

ON-LINE DELIVERY OF RESEARCH PRODUCTS

Randy D. McCracken

ABSTRACT. Research institutions are under increasing pressure to provide customers with fast and easy access to scientific publications. Responding to a customer base that has grown exponentially over the last decade, roughly 140 USDA Forest Service Southern Research Station (SRS) scientists are now able to provide research results almost as soon as their manuscripts are released for publication. Using the Internet, the SRS Webmaster helps distribute a quarterly catalog of publications to more than 1,000 e-mail addressees worldwide. He and other employees in the SRS Communications Office also maintain a Web-to-database interface that allows R&D customers to search for publications by title, author, subject matter description, or date; and then to view those documents on-line in PDF (Portable Document Format). Before this system was established, customer requests for publications would always take days—sometimes even weeks—to fill. Now, with the use of an active server interface to a Station database, SRS customers have almost instant access to all on-line publications, as well as an archive listing of all SRS publications. This system provides an expeditious and cost-efficient way to manage thousands of records and electronic copies of publication reprints.

KEY WORDS. Internet, Database, Research Delivery, World Wide Web.

World Wide Web Access

A World Wide Web interface allows the SRS to provide customers several ways to access its on-line scientific publications. Users can search for them by entering any or all of the following: title, author, subject matter description, or date. They can also search by Station series or view an up-to-date listing of all publications on-line. This organization of on-line publications is possible by means of a Web-to-database interface that uses Active Server Page (ASP) technology. A Dell® Power Edge 2300™ server runs Windows® NT 4.0™, Service Pack 5 and Internet Information Server 4. The Internet Information Server provides support for ASP's. The SRS Webmaster created the publications database in Microsoft® Access 97™, and access to that database is made possible through ASP using Visual Basic Script. ASP enables the Station to present information about more than 1,000 publications and link that information to documents in PDF (Portable Document Format) while maintaining fewer than five pages. ASP also makes it possible to organize, maintain, and present information effectively, and to change quickly the way information is presented. (Readers can reach the Southern Research Station on the Internet at: <http://www.srs.fs.fed.us/>)

Display of Request or Query Results

When a request or query is submitted and processed through the Web server and publications database, the results are returned to the user as an Active Server Page containing only HTML with no ASP code or other meta-tags, thereby reducing loading time. A user's initial query will produce a list of on-line publication titles. Each title is hyper-linked to another ASP that provides more details including title, author(s), date, publication type (journal or Forest Service series), and subject matter description, as well as a link to that document in PDF. The user is

then only a click away from the requested research. Also, these ASP's are neither browser dependent, nor do they require any "plug-ins". This means that a visitor to the site is able to access the publications database even if they are using a first-generation browser.

Database Maintenance

The SRS also created a Web interface to the publications database, allowing routine maintenance from any location without having to download, modify, and upload the entire database. It is a process that uses ASP technology to connect to the database and add, delete, or modify records from a Web browser. The person maintaining the database does not need to know how to use Microsoft® Access™, only how to fill out a form. A form containing all the fields in the publications database enables the administrator to simply fill out the form and press "submit" to add a new record. Records can also be modified or deleted by requesting a publication and choosing the "modify" or "delete" option. **Note:** Obviously, maintenance access is controlled through several layers of security.

ASP Code and Database Design

Many information providers and computing centers will not share specific details of how their systems work, which makes it hard for the newcomer to understand what is necessary to build a Web-to-database interface. In an effort to help others learn, the SRS has a no-secrets policy about Internet site design. Although the Station's Webmaster certainly does not claim to have done everything in the best way possible, he would be happy to share examples of all ASP code, as well as his design of the Station's publications database. More details are available on-line at <http://www.srs.fs.fed.us/pubs/exampledbs> or by contacting Randy D. McCracken at rdm@srs.fs.usda.gov.

Portable Document Format Creation

Almost all SRS publications now available over the Internet were converted into PDF using a Hewlett Packard® 6250Cse™ scanner (with an automatic document feeder) and Adobe® Acrobat™ software. After a document has been scanned into a computer, the capture feature of Acrobat™ performs optical character recognition (OCR) and reduces the PDF file size. We keep an uncaptured (pristine) version of the document, in case the capturing process misrepresents any characters.

Publications Electronic Mailing List

The SRS maintains an electronic mailing list for distributing its quarterly catalog to over 1,000 e-mail addressees. This feature greatly increases the Station's ability to provide timely access of information to its customers. As soon as the quarterly catalog is ready to be printed, all electronic subscribers receive that document via e-mail. They can view and print publications of interest almost immediately.

About The Author – Randy D. McCracken (rdm@srs.fs.usda.gov) is Webmaster for the USDA Forest Service, Southern Research Station in Asheville, NC.