

# Learning@Europe



## Technology: 3D worlds, chat, forums

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HOC - Hypermedia Open Center (Lab)  
Politecnico di Milano  
Electronic and Information Department

phone: +39 031 332 7389  
fax: +39 031 332 7365  
[www.learningateurope.net](http://www.learningateurope.net)

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A Learning@Europe experience revolves around four meetings in a shared **3D virtual environment** over the Internet. Several users at a time control an *avatar* (i.e. a human-shaped figure in the 3D world): avatars can walk, run, jump, fly, interact with objects and chat with other avatars. They can explore the 3D environment, activate objects showing images and texts, and play games in team (two classes against two).



Students meet and discuss

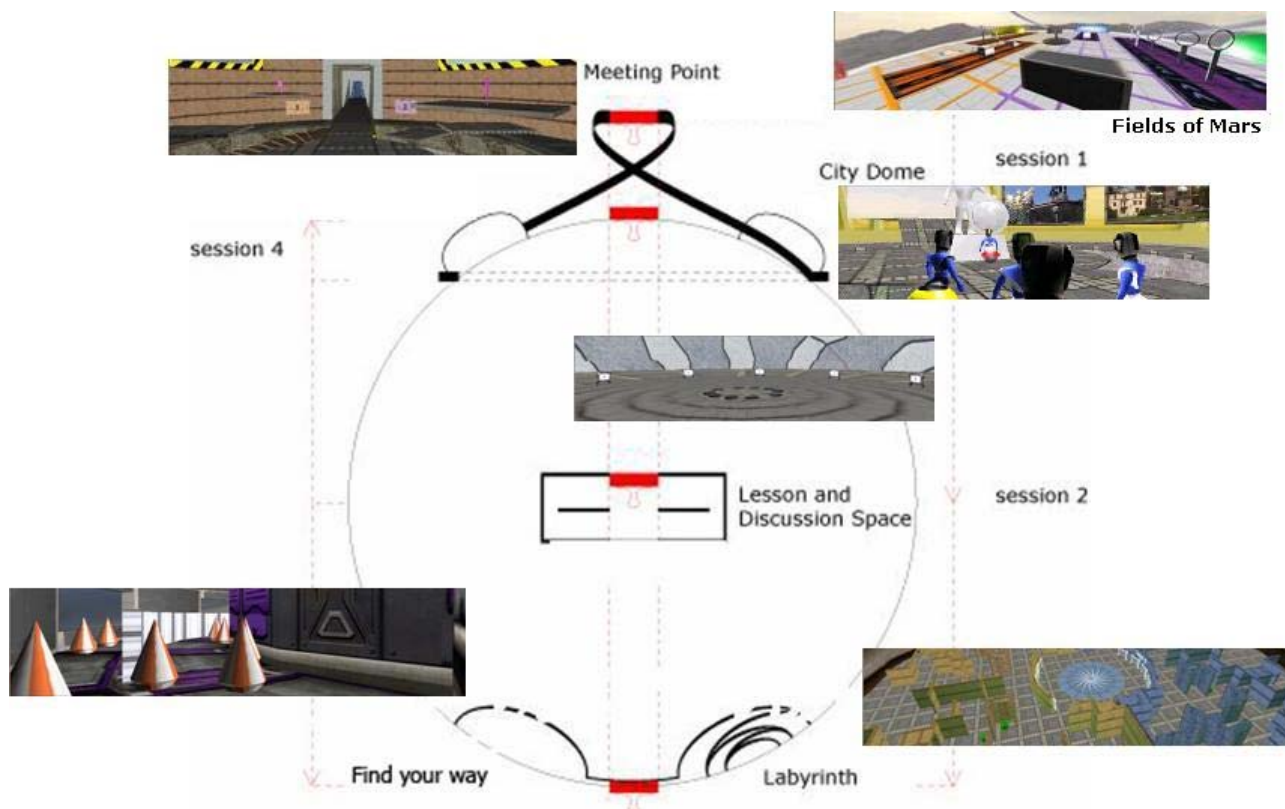


An avatar plays one of the Olympic Games



The game Find Your Way

Activities take place on Planet 3D4E: an imaginary high-tech setting, with large, circular halls for showing and discussing content, and labyrinths, sporting fields, or paths full of obstacles for exploration and games.



Users (2 per class, from 4 different schools) communicate with each other synchronously via **chat**. Interaction is very fast, both in the chat and in the 3D world. 2 additional users per school engage in less hectic and more relaxed interaction on a parallel “2D” chat, answering conceptual questions on history.

In addition, classes collaborate with their remote partners asynchronously on a set of electronic **forums**: they exchange friendly messages with peers from other countries, learn about each others' daily life, complete assignments together, ask the experts, authors of the contents, questions about history; they usually reply in 1 or 2 days.

The core technology of the Learning@Europe 3D environment is **Webtalk3**: the current version of a platform developed in 1999 by Politecnico di Milano for *Virtual Leonardo*, a project of the National Museum of Science and Technology in Milan, which was selected as Best Museum Web Site at Museums & the Web 2001.

In 2002 Webtalk was improved for *SEE – Shrine Educational Experience*, a project with the Israel Museum, Jerusalem. It was further refined in 2004, to become the effective 3D online collaborative platform of Learning@Europe.



Webtalk3 mainly employs two technologies made available by Adobe: Shockwave, for the visualization of 3D graphics, and Flash, for the interface panels supporting chat interaction and avatar controls (client side). The 3D engine employs Flash Communication Server to synchronize chat messages and update the positions of avatars in the collaborative environment (server side).

Webtalk3 architecture is designed to optimize the information distributed from the server to each user client, thus minimizing the use of bandwidth.

Thus, schools only need a broadband connection and the plug-ins of Shockwave and Flash, freely downloadable from the Adobe website, in order to be ready to... ride in the 3D world!

