

Live from New York: Blurring Boundaries to Build a Real-Time Google Earth Exploration ... on the Go and on the Cheap Furman University, Greenville, SC

Who participated in the project?

Lloyd Benson, Walter Kenneth Mattison Professor (History Department); **Diane Boyd**, Instructional Development Consultant - Humanities (Center for Teaching and Engaged Learning); **Cort Haldaman**, Academic Computing Specialist (Computing & Information Services); **Wade Shepherd**, Academic Computing Specialist (Computing & Information Services); and **Mike Winiski**, Instructional Development Consultant - Sciences and Mathematics (Center for Teaching and Engaged Learning).

What did it look like in class?

We projected Google Earth and Google Maps on the overhead screen in the classroom (Greenville, SC), and students heard Dr. Benson in New York City and Boston through built-in speakers in the ceiling. Students were able to direct Dr. Benson to different locations. After Dr. Benson snapped a picture and uploaded it, we were able to see the image situated in Google Earth and Google Maps. Essentially, his path unfolded before us in real-time. We captured the two fifty-minute sessions using Camtasia. A brief highlight reel is available (<http://history.furman.edu/benson/hst95/show/ShowcaseBenson/index.htm>) and captures some of the dialog and more spontaneous moments like Dr. Benson's umbrella blowing across Boston Common.

How did it work from a technical standpoint?

See the diagram on the next page and the following URL:
<http://history.furman.edu/benson/hst95/show/mapwalk.htm>

How did the project start?

Dr. Benson was heading to New York City and Boston for conferences and wanted to connect the trip to discussions in class and make the best use of limited time. The original vision included real-time video feeds, but bandwidth and budget (essentially zero) limited our options. Professor Suresh Muthukrishnan in the Earth and Environmental Science Department was using iPAQs with built-in camera and GPS in his class and offered us a loaner. During one caffeine-fueled brainstorming session the project morphed from online photo album to dynamic Google Earth exploration. We were really excited by the increased spatial awareness element of the new direction.

What were your goals for the project?

1. To enable real-time interaction between professor and students;
2. To enhance students' understanding of urban design and the issues that shape cities: historical, political, and social;
3. To enhance students' awareness of the significance of particular buildings (i.e. the Woolworth building) and types of edifices (i.e. dumbbell tenements);
3. To provide a real-time, 3D context for the learners;
4. To have fun!

What makes the project unique?

The project came together in a very short period of time. The team gelled extremely well and was very productive. Upon debrief, we felt part of the success was due to the fact that we stepped beyond our normal roles. The history professor wrote the Python code, the instructional development consultants negotiated nitty-gritty technical details, and the academic computing specialists made incredibly valuable contributions to lesson design. We're making a conscious effort to blur those boundaries more often, whenever possible.

How did it go?

It went well for the first time. I remember thinking pessimistically about the many possible points of failure as I walked over to Furman Hall for the first session. Ironically, the biggest challenge was the weather in Boston on day one - cold, windy, and raining really hard.

The students were very engaged. Anecdotal information from subsequent discussions shows that students thought the sessions provided valuable learning opportunities. Of course, we'd like to build more authentic assessment into the process the next time around so that we can study the impact more formally. We were very focused on just getting all the technical pieces to come together. Connective dialog seemed to be constant throughout the sessions, and the highlight reel demonstrates one such conversation that ensued after Dr. Benson talked about Anne Hutchinson and religious freedom during the tour. The dialogue was sometimes choppy, and coverage often drifted in and out as Dr. Benson - quickly - made his way between high-rises.

Is spatial thinking critical?

We think so and plan to study it more. A recent report from the National Academies stresses the importance of developing students' spatial awareness and the need for additional research into the way this type of cognition develops. According to the report, "spatial thinking—a constructive combination of concepts of space, tools of representation, and processes of reasoning—uses space to structure problems, answers, and express solutions" ("Learning to Think Spatially", 2006, p. i). Watson and Crick's discovery of the DNA double helix is cited as a classic example of spatial thinking in action and, along with many other examples, highlights a common thread between disciplines.

Learning to Think Spatially: GIS as a Support System in the K-12 Curriculum - Executive Summary (2006). Retrieved January 1, 2008 from <http://www.nap.edu/catalog/11019.html>