

LINKING UP EUROPEAN ATM R&D

- The ARDEP Web Site, by Chris Veness

As part of its role co-ordinating ATM research & development, EUROCONTROL collects information about ATM R&D projects around Europe – collating the information in a database, and analysing the results. The results of ARDEP – Analysis of Research and Development in EUROCONTROL Programmes – have been valued by the R&D community since the project's inception in 1994. But making the projects synopses more widely available was becoming difficult, when the published reports were upwards of an inch thick. So the Steering Committee for Research Analysis and Development decided that the Internet would be an ideal medium for enabling anyone who was interested to have access to information about current R&D activities.

Active Webbing

So plans for an ARDEP web site were born, but it can be a long path from the idea to the realisation. There are over 300 ATM R&D projects currently active, so it was clear that it would not be viable to create 'static' web pages for each of them individually. In fact, all the project synopses, and other associated information, are already collected into the ARDEP database, so the solution was clearly to use 'active' web pages – dynamically created from information in the database as they are requested by a user.

The layout of Web pages is specified with 'HTML' mark-up, and 'dynamic' Web pages are done in much the same way, but with fields added which indicate the data to be extracted from the database – in much the same way as using mail-

merge fields in MS-Word. The pages are then built 'on-the-fly' from the database, as they are requested by a user.

Spaghetti

ATM R&D projects are organised according to a variety of classifications, and one of the more important considerations for the web site was to enable users to navigate their way around this complexity without getting lost.

There were two starting points for

ARDEP was initiated originally by the ATM R&D community, together with EUROCONTROL, but it has found its natural context following the revised EUROCONTROL Convention.

The ATM R&D Review Group is one of the half-a-dozen advisory groups created by the revised Convention in order to provide specialist impartial consultancy and advice to the Agency. It is made up of 'wise men' from national administrations and research bodies, ATM service providers and other interested groups.

ARDEP results are of interest to much of the R&D community, but its principle role is to support the R&D Review Group. The availability of ARDEP over the Internet makes it more readily available not only to the Review Group, but also to CNS/ATM service providers, airspace users and providers, and the airport community, to whom distribution of the printed reports is more difficult.

planning the site: firstly, what we know about the information that had already been collected, and how it was structured; and secondly, putting ourselves into the position of the people who would access the information in the web site, and what they would want from it.

The initial brainstorming sessions generated a spaghetti-tangle of different ways in which projects could be inter-related, and in which navigation through the site could work, but

we finally identified a consistent way of structuring the site.

...Into order

Projects are organised by three principle groupings:

- according to the *family* the project belongs to,
- according to the *organisation* responsible for managing the project, and
- according to the *domains* (and sub-domains) within which projects operate (the domains are similar to EATCHIP domains, but are oriented towards an R&D perspective).

Users looking for more information might be starting from any one of these groupings: for instance, "what projects are NLR currently working on?", or "what related projects are operating within the GENOVA family of projects?".

So we divided the site 'vertically' into families, organisations, and domains; and 'horizontally' into increasing detail:

- 1: *lists* of the *families*, *organisations* and *domains* used,
- 2: *lists* of the *projects* within each of family, organisation or domain,
- 3: individual *project synopses*.

A fourth layer shows extra information about *organisations* (contact details, etc) and *domains* (descriptive information).

Linking

The project synopsis holds a lot of references to related information, so it can act as a spring-board to link to such information – for instance, references to other projects in the same family, and in the same domain, and all organisations sponsoring the project. This is the ideal subject for a 'hyper-text' approach, where users can simply click on highlighted text to obtain related information – but it was important to make sure that

users wouldn't get 'lost' as to where they were within the site as they were following these links.

To make sure this wouldn't happen, we decided firstly that every page throughout the site should have direct links back to the 'home page', and to the pages listing families, organisations and domains, and secondly that the hyperlinks should operate in a clear and consistent way, so that users would quickly pick up the principles. For example, clicking on a *project code* will always link to the synopsis details for that project, and clicking on *family, organisation, or domain codes* will always link to lists of projects in that category.

Finishing

Not only did we want the site to be easy to use and navigate around, but we wanted it to look professional as well, to maintain the high quality profile which EUROCONTROL has with the aviation industry, so considerable emphasis was placed on planning the presentation of the site.

Many other details were worked through, with an emphasis on how well features to be incorporated would fit in to the existing principles and operation of the site. Some were rejected, some blind alleys were followed before alternative approaches were found, and many useful features were incorporated.

One very useful feature is the search facility – it is very simple to look up all projects referring, say, to 'Mode S', or 'separation minima'; something quite impossible with the paper version, but straightforward to implement with a database. Another one was adding alternate sorting and grouping in certain pages.

In action

The project was an excellent example of co-ordination between the

administrative and executive parts of EUROCONTROL – DED.1, with operational responsibility for ARDEP, were responsible for the design and development of the content, but it wouldn't have been possible without the support of MIS, who not only arranged all the technical support issues, but co-ordinated between the different divisions involved, freeing DED.1 to focus on effective design for the site.

The ARDEP Web Site has been welcomed by the R&D community, and participants in ATM R&D especially are finding it a useful resource.

You can see the results for yourself at <http://www.eurocontrol.be/ardep>.

Chris Veness is an ex-member of DED.1, and is now running Movable Type Ltd in the UK. More information about ARDEP is available from the ARDEP Project Manager Jean-Luc Marchand, 729.33.25.