

Course Abstract

This course will introduce a powerful new approach to digital 3D modeling. Designers, animators, and artists have the same goal today that they've had for years: to present their inspirations in concrete form. What has changed are the tools. Computer modeling software has evolved into powerful, complex, packages now capable of tackling any task. The intuitive, expressive nature of working with one's hands, however, has been left behind. Recent advances in haptics allow people to interface with computers using their sense of touch. Modelers can now quickly and easily create using intuitive digital tools that closely mimic traditional, physical modeling tools. At the same time, advances in rapid prototyping make it easy to "print" physical copies of 3D computer models for evaluation, display, and collaboration. Together, these new capabilities give modelers an unprecedented ability to rapidly express ideas.

Speaker Biographies

Thomas Massie
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Thomas Massie founded SensAble Technologies to commercialize 3D Touch interfaces for computers. He received a BS in Electrical Engineering and an MS in Mechanical Engineering while at the M.I.T. Artificial Intelligence Lab. Both his bachelors and masters theses were concerned with development of the PHANTOM haptic interface. He continues to conduct research on both the hardware and software aspects of haptic interfaces and provides technical assistance to a number of universities and corporations throughout the world which are incorporating haptic interfaces into computer graphics applications.

Marina Hatsopoulos
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Marina Hatsopoulos graduated with a B.A. in Pure Mathematics and a B.A. in Music from Brown University in 1987. She received her M.S. in Mechanical Engineering from MIT in 1993. She has worked in corporate finance at Chase Manhattan Bank as well as in several operating roles at various Thermo Electron subsidiaries. In 1994 she founded Z Corporation along with her husband, Walter Bomhorst, and the core technology's inventors, Jim Bredt (PhD, MIT '94) and Tim Anderson.

Course Syllabus & Timeline

Introduction (Massie, 15 minutes)
Touch-enabled computer modeling tools (Massie, 45 minutes)
3D printing for rapid model creation (Hatsopoulos, 45 minutes)
Wrap-up (Massie, 15 minutes)