Draft Proposal for the Use of Wallenberg Hall Classroom

Prof. John Rick (Anthropological Sciences) and Claudia Engel (ATS, Anthropology Departments)
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Course Title: Images and Models for Archaeological Computing
Disciplines: Archaeology, Anthropology
To be taught in: Spring Quarter 2003
Class size: ca 15 students
Weekly sessions: ca 5h

Context

Purpose of the course is to provide students with a hands-on experience in archaeological modeling and in the use of advanced computing technologies. Furthermore we would like it to be exploratory in the sense that we expect advanced students to bring in own ideas and/or tools and explore new areas of modeling and imaging.
Such a course is not currently offered at Stanford. A similar course was last taught 4 years ago. The target population are advanced undergraduate and graduate students and we expect it to be their first exposure to this kind of archaeology research methods.

Instructional Approach

Learning goals for this course are to acquire the skills to effectively manage archaeological computational imaging and modeling tools and at the same time to engage in the creative process of data modeling as well as the analytical process of data interpretation. Our approach involves the following:

- Project based learning: Students will work on projects which will cover the complete sequence of stages from capturing of data to visualization, modeling an archaeological site, representation in appropriate formats, and higher order analysis. They will provide a hands-on experience as closely as possible to real-life archaeology research.
- Collaborative exploration and data analysis: In sharing and comparing their models and discussing different perspectives with their peers students can develop critical thinking skills in their interpretation of artifacts and historical sites.
- Creative visualization: The mere process of creating models from the accumulated data can often lead to additional discoveries. Creating a virtual reality representation can provoke new and interesting questions, which serve to guide future research.

Opportunities of Wallenberg Hall

While archeologists must learn to construct sites and artifacts in three dimensions students usually do not practice the professional use of high-end digital archaeology
technologies. The Wallenberg Hall classroom provides an environment equipped with a rich set of resources which would enable us to give students the unique opportunity to simulate a data and computing intensive archaeology research project and prepare them for the complexity of their future work as archaeology researchers.

We would like to think of the space as an “archaeology research station”. Data will be brought in by taking measurements of real spaces. In the early stages of the projects the camera-equipped whiteboards will allow to easily capture and save ideas and draft models. Smartpanel screens serve as workspaces where students can develop and share their models and compare different data representations. Student work will take in groups and the flexibility of the equipment will allow to easily switch back and forth between small and large group activities.

Since the projects extend over the whole quarter important component of the space is the possibility to “save” a session at its actual state by the end of the class and reload it for the following class.

**Technical Requirements**

- PC environment
- Installation of special graphics, GIS and other course specific software on class server
- Additional class server space for students to upload their models from outside class (could be solved by an increased Leland storage space for students).
- At least 2 or 3 wireless PC laptops that run iSpace software for group work. (We have discussed the possibility to bring in a departmental laptop, which would be purchased by the Department for Anthropological Sciences for the only and exclusive use for that class, ie it would remain in WH during the whole course.)
- Potentially additional equipment to be brought in (like 3dScanner, dv cameras, theodolite)

**Contact**

Claudia Engel  
Academic Technology Specialist  
Department of Cultural and Social Anthropology  
Department of Anthropological Sciences  
cengel@stanford.edu - 724 7452