Virtual Campus of Nanyang Technological University

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NANYANG UNIVERSITY

Nanyang in Chinese means “south seas”—a reference to the Southeast Asian region. Back in the 1940s and 1950s, many Chinese from mainland China ventured south to seek their fortunes in new lands. Malaya—now Singapore and Malaysia—was then known as Nanyang to the Chinese. After World War II, a university was founded in Singapore that would provide tertiary, comprehensive education in Chinese. On March 23, 1953, 523 acres of donated land helped expand the new Nanyang University (known as Nan Tah in Chinese). The modern Nanyang Technological University (NTU, www.ntu.edu.sg) originated from Nan Tah. NTU occupies a large, beautiful campus with hilly terrain in Jurong, located in the western part of Singapore. Many of the campus buildings have sophisticated, futuristic architecture, designed by Kenzo Tange, the famous Japanese architect.

VIRTUAL CAMPUS

The Virtual Campus of NTU is a shared virtual world built with Virtual Reality Modeling Language and Blaxxun Contact communication platform (www.blaxxun.com). It is a virtual model of the real campus of Nanyang Technological University. The whole Virtual Campus, including VRML models of the land, buildings, interiors, avatars and texture images, is stored in only about 15 Mb of files and can be accessed from any Internet-connected personal computer (www.ntu.edu.sg/home/assourin/vircampus.html). In this cyberspace, visitors can turn themselves into virtually anything. Some choose to look like fancy-dressed people, some turn themselves into sports cars, and some appear as sparkling clouds or fireballs.

Many visitors to the Virtual Campus are computer graphics students who either play virtual “hide and seek” with their professor or come to study concepts of virtual reality and shape modeling. There are also strangers from around the world meeting together on this hospitable land. Local students easily navigate the familiar 3D environment, go to their favorite places or meet with friends in their hostel rooms. Foreign guests usually just wander around and chat, astonished by the size of what is probably the biggest shared cyberspace of this kind.

Dusks and dawns in this cyberspace follow Singapore time, but the Virtual Campus never sleeps. Many bots (robots) populate it. These are avatars of students and professors who walk back and forth between lecture theatres, libraries and student hostels. There also are birds hovering in the sky and cars riding by the roads (Figure 1).

The bots are programmed to behave realistically for visitors. Some of these activities are stochastic and some follow the real class time tables. The first bot the visitors meet will greet them immediately upon arrival by offering them help on navigating within the virtual environment, as well as by providing consultations on computer graphics. This bot is an avatar of one of the project students who contributed a lot to the Virtual Campus. Its “brain” is developed using AIML language, ALICE files (www.alicebot.org) and computer graphics terms from Sourin (2004). There also are a few other agents wandering around. They, too, are “clones” of former project students. In fact, each of the project students has a personal avatar copy in the Virtual Campus.

Virtual Campus is not only for walking through and seeing other avatars or bots. The visitors can talk to them. Blaxxun Contact provides the communication platform. It also allows for text-to-voice synthesis so that visitors can hear your computer-simulated voice as well as voices of other visitors. These chats may involve...
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