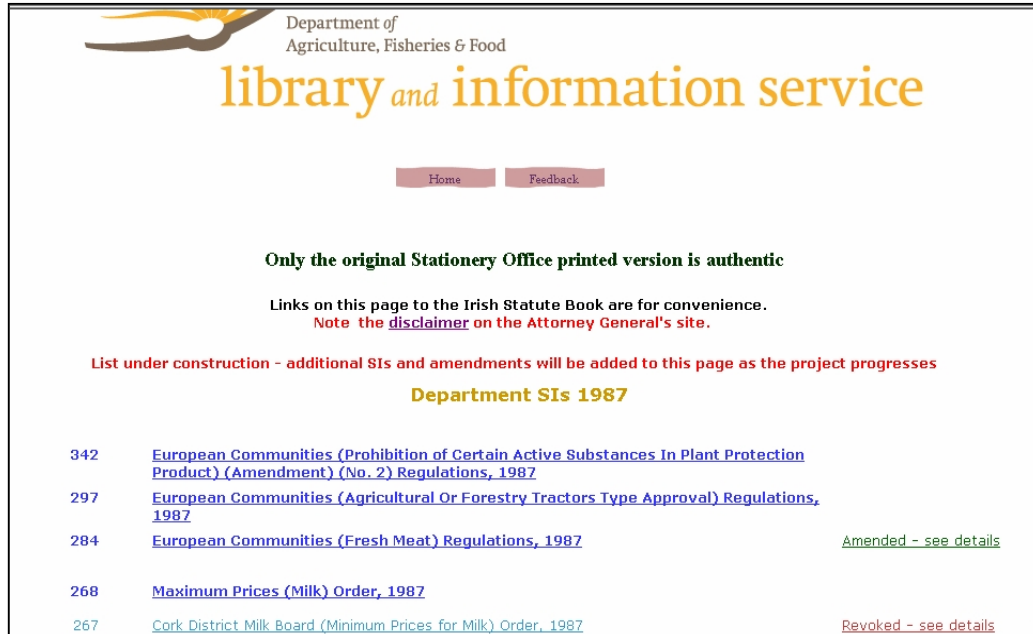
The SI database is our main database for tracking Statutory Instruments. It has standard details, such as title, number, year. As time permits we are also adding details of the Enabling Act. As a result of a major project it now also notes if the legislation has been amended or revoked.

3. SI-Status

This database stores the details of the amendments and revocations. They are stored in a separate database, rather than being incorporated in the SI database, as it enables us to easily list all amendments in a structured way on the Ezone. If an SI has been amended there is a link to the Amendments and Revocations page. Revoked legislation is also listed in fainter type to speed browsing of legislation still in force.

Process for adding new SIs

- The SI (Statutory Instrument) is emailed to the Library by the relevant Section. We check periodically during the day to see if there are any new ones.



- The attachment is then saved to a specific folder using the formula SI[number]-[year].pdf as the filename. The program for loading the SI can easily parse this formula to derive the number and year to enter in the database.
- We run the SI load macro from the EzoneUpdate database (see above)
- This program scans the folder for files starting with SI (there may be other documents saved to the folder).
- It gets the number and year and then searches the SI-REG database to get the title. Very occasionally the data will not yet have been entered in this database. If the SI is not found there the actual document will open, so the inputter can get the details from the SI itself.
- The SI file is then copied to the Ezone.
- The data is entered in the SI database and the link to the SI is generated automatically.
- The records for the SI year are then selected, sorted and formatted as HTML and the updated page is written to the Ezone.
- The data is also added to the What's New database and the updated What's New page is written to the Ezone.
- As well as copying the document to the Ezone a copy is emailed to the Webmaster to add to the Department's webpage.

- A copy is also emailed to a number of Libraries and to FAO².
- An email is sent to notify the Assistant Librarian that a new SI needs to be classified by subject.
- An email is sent to alert another Library staff member to check the new SI to see if it amends any previous legislation.

All of the above is fully automated.

Process for checking amendments

- Each SI is checked to see if it amends previous legislation.
- Details are entered in the SI-status database.
- Only the minimum data needs to be entered
 - Number of SI being amended
 - Year of SI being amended
 - Type of amendment : amendment or revocation (uses checkboxes)
 - Number of SI doing the amending
 - Year of SI doing the amending

With this small amount of information the appropriate macro can derive the remaining data that needs to be entered to generate links, colour coding for the text etc. It then updates the main SI database and writes out the updated "Amendments and Revocations" page and the revised SI page to the Ezone.

The What's New page is also updated to alert people to the change.

Electronic Documents

The basic idea is similar to the SIs insofar as we store new documents in a specific folder and then run the program to transfer each file to the Ezone and enter the data in the relevant databases, EzoneRefs, What's New and Library catalogue.

- The original filename of each document is stored by the program.
- It is then renamed using a running number (a Cardbox database stores the last number used). This is to prevent duplication of names and the danger of overwriting another document with the same name, a very useful tip I picked up from Sonia Elso, a Librarian in Chile whom I visited shortly before embarking on the conversion project (taking advantage of being in Chile on holidays).

²FAO maintains a database of legislation relating to agriculture, fisheries and forestry etc from around the world, complete with a summary of the document and keyword indexing. By sending our legislation automatically it saves FAO staff having to track the Department's webpage, thus saving them time and ensuring they don't miss anything. There is no extra work for us in sending it. (See Snippets for more details). <http://faolex.fao.org/faolex/>

- The inputter is then directed to enter the cataloguing data. Several shortcut features speed up data entry.
- All pages on the Library Ezone to which the document is appropriate are then updated.

Sample shortcut
(common corporate bodies)

Conclusion

The above illustrates some of the ways we use Cardbox to update our Ezone. While the system was not set up overnight and the transfer of data from the old system is still not complete, the basis of the system was set up in about three months. Because Cardbox, in combination with VbScript, is so adaptable and because we are in control of the system, we can and do tweak it on an ongoing basis, improving it continually. I do not profess to be an expert programmer or even an expert HTML writer. However, I have developed a reasonable expertise in both given the time at my disposal, with necessity being the mother of invention. I also have an in depth knowledge of the work to be automated and how the different elements interact with each other. This is a fairly powerful combination. While challenging, it is very satisfying to have a system that allows us to accomplish a great deal despite staffing pressures. The Department's Ezone in general is currently being re-designed and will henceforth include a good search engine and provide access to the Library databases, but much of the system described here is likely to be retained.

Snippets (Continued)

Leabhar Tagartha—Irish language – Bibliography

A useful reference work, written by retired librarian Íosold Ní Dheirg, was published in 2006, but may have escaped the attention of some government librarians.

Íosold Ní Dheirg (with Linguistics Institute of Ireland Staff): *Vade mecum na Gaeilge: a guide to sources of information on the Irish language*. Dublin: Trinity College Dublin Press, in association with the Linguistics Institute of Ireland, 2006; xxxii, 742p. ; 23cm., Hardback/paperback, with 1 CD-ROM. Text in English and Irish.

Íosold is the author of a number of other works, including *Téarmaí leabharlainne*: library terms, an Irish-English English-Irish dictionary of terminology used in librarianship (An Gúm, 2nd ed. 1993, available through Government Publications)



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