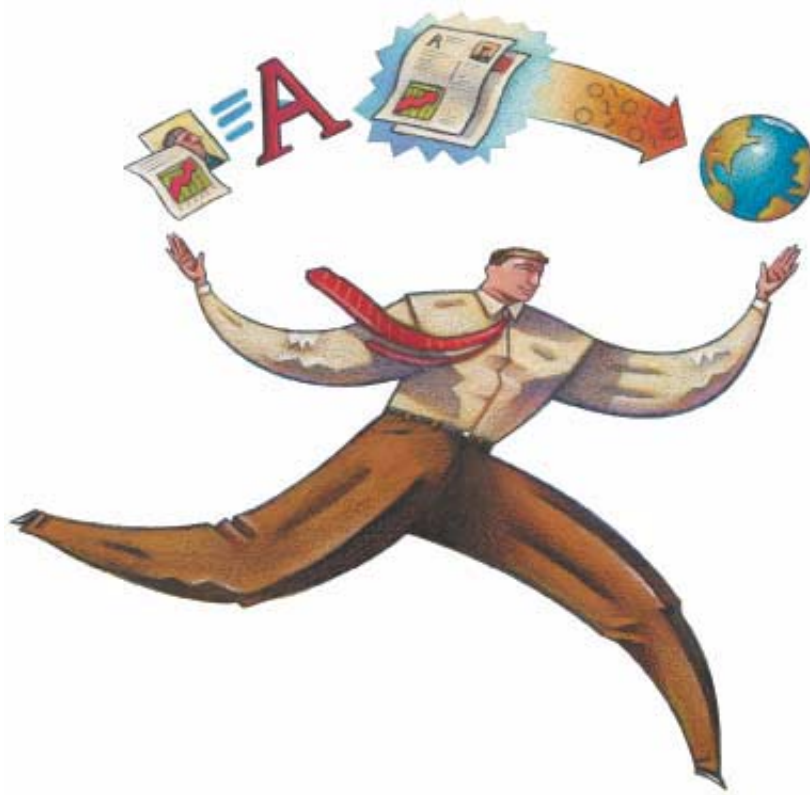




Adobe PDF/XML Architecture - Working Samples

Version 1.0



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August, 2003



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Working with the Sample Files

Highlights

- Demonstrate PDF forms created with Adobe XML/PDF form designer

Prepare system

1. You will need Acrobat 6 or Adobe Reader 6 installed to work with these samples
2. Select PaperClip to the right.
This is a ZIP that includes all the samples referenced below.

Sample Set: eGrants

Instructions for downloaded sample files (See “Prepare system”)

[GrantApplication.pdf](#) - PDF Form

[sample_data.xml](#) - XML form data file

[GrantApplication-adsre.pdf](#) - PDF Form, rights-enabled for Adobe Reader

NOTE: The following files are also included in the samples for reference, but are not described in detail in this documentation:

GrantApplication.xml - XML form data file conforming to the eGrants XML schema

E-Grants_Global_Schema.xsd - XML Schema for eGrants

E_Grants_SF424_Schema.xsd - XML Schema for eGrants

DUNSValidation.txt - example of JavaScript code used to connect to SOAP web service.

GrantApplication.pdf

This PDF is an illustration of a more sophisticated use of PDF/XML forms. This form was developed for the Federal Enterprise Architecture (FEA) Web Services Pilot Project. As part of the FEA, the US Government has identified 24 eGovernment initiatives. Of these initiatives, the eGrants initiative was selected for an early pilot program to demonstrate the use of eForms and Web Services for eGovernment.

Many different government agencies are involved in making grants of various kinds. For example, a scientist might apply to the National Science Foundation (NSF) for a grant to

study black holes and a doctor might apply to the National Institute of Health (NIH) for a grant to study vaccines for AIDS. All of these grant programs have similar requirements. Consequently, the goal of the eGrants initiative is to develop systems for managing the grant process that could be shared among all of the agencies that give grants. As a result, the government would achieve cost savings and efficiency by reducing unnecessary duplication of systems. The FEA invited vendors to participate in demonstration program to show how their technology meets the requirements for eForms and web services for eGrants. In a traditional grant application, a principal investigator would fill out a paper grant application which would then be submitted to the appropriate agency which would then route the application to employees and other reviewers for assessment, consideration, and approval or rejection. This process would require that data from the form would have to be entered into internal agency systems so that the grant process can be managed and administered. In order to help automate this process, the government contracted with a consulting firm to create an XML schema that captures the business data involved in the grant process. Sample documents 6 and 7 show the eGrants XML schemas that were developed. The government then invited vendors to show how their technology could leverage the eGrants schemas for eForms and web services to automate the grant business process. Using the new Adobe design tools, Adobe generated the GrantApplication.pdf sample file which combines the pdf files of the paper grant application with the eGrants schema. As a result, a person applying for a grant can fill in the pdf GrantApplication and send it to the agency to which they are applying for a grant. Once the agency receives the completed pdf grant application, they can automatically extract the XML data for integration with their enterprise systems. To see how the xml data can be exported from the sample document, follow the directly below:

1. Open GrantApplication.pdf in Acrobat 6.
2. Fill in some data on the form.
3. Select **Advanced > Forms > Export Forms Data**. In the Export Forms Data As dialog box, select **XML files (.xml)** in the *Save as type*: pull-down menu.

This PDF also shows how PDF/XML forms can be integrated with web services technologies to further automate forms based processes. GrantApplication.pdf includes a call to a web service using SOAP 1.1 for the validation of DUNS numbers.

To view the JavaScript code for the web service:

Select **Advanced > Edit All JavaScripts**. This will open the JavaScript Editor window displaying the code for the web service invocation. For your convenience, DUNSValidation.txt is an example of this code.

During the demonstration for the eGrants project, the DUNS validation web service was running on a local machine, but the web service could just as easily be invoked anywhere on the Internet.

The ability to include web services in Adobe PDF/XML forms is another example of the ability to embed sophisticated business logic in pdf documents.

sample_data.xml

This XML file shows how xml data can be used to pre-populate an eform. For example, if an enterprise already has an existing relationship with a customer, their enterprise will already know certain information about the customer and can enter that information directly in the form so that the customer does not have to re-enter data that the enterprise already has. In the grant application example, a researcher may need to renew a previously approved grant. In this case, the agency already has the researchers information and can pre-populate that information into the renewal form.

1. Open GrantApplication.pdf in Acrobat 6.
2. Select **Advanced > Forms > Import Forms Data**. Select sample_data.xml

GrantApplication-adsre.pdf

Again, all of the capabilities for PDF/XML forms in Acrobat are also available in the free Adobe Reader 6.0 by adding additional usage rights to the form with Adobe Document Server for Reader Extensions. This ability is especially applicable to a government application where the government cannot impose any cost on the citizen for government services which also must be available on whatever technology platform the citizen has. Since the Adobe Reader is free and available on all major platforms, Adobe meets these requirements for government eForms.