3-1-2004

Panel: Teaching E-Commerce Application Development Technologies: Pedagogical and Assimilation Issues

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TEACHING E-COMMERCE APPLICATION DEVELOPMENT TECHNOLOGIES: PEDAGOGICAL AND ASSIMILATION ISSUES

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Abstract

This panel will lead a discussion about the pedagogical issues associated with teaching the development of e-commerce applications using the .NET development environment.

Background

The Internet with its important subset, the World Wide Web (Web), is a complex and rapidly evolving environment. The impact and importance of these two developments on business and society is nearly impossible to delineate. The rapid evolution of the supporting technologies, as well as their rapid adoption as an important dimension of organizational systems, has created special problems for the academic community. E-commerce is the general descriptor that is applied to the domain of technological development issues of Web based systems

Not withstanding the over hype and collapse of the Dot.com era, there continues to be a steady growth in the development and deployment of e-commerce systems by organizations. This growth has created a demand from students and potential employers for graduates with solid training in e-commerce.

The Three Tier model, Figure 1 is most frequently used as the basis for explaining the development requirements of a Web based application. Tier 1, Client side, development issues are evolving in an increasingly stable and controlled manner

guided by the World Wide Web Consortium (W3C). Tier 3, DBMS, development issues are quite stable due to widely adopted standards of SQL and OLEDB.

Tier 2, Server side, development is a much different and more turbulent environment. The only widely adopted Tier 2 standard is CGI but this is rapidly expanding with the introduction of such new initiatives as Web services and the advancements made in Microsoft's ASP.NET and Sun's Java One and Java Server Pages. The operational environment is relatively free to be defined by the host organization. The primary control element for the server side environment is the choice of the Web server software. Currently, the two most popular choices are Microsoft's Internet Information Server (IIS) and the open source Apache Server, which together probably account for 90%+ of the server installations.

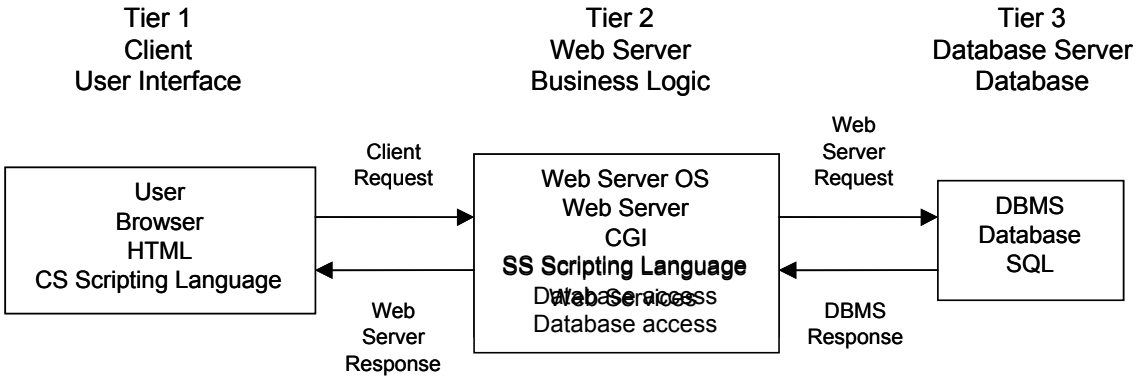

Figure 1. Three-tier distributed web application

Discussion Overview

This panel will present the Three Tier model and discuss its pedagogical implications. Brief presentations will be made on Tier 1 and Tier 3 and the general pedagogical issues that present themselves. In particular, the interaction issues of Tier 1 and Tier 3 with Tier 2 will be identified and discussed.

The primary focus of the panel will be to examine and discuss the pedagogical and assimilation issues of Tier 3. As such, the discussion will include the following topics and sub-topics:

Areas that create problems for students:

- multi-protocol
- object-oriented
- primitive development resources
- hardware requirements on personal computers
- complex 3 tier distributed development environment
- application testing
- application deployment
- poor textbooks

Areas that create problems for faculty:

- technical foundations and skill development for faculty
- host environment for instruction
- answers to faculty questions

- scarce information
- primitive development resources
- complex 3 tier distributed development environment

Moderators

Dr. Bill Lomerson is an associate professor in Computer Information Systems at Northwestern State University, Natchitoches, Louisiana. His research interests focus on the performance evaluation of information systems with a recent focus on web based systems. Bill has also done some recent work on the frequency of use of e-commerce technologies in academic and professional environments. For the last four years, he has been teaching web based technologies on Web site design, client side programming using DHTML and Web applications development using ASP. In the fall of 2003, Bill is introducing Visual Studio.NET and ASP.NET into his Web Applications Development class. He received his MCAD certification in .NET on January 11, 2004.

Dr. Meg Murray is an assistant professor and IS program coordinator in the Department of Computer Science and Information Systems at Kennesaw State University, Marietta, Georgia. Her research interests center on the area of emerging technologies and her recent focus has been on XML and Web services. While her interests extend beyond a single platform, a 2001 internal grant enabled Meg to set up and begin working with the Microsoft .NET platform and technologies. After working with individual students exploring various aspects of this platform, she introduced Visual Studio.NET and ASP.NET into her graduate e-business technology course in the spring semester of 2002. In the fall of 2003, she will teach an upper division IS special topics course on Web services utilizing both Microsoft and Sun technologies. Meg has authored articles and made several presentations on these new component based platforms including presentations focused on how to introduce them into the classroom.

Panelists

Richard Conn has been with Microsoft for almost a year, although he has had various collaborations with Microsoft Research for over 10 years. Before Microsoft, Rick was a Senior Engineering Specialist (Software Process) with Lockheed Martin Aeronautics for almost 5 years, a Senior Design Engineer with General Electric Aircraft Engines for 6 years, a graduate-level professor for 5 years (teaching Software Engineering and Computer Science courses at the Air Force Institute of Technology and Monmouth University), a Member of the Technical Staff at the MITRE Corporation (a Federally-Funded Research and Development Center), a Software Engineer at Texas Instruments, and an Army Officer (Captain). He has served on the Federal Advisory Board for Ada, and he is currently involved with the Office of the Secretary of Defense for Acquisition, Technology, and Logistics in an advisory capacity. Rick has taught at several universities as an Adjunct Professor, and he is currently an Adjunct Professor in the Computer Science and Information Systems Department at Kennesaw State University and the Computing and Software Engineering Department at Southern Polytechnic State University. Rick is on the Industry Advisory Boards for the Computer Science departments at 5 universities. He has written two books and has extensive industry publications.

Dr. John N. Dyer is an assistant professor of information systems at Georgia Southern University. His research interests fall broadly into two IS/IT related fields; (1) The application of computer hardware, software, and systems to statistical problems, and (2) The application of statistical techniques in the design, maintenance, and evaluation of computer hardware, software, and systems. His most current research spans several topics including the design of effective distance learning courses, categorizing efficient XML and HTML compression schemes, and quantifying the degree of routinization of Web-based supplier diversity initiatives among Fortune 500 companies. For the last few years he has been teaching database management, and more recently, web database development using ASP.NET and Visual Studio.Net.

Dr. Raymond Papp is Associate Professor of Information Technology Management in the Sykes College of Business at the University of Tampa. His research interests include Strategic Alignment, IT for Competitive Advantage, Distance Learning, and Pedagogical Issues in IT. His recent book "Strategic Information Technology: Opportunities for Competitive Advantage" (Idea Group Publishing) highlights the use of information systems to achieve competitive advantage and contains numerous cases and research on strategic information systems. Dr. Papp teaches courses in e-Commerce, Visual Basic and Microcomputer Applications as well as Managing Value of Information Systems in the MBA program. His classes all include a hands-on component where students learn the technologies through group and individual projects. He has recently published research on the pedagogy of distributed learning and assessment.

Sherri Shade is currently an Instructor of Information Systems at Kennesaw State University, where she has taught since August 2000. She received her Master of Science in Information Systems from Kennesaw State University, and her Bachelor of Science in Information Systems from Kennesaw State University. Before joining KSU, Sherri spent many years in the software development industry. Her most recent experience included Director of Education Services where she managed and implemented complex technical training, technical documentation and installation services for a proprietary POS software organization. Sherri is also involved in providing leadership and expertise in website design and development. Recent endeavors included managing and directing a student group in developing and publishing various website projects both for on campus customers and external customers. She continues to support and maintain websites including the College of Science & Mathematics at KSU.

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