I-Pod Tours of Evergreen’s Ecosystems: Accessing ongoing faculty and student field research

Progress Report – September 14, 2007

Thad Curtz completed specifications for the project and an accompanying mockup of the website to allow the grant participants and other interested faculty to discuss design issues and to illustrate the intended functionality. (It's at http://www2.evergreen.edu/naturalhistory/node.) We then hired three student programmers who had been students of co-PI Judy Cushing's the previous year and had worked together very successfully on an assigned project for her. After some preliminary investigation and considerable discussion with Evergreen staff, we settled on the Drupal content management system as the foundation for the actual project website; it promised a good deal of the functionality we wanted already, including particularly well developed tools for creating and managing hierarchical category structures. Its foundation in php also made it attractive, since the students were also already very familiar with that scripting language, and it would have been much more difficult, if not impossible, to find students with the equivalent expertise in Python, which would have been required if we had based the project on Plone. One of the students we hired left the project almost immediately, since his wife began working full time and it was going to cost them more to provide child-care than he would make working for us. However, the remaining students introduced themselves to Drupal rapidly, with the gracious assistance of David Metzler, who has done the college's development in Drupal for Computer Services.

Working under Thad Curtz and Judy Cushing's supervision, the students installed Drupal on their own machines and established a development server off campus, to finesse Computer Services' concerns about having students adding untested code to the college's regular Drupal server. (The development server's now accessible at http://nathist.randomstorage.com/naturalhistory/?q=node.) The students have made rapid progress implementing key functionality for the project. To date, we've used ca. 150 hours of programming time out of the 570 hours in the project's budget (which included $5,700 to pay for 19 hours of work a week for 15 weeks by two programmers at $10 an hour.) They have bulk imported almost all the available legacy web material about campus natural history into our Drupal development site. They have extracted the taxonomic hierarchy for the campus' vascular plants from a flora done in Word as a student project, and imported that and the taxonomic hierarchy for a number of other domains from other digital sources. They've used the Drupal Content Creation Kit to implement a new Drupal page type which allows users to enter new species observations and submits data from the page's fields into the underlying database. They've implemented a new view to display the results of searches of species observations in the system on a single page, and a prototype of a system to allow subsequent filtering of those events. We have purchased three iPods and two waterproof cases for the development phase of the project, thanks to additional funds contributed to the project by co-PI Cushing from her expiring NIAA grant. Co-PI Styring has collected images for tours of the campus beach and the trail to the organic farm, written scripts for these tours,
and worked with one of the students to install Garage Band on her computer, record the audio, and integrate images with it to create enhanced podcasts for the iPods. We presented the project and its capacities to a number of other biologists on Evergreen's faculty at a summer workshop on Evergreen’s Natural History Collections and distributed and collected surveys to get their suggestions.

Currently, the students are working on modifying existing Drupal code to allow us to run two rating systems for species observations concurrently rather than just one, since we'd like users to be able to rate an entry's scientific interest and its artistic interest independently. They are also working on converting several existing taxonomic keys for identifying campus organisms like bumblebees and ground beetles to run in iPod Notes. Considerable work remains to be done on cleaning up the rough edges of the functionality we've established and on tinkering with the interface to make the system work smoothly for users, but we are quite pleased with how much has been accomplished with the relatively small percentage of the development budget we've used so far.

Although this is a long-term project that we plan to integrate into our extensive natural history and environmental studies programs at Evergreen, we are currently on track to complete the work outlined in our grant proposal by April 2008. Our work over the next few months will focus on editing and refining content of the website and iPod tours. As we roll out the content to the campus community, we expect to spend time gathering feedback and further refining the tours and website. Our goal is to have the website fully interactive (so that faculty and student naturalists can contribute observations), the tours in circulation, and a completed plan for long-term maintenance of the project by the April deadline.