The ShanghAI Lectures: Connecting Continents in Cyberspace

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Overview
Every fall term, the Artificial Intelligence Laboratory of the University of Zurich provides to its students an introductory lecture series on “Embodied Natural and Artificial Intelligence.” Since 2009 these weekly lectures have been called ShanghAI Lectures™ and are held via videoconference, connecting over a dozen universities worldwide. The lectures are complemented by a community website and a novel three-dimensional collaborative virtual environment, where students meet as avatars (virtual embodied representations of themselves) to discuss and solve exercises together.

Videoconference Lectures
Bringing together students, lecturers, and researchers from very diverse backgrounds and 16 countries every Thursday, 9:00 to 11:00 CET:

- Weekly participation of 32 to 15 sites
- Fully interactive Q&A with lecturers and guest lecturers by high-definition speakers H.232 standard for audio/video
- Adobe Connect for screen-sharing (slides)
- SWITCH educational recordings and infrastructure services provided by SWITC
- Live Education and Research Network http://swi.uzh.ch

Sites that did not join the live classes due to their time zone followed by watching the recording and then participating in the exercises.

Community Website
Supporting the community of students and researchers by providing information and materials related to the lectures:

- Joomla open-source CMS with extensions
- Profile pages for students and lecturers
- Lecture descriptions and recordings
- Discussion forum for registered users
- Exercises and related materials
- Repository of guest lectures (50+ talks)

Open Wonderland
Originally an internal project at Sun Microsystems, the Open Wonderland framework is now becoming increasingly popular for creating three-dimensional collaborative virtual environments, especially in education.

- Written in Java, easy to extend and modify
- Full control of all features and log data
- Text chat, immersive audio, telephony
- X11 applications within the virtual world
- Free, open-source framework available from http://openwonderland.org

Research
Large-scale international field study on a cross-cultural collaboration in virtual worlds:

- 421 students from 48 universities on six continents signed up on the website
- 282 participated in the research project
- Methods: Online surveys, tracking, and visualization of avatar behavior in Open Wonderland

Collaborative Environment
The novel component in the ShanghAI Lectures project is a three-dimensional collaborative virtual environment, where the students log in as avatars to work together on exercises and to join discussions with lecturers and tutors.

Research agenda and report http://shanghailectures.org/research

We are confident that this combination of videoconferencing, community website, and shared virtual environment sees its application also for other educational content in the years to come.

Videoconference partners
- China University (P)
- City University of New York (US)
- École Polytechnique Fédérale de Lausanne (CH)
- ETH Zürich (CH)
- HSTLab Anamul AU
- Haver University (P)
- Humboldt-Universität zu Berlin (D)
- Imperial College (US)
- Karlsruhe Institute of Technology (CH)
- King Abdullah Arab University (SA)
- Nagoya University (P)
- Northeastern Illinois Technical University (CN)
- Osaka University (P)
- Peking University (CN)
- Russian State University for the Humanities (RU)
- Shanghai Jiao Tong University (CN)
- Shantou University (CN)
- Technische Universität München (D)
- Tokyo University of Science (P)
- United Arab Emirates University (AE)
- University of the Sciences et de la Technologie des Hautes Études (DZ)
- University of California San Diego (US)
- University of Electrotechnical Sciences (P)
- University of Loughborough (UK)
- University of Tartu (EE)
- University of Tübingen (D)
- University of Western Sydney (US)
- University of Zurich (CH)

Sponsors 2009–2010
- ETH Zürich
- Haver University
- Imperial College
- Jiao Tong University
- Nagoya University
- Osaka University
- Peking University
- Russian State University for the Humanities
- Shanghai Jiao Tong University

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