

Workshop on Designing, Developing and Implementing Online Collaboration Tools for Engineering Education, Kurt Gramoll, University of Oklahoma

With the increased use of computers and electronic media in teaching basic engineering courses comes a need for better online collaboration tools. Many basic tasks, such as office hours, help sessions and even lecturing, can be done more efficiently and conveniently over the Internet with the right collaboration tools. However, there are few commercially available tools that work well for engineering. Engineers have special needs like vector-based graphics that can be edited, equations, illustrations, diagrams and other hard to create images. These tools also need to be simple and easy to operate like a blackboard. Other considerations include the moving graphics around like a CAD program, scale or zoom like vector-based graphics, and allow real-time voice discussion. Then just for fun, it should be able to record the whole session in a simple vector-based movie for later review. One other important issue is cost; it needs to be cheap or even free. This workshop will address these issues and show how you too can design, develop and implement your own collaboration tools using Flash and Flash Communication Server (Flash Comm). Most educators have used Flash for Internet based graphics and animation (and even simulations) but few know about its power as an online collaboration tool. Flash Comm is a simple add-on to Flash and is server-based. It basically allows one Flash file to communicate and share objects with other Flash files. Both Flash and Flash Comm are inexpensive tools that can be used to create your own customized collaboration tools. The workshop will include examples and demonstrations of previously developed tools by Dr. Kurt Gramoll, including LectureBoard to teach distance engineering Static classes, LectureMaker to build Flash-based streaming animations in real-time, and basic web-based drawing tools for creating diagrams on discussion boards. **For those that bring a laptop with Flash MX (version 6) or Flash MX 2004 (version 7), actual simple collaboration tools will be constructed in the workshop. The laptop should also have wireless capabilities if you wish to test the tool you construct in the workshop.** No previous experience with Flash or Flash Comm is required. The overall workshop will be about two hours long. Additional time may be available for those that wish to have additional time in building your programs. Online Collaboration Tool Example (LectureBoard at www.eCourses.ou.edu)