Paper 184

Using SAS Software to Report on Academic Performance via the World Wide Web

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ABSTRACT

This paper demonstrates how SAS® can be used to efficiently and cost effectively generate dynamic academic performance reports for the public to view on the world wide web. An overview of how the student information systems data from the 23 California State University (CSU) campuses is processed with SAS to create high school and community college academic performance reports will be covered. How to implement access to SAS data sources using the Microsoft Internet Information Server 3.0 on Windows NT Server 4.0 will be highlighted.

INTRODUCTION

The project described in this paper demonstrates how SAS data can be accessed from the World Wide Web to efficiently and effectively deliver information.

The information presented is intended to provide other SAS sites with helpful information and insights that can be used to plan and to implement similar projects.

PROJECT OVERVIEW

This project arose out of the need of the California State University (CSU) to provide the public with information regarding the academic performance of first-time freshmen and community college transfers to the 23-campus system.

To meet this need, a system was designed to report back to the high schools and community colleges as to what extent their students were academically prepared in mathematics and English when they matriculated to the CSU.

The reports currently available can be viewed at the following url:

http://www.asd.calstate.edu/performance

Academic performance reports had been previously produced on the MVS mainframe as batch output text files and later as Word mail/merge documents on a desktop computer.

The goal of this project was to deliver the reports to the CSU campuses, the public and private high schools, other state agencies, the media and the public without having to devote the resources and effort required previously to produce, duplicate and disseminate hardcopy reports.

THE HARDWARE AND SOFTWARE ENVIRONMENT

Due to previous success with delivering information from the web via the Oracle ODBC driver and the Microsoft Internet Information Server, it was decided to employ a similar technique using ODBC drivers and SAS.

An existing Windows NT 4.0 Server running Microsoft Internet Information Server 3.0 (IIS) with the Internet Database Connectivity (IDC) component and the SAS System for Windows NT and the availability of multiple 32-bit ODBC drivers provided the hardware and software environment required for success.

The design was to extract the student cohort files from the systemwide enrollment data on the MVS system via SAS, to FTP the files to a desktop system, to mine the data via SAS on the desktop and to finally port the summary information to the NT Server to be accessed from the web via IIS and IDC.

IMPLEMENTATION

Internet Database Connectivity Feature of MS IIS

The delivery of dynamic web pages from SAS data sets via IDC is accomplished very easily with just a few steps.

The ODBC driver is first configured to point to the data source. Then an html document with the usual .htm extension is created to prompt the user to select a desired report. Within the .htm document is a call to a document with an extension of .idc. The .idc file must reside in the directory reserved for running scripts.

The .idc document contains the name of the ODBC data source, a password if required, and a SQL query to retrieve rows from the ODBC data source. Additionally, the .idc document contains the name of an html document with a file extension of .htx which is used to generate the rows of data to be displayed.

SAMPLE IMPLEMENTATION

Sample code to demonstrate the creation of the three required documents to deliver a dynamic page in this manner will be shown during the presentation of this paper at SUGI 24 and will be available at the following url:

http://www.asd.calstate.edu/SUGI24

SUMMARY

This project demonstrates that an efficient and cost effective information delivery system can be implemented with the use of free tools such as IIS, IDC and ODBC drivers. The development effort and resources required to implement this method are minimal compared to other delivery methods.

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