

AC 2007-2125: MULTIMEDIA TUTORIALS FOR MINORITY NON-ENGLISH SPEAKING STUDENTS AND SOFTWARE ENGINEERING METHODS FOR THE SAME

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Dr. Rhoda Baggs is the Program Chair for the MS in Computer Information Systems for Florida Institute of Technology's University College. She has earned a Ph.D. and an M.S. in Computer Science from the Florida Institute of Technology and a Bachelor of Science in Computer Science from the University of Pittsburgh. In between and during academic achievements, Dr. Baggs has worked primarily as a Software Engineer for such companies as Texas Instruments, Raytheon, JDS Uniphase, Optical Process Automation, WT Automation, Advanced Manufacturing Technologies, Inc., and NASA. Research Interests include Multimedia Tutorials and Software Engineering for the Same, Software Engineering and Reverse Engineering of Legacy Software, Image Processing, and Systems Engineering. Dr. Baggs is a member of the International Association of Computer Information Systems, the Association of Computing Machinery, and several ACM SIGs, including Design of Communication, Information Technology Education, Software Engineering, and Multimedia.

Tamas Kasza, Florida Institute of Technology

Dr. Kasza is a Computer Engineer and Adjunct Professor with F.I.T.

Patrice Fraites, Florida Institute of Technology

Patrice is a graduate of the MS/CIS program at F.I.T. who is working on the Requirements analysis methods.

Ian Pravata, Florida Institute of Technology

Ian is an Software Specialist with Harris Corp. and recently graduated with his MS/CIS degree. He has helped develop tutorials and methods on this project.

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Kohl is a Software Tester and Computer Science undergraduate student at F.I.T. He has helped develop tutorials and methods on this project.

Gholam Ali Shaykhian, NASA

Gholam Ali Shaykhian is a software engineer with the National Aeronautics and Space Administration (NASA), Kennedy Space Center (KSC), Engineering Directorate. He is a National Administrator Fellowship Program (NAFP) fellow and served his fellowships at Bethune Cookman College in Daytona Beach, Florida. Ali is currently pursuing a Ph.D. in Operations Research at Florida Institute of Technology. He has received a Master of Science (M.S.) degree in Computer Systems from University of Central Florida in 1985 and a second M.S. degree in Operations Research from the same university in 1997. His research interests include object-oriented methodologies, design patterns, software safety, and genetic and optimization algorithms. He teaches graduate courses in Computer Information Systems at Florida Institute of Technology's University College. Mr. Shaykhian is a senior member of the Institute of Electrical and Electronics Engineering (IEEE) and is the Vice-Chair (2005-2007), Education Chair (2003-2007) and Awards Chair of the IEEE Canaveral section. He is a professional member of the American Society for Engineering Education (ASEE), serving as the Program Chair and Web Master for the Minorities in Engineering Division of ASEE (2006-2008). He was an assistant professor and coordinator of the Information Systems program at the University of Central Florida prior to his full time appointment at NASA KSC.

Multimedia Tutorials for Minority non-English Speaking Students and Software Engineering Methods for the Same

Abstract

Multimedia tutorials available online are becoming popular as a means of providing canned explanations for difficult material for brick and mortar classes and online courses. The availability of free multimedia products like Flashplayer by Macromedia © and the increasing proliferation of high speed access also provides the perfect set of circumstances to produce and make obtainable tutorials for K-12 children who may be especially challenged in some way. For instance, these tutorials would be appropriate and helpful for non-English speaking children to help them learn English and acclimate to their new American environment. This is the perfect time with the increasing Hispanic population within the borders of the United States. Students in the Computer Sciences and Computer Information Systems programs at Florida Institute of Technology have been working on such tutorials that have video, animation, audio, text, and images to help get across new ideas and topics to school age children. At the same time, software engineering methods for designing such tools are being developed and explored. The scope of this research is being extended to include audio in multiple languages for non-English speaking students.