

## **JISC RSC Scotland South & West Case Study @ UWS**

### **Using Web 2.0 Tools to Develop and Support a Multi-Campus Class**

#### **Summary**

This case study highlights how web 2.0 tools have been used to engage learners studying a Computing Systems course taught at three campuses. The module content was also redeveloped in a very short time scale by making use of Open Educational Resources and Creative Commons licensed materials.

#### **About UWS**

On 1st August 2007, the University of Paisley and Bell College merged to create Scotland's biggest modern university with campuses in Ayr, Dumfries, Hamilton and Paisley. With almost 20,000 students and just under 2,000 staff, the University is unique in its geographical coverage across the West of Scotland.

#### **The Challenges**

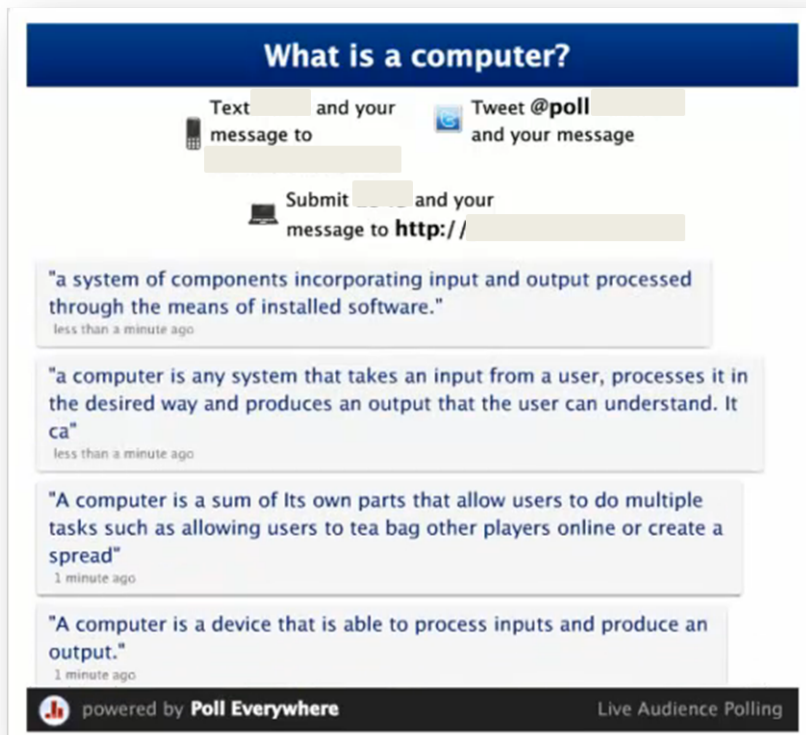
A first year Computing Systems course is taken by students from a variety of undergraduate degree programmes and is delivered on three university campuses with additional delivery for part-time evening students. The module was in need of significant redevelopment to address the broad audience and reflect changes in computer hardware and software systems over the recent years, presenting the first challenge. The second challenge was in preparing a module that could provide a suitably consistent learning experience over multiple campuses. The third was in turning large lectures into periods when students could be active, rather than passive, learners. On taking over as module leader for the first time, the lecturer needed to update and revise the module content in a very short time.

#### **The Activity**

The module was delivered by three lecturers (plus teaching assistants) at three different campuses to a large student body (with up to 90 students attending a lecture). To cut down time preparing teaching materials, the lecturer turned to Wikipedia and the Wikimedia Commons. The huge bank of images and diagrams used in the articles are almost all available for reuse in PowerPoint slides or notes; either under a Creative Commons Attribution Share Alike license or in the Public Domain. This alone saves a vast amount of time in preparing teaching material. While some academics question the veracity of articles on Wikipedia, the lecturer found that it was home to a good range of detailed and well written articles on the history of computing and on a wide range of computer hardware and software issues.

With different lecturers teaching on each campus, a consistent base set of lectures is provided by recording lectures (using Camtasia Studio) and posting to screencast.com, thus allowing students from any campus to use the one set of recorded lectures for revision. These screencasts are available for students to view again and the statistics provided by the screencast software indicate these are a popular resource for students.

For the larger lecture groups, the free Poll Everywhere (<http://www.polleverywhere.com/>) service is being used to support active learning in class. Discussion questions or problems are posed for small group discussion, before representatives of each group submit their answers using their mobile phones - via Twitter, SMS or online.



Screen grab shows an example of a poll question asking students to respond to the question "What is a computer?" Students then form into small groups and each group posts a response via SMS or twitter. Responses are examined and discussed during class time.

As well as encouraging students to actively participate in the lecture, a byproduct of using the polls has been students' self-regulating class activities, for example asking others to keep quiet via the poll software during the lecture. There are occasional

inappropriate comments posted but the lecturer can monitor this before projecting the screen to the class (the paid version of the Poll Everywhere software contains a moderating facility).

Self-assessment tests on the Blackboard Virtual Learning Environment provide additional learning resources that students can access at any time from any campus or from home. Formative and summative assessments were created using the range of question types available in Blackboard. Peer assessments were also created using PeerWise (<http://peerwise.cs.auckland.ac.nz/>). Students were asked to compose their own multiple choice assessment questions, answer questions composed by other students and finally students were asked to rank these questions. Some of the student questions were used as part of the module's summative assessments.

## **The Outcomes**

Developing and teaching the module in such a short timescale was a challenge but exploiting the range of web 2.0 technologies, as well as making use of content which had already been created, resulted in the content of module being significantly re-worked to reflect the broad range of undergraduate courses feeding into the module.

At the time of writing the case study, no formal student feedback was available, however informal feedback indicated that students were reasonably engaged in the module content.

## **The Impact**

The course is likely to be taught at all four UWS campuses next year and will therefore be taught to yet more students. The module format and the tools used mean the module can be expanded to cope with additional student numbers.

Making use of existing content and incorporating them into the module resources has resulted in the module being less abstract and more contextualised. The availability of high quality images via open educational resources or creative commons license has freed up development time which has been used for assessment writing.

Recording lecture materials and making them available as screencasts ensures the students across all campuses have a comparable teaching and learning experience, even if their local lecturer's style is different.

Making use of polling software, VLE and peer assessment tools has helped with student engagement particularly when teaching it to a large group of students.

The module leader aims to build on this as the course continues to try to get more and better feedback from students.

## **Lessons Learned**

Recording the screencasts during live lectures can result in long gaps and delays. Editing the lectures or even re-recording them prior to making them available to students will result in a better quality resource.

The advantages of Poll Everywhere over the usual audience response system (clickers) are many; there is no need to hand out or collect the devices, no problems with faulty batteries or units, and it is much easier to incorporate free text responses alongside multiple choice responses. Using the no cost version of Poll Everywhere imposes a limit of 30 responses to each question, however this can be worked around by asking students to discuss the questions in small groups before each group responds. While the anonymous posting does sometimes result in inappropriate replies, this can be overcome by viewing responses before projecting them to students, or by paying for the software which gives access to a moderating facility.

## Useful Links

<http://commons.wikimedia.org>

<http://www.oercommons.org/>

<http://peerwise.cs.auckland.ac.nz/>

<http://www.polleverywhere.com/>

<http://www.techsmith.com/camtasia/>

<http://www.screencast.com/users/dlivingstone/folders/Computing%20Systems>

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