

# **Joint Request to Implement a Pilot Program on the Use of Handheld Computing Devices in Instruction**

**COLLEGE OF COLLEGE OF LIBERAL ARTS**

and

**COLLEGE OF FINE ARTS**

**VISION PLAN • 2009–2010**

## **SUMMARY OF REQUEST**

The Colleges of Liberal Arts and Fine Arts request \$8,950 to support a pilot program testing the use of handheld computing devices in classrooms and other instructional settings. Grant funds would be used to purchase a set of Internet-enabled mobile devices for use by multiple instructors in both colleges for targeted uses in instruction. The devices would be checked out as a set for instructor use.

The array of mobile device applications for instructional use is expanding rapidly. The existing universe of applications provides for real time feedback and communication in class, expanded access to class resources, new modes of practice and work outside of class, and expanded opportunities for the creation and sharing of class-related content. Faculty members across both colleges have concrete ideas for use in scheduled undergraduate courses, some of which are cited below as examples. Our expectation is that growing interest in the use of such devices and applications, as well as increasing use of “smart phones” and other Internet-enabled mobile devices among the undergraduate population, will continue to fuel demand for their integration in the classroom. The practice of taking laptops to class has spread, but has been limited by their cost and portability. Mobile devices are cheaper, smaller and lighter, and in their student-owned incarnations, possess the added utility of featuring a phone. We expect the spread personal ownership among students to be rapid and broad. This project aims to explore how these devices can be productively bent to instructional purposes before the demand overwhelms our capacity to respond to it.

We are requesting funds for 30 iPod Touch devices, which are NOT equipped with telephones, but which are Wi-Fi and GPS enabled. These devices would be loaded with appropriate applications per the instructors using them, and would be made available on a reservation basis for instructor use. Three faculty members in two departments in Liberal Arts have committed to experimenting with these devices in courses scheduled for the 2009-2010 academic year, and candidates are being recruited in Fine Arts, where there has been evident interest among faculty. More specific applications are described below.

Two points about the project should be flagged at the outset. First, the decision to use iPod Touch as the device in the pilot by no means signals a commitment to a single platform. However, application development for the Apple device has been feverish and there are numerous applications available, particularly in the areas being explored in this pilot. Technological development in these areas is rapid, and multi-platform applications will clearly be preferable in future uses. Second, it is worth reiterating that no telephone service is included on these devices.

## **MOBILE DEVICES AND TEACHING**

Based on ideas generated by interested faculty and the potential contained in the array of current applications, several innovative uses of WiFi-enabled handheld devices cry out for testing in classes.

Some of these uses are related to improving the interactivity of large lecture-style courses. However, many of these activities imply improvements on things that we previously were unable to do even in small classes. A conservative approach to exploring the use of these devices and fiscal prudence lead us to emphasize use in smaller classes at this stage of experimentation. The current pace of development guarantees that new applications will be available for testing by the time of the grant period. We plan to experiment with three basic instructional uses of these devices.

**1. Using interactive feedback applications in class.** Applications developed at other universities that will soon be made available on an open-access basis include various polling features that can allow for the easy construction of polls in different formats. The polling features include options for students to write comments to the instructor, to choose among multiple choice and true-false items, and display responses in word clouds. Web applications developed in conjunction with the handheld applications enable instructors to display results in real time using the standard consoles in Liberal Arts and Fine Arts classrooms. (For a video demonstration of one of the most promising applications, see: <http://deimos3.apple.com/WebObjects/Core.woa/Browse/acu.edu.1464638414.01718810750>)

**2. Student access and contribution to resources in class.** Students would be able to access course materials during class, search for additional material, share work with other students, and produce instructionally-related content – responses, comments, quizzes, blogs entries, Wiki additions, etc -- on the fly. This would also facilitate group work and group dynamics in classes that require collaborative assignments.

**3. The creation and sharing of content in out-of-class assignments.** The devices being considered allow for the creation of documents and audio files. Students could thus use them to create content such as interviews, language exercises or demonstrations, podcasts, and any form of short written work. Because they are Wi-Fi enabled, the devices also enable quick sharing of content via numerous web applications (blogs, Wikis, social networking applications).

## **PRELIMINARY PROPOSED PILOT USES**

Faculty members across both colleges have expressed interest in using these devices. The following are selected examples.

Associate Professor Orlando Kelm teaches Introduction to Spanish Phonetics (SPN 346) during the Fall 2009 semester, and his initial plans provide several examples of how an accomplished faculty member recognized as an innovator in the use of instructional technology is thinking through the potential for mobile devices. He plans to elicit the submission of comments that could be written with phonetic transcriptions. This would provide instant practice, instant feedback, and instant reinforcement of the items taught in class, and would require students to actively create speech samples and transcriptions in class. Every lecture contains portions where the instructor asks student opinions on the sounds and symbols that they hear. The tools would provide ways to get immediate, comprehensive, and more precise feedback during the class.

Professor Daron Shaw of the Government Department teaches several courses in which he is interested in employing interactive polling applications via handheld device. An expert in public opinion research and American politics and a professional pollster, Professor Shaw would experiment with the polling and feedback applications in the course Public Opinion and Voting Behavior (GOV 327), which he is scheduled to teach during the 2009-2010 academic year. The interactive polling features provide excellent opportunities for students to participate directly in exercise on survey design and methodology. Students, for example, could be directly involved in illustrations of concepts central to the accurate measure of public opinion (e.g. sources of bias in wording and question sequence). The content of Professor Shaw's courses also provide a unique opportunity to make the most of a limited number of devices by illustrating sampling strategies. Distribution of a number of devices to a subset (i.e a sample)

of a large class would illustrate lessons about sampling without excluding anyone for the sole reason that there weren't enough devices to go around.

Assistant Professor Zachary Elkins teaches courses including Comparative Political Behavior and Comparative Research Design. He used earlier generations of mobile feedback devices in courses at another institution and is eager to explore the uses of current technology. The content of the courses mentioned above both provide opportunities for uses similar to those discussed in the context of Professor Shaw's courses. Additionally, Professor Elkins is interested in more sophisticated uses of devices for immediate student feedback about comprehension, and responses to cues in lecture courses.

Fine Arts faculty teach multiple classes that would benefit from the integration of mobile devices and the uses described above: active real time feedback between students and instructors; distributed rich media content, particularly graphics and sound files; student collaboration; student content creation; and quick sharing of content from distributed locations via wireless connection to the Internet.

**Total ITAC Request for support \$8950**

30 iPod Touches	\$8,200
Secure case / mobile transport	250
Application fund	500