Mobile Education

サイバー大学 Cyber University

Welcome to Japan's most innovative learning environment

Japan's most innovative learning environment combines cloud computing with iPad 2 for mobile flexibility

Technology and in particular, mobile communications and remote working, are central to the way Cyber University (サイバー大学 Saibā Daigaku) in Fukuoka, Japan has been developed and operates.

Cyber University offers all of its courses over the internet using cloud services.

In addition, earlier this year it decided it was time to take learning away from the constraints of the PC to include mobile technologies, making its courses available any time and from anywhere it suits its students.

Apple's iPad 2 with 3G tablet device was the focus of Cyber University's mobile innovation. In June this year, the University began loaning the tablets with 3G and Wi-Fi connectivity to all eligible full time students for no additional fee.

"The synergy between the iPad and the PC – multiple screens for studying - is also evolving as an effective learning style. As a result, credits per semester per students are on an increasing trend, and active participation is increasing as well."

Hiroshi Kawahara, Sc.D, Professor, Dean of IT and Business, Cyber University

Cyber University

Cyber University is a wholly owned subsidiary of SOFTBANK CORP., one of Japan's leading telecommunications and internet companies.

Cyber University (サイバー大学 Saibā Daigaku) is a private undergraduate university, accredited by the Japanese Ministry of Education Culture, Sports, Science and Technology (MEXT). All of its courses are offered online and it has a physical campus in Fukuoka City (situated on the northern shore of the island of Kyushu in Japan), housing a library and study rooms made available to students and residents of nearby communities.

The Faculty of Information Technology and Business offers a wide range of courses with emphases not only on technological subjects, but also on practical business subjects and social media.

Cyber University was established in April, 2007 and has 792 students in its IT and Business department and 244 in its World Heritage department in November, 2011.

The University strives to maximise the strengths of the internet by enabling students to use today's mobile and social networking technologies to learn any time, any where, using practical training and knowledge sharing. In cooperation with SOFTBANK MOBILE Corp., the University offers a mobile learning environment to the students through mobile devices with 3G and Wi-Fi.

A translation of SOFTBANK CORP.'s management philosophy is: 'Through revolution, to promote the sharing of wisdom and knowledge so that people can contribute to society and human life.' At Cyber University the company is striving to create a virtual real world environment where that can happen.

"Mobile devices are only a part of the entire learning framework. Cyber University has established a cloud enabled environment for all courses so students can enjoy seamless learning regardless of device or connectivity."

Hiroshi Kawahara, Sc.D, Professor, Dean of IT and Business, Cyber University

Technology behind the project

Tablet device with 3G and Wi-Fi

iPad 2 while maintaining the same 9.7 inch LED-backlit LCD screenfeatures Apple's new dual core A5 processor for fast performance and graphics. It includes two cameras, a front-facing VGA camera for FaceTime and Photo Booth, and a rear-facing camera that captures 720p HD video, bringing FaceTime feature to iPad users. It also has 10 hours of battery life.

Moodle

Moodle is a course management system (CMS), also known as a learning management system (LMS), managed learning environment (MLE) or a virtual learning environment (VLE). It is an open source web application that educators can use as a platform to conduct fully online courses or to augment face to face courses. Modules such as forums, databases and wikis can be used to build collaborative communities of learning., Moodle can deliver learning materials to students (including SCORM compliant learning packages) and facilitate assessment of learning using assignments or quizzes.

Cloud computing

Cloud computing is sometimes described as the delivery of computing as a service or utility with shared resources, software, and information provided to computers and other devices on demand like getting electricity from a national grid. Access is typically via the internet to resources hosted by a 3rd party Cyber University is using the cloud as a means to deliver and enable learning and collaboration over the internet.

Greater flexibility

The idea behind this initiative is to enable students to learn with greater flexibility and to gain more learning hours according to their personal schedules. To that end, Cyber University developed an iPad 2 application that is fully integrated into the University's main learning management system (LMS), Moodle 2.1.

Cyber University's iPad 2 application supports many unique features of their approach to teaching, learning and assessment. All lecture course content, much of which is power point presentations and video clips, can be downloaded from the University's server to students' tablet devices.

Also, iPad 2's charge-coupled device (CCD) camera is being used in particularly exciting ways that are increasing efficiency at the institution. The CCD camera is used to take photos for a biometric authentication system that Cyber University has been using to identify the students and provide authentication and class attendance credit.

When students register with the University, a 'Master Photo' is taken of them. This is the measure against which pictures taken of the user of the tablet device at different times within the calendar are compared.

For example, when students take their final exams online remotely on their PCs, the camera takes multiple pictures of the student over the entire course of the exam, to verify the student is taking the exam properly. When the student is taking a quiz using mobile devices, the camera will take a photo of the student, to match it against the Master Photo, utilising the biometric authentication system.

The benefit of the ID verification process using the biometric authentication system is that the administrator does not have to continuously watch the student, but can conduct the verification process after the student has finished the exam. If the photos cannot be matched to the Master Photo and cheating is obvious, the credits in question can be revoked.

The camera again comes in useful by enabling face to face video calls between students and their teachers, using Apple's Facetime application.

Clever content

All the academic activities of each student are stored and synchronised between whichever devices each student favours (the PC, Mac, iPad 2, iPhone 4, and iPhone 4s).

Each faculty member creates their own content for lectures, using presentations, video filmed at the University's studio, and web content. The content lifecycle is approximately four years, but minor updates are made every semester.

Students can produce content themselves using an authoring tool that can be downloaded for free from student website. The student-produced content can be uploaded to the streaming server to share in the class for further discussion on the web.

An updated Moodle LMS (due in 2012) will allow students to upload their own content more conveniently, and the University expects increased student activity in terms of uploading contents and sharing within the classroom when that update is made available.

Rapid results

As a result of the use of the tablet devices with 3G at Cyber University, and despite the early stages of deployment and incomplete integration of the tablets into the syllabus at this point, tutors have already noted that study time carried out by students is already on the increase.

Surprisingly, students are using this mobile solution at home rather than during snippets of downtime outside the home, such as commute time.

Unlike the PC, the 3G tablet device does not require minutes to boot up, and can be utilised immediately, any where, even when a Wi-Fi network is not available. This convenience factor is of greater benefit to students than originally anticipated, said Hiroshi Kawahara, Sc.D, Professor, Dean of IT and Business, Cyber University.

Cyber University has established a cloud-enabled environment for all courses. Students can enjoy seamless learning regardless of device or connectivity which can include mobile or PC, and cellular, Wi-Fi or landline. This seamless environment is already increasing actual studying time. It is not only the mobile aspect which is important, but the combination of fixed computing and mobile to suit students' needs, preferences and locations.

Pilot Timeline

June 2011 - Cyber University loans iPad 2 with 3G to all full time students for no additional fee

November 2011 – By the autumn semester, iPad 2's are distributed to all eligible students and in use within courses on trial basis

November 2011 to Spring 2012 – Students using the technology becoming acquainted with specific applications including setting up their Cyber University email account and browser; Facetime; Twitter and Facebook; cloud services including Evernote

Spring 2012 – Fully credited courses with integrated iPad 2 and 3G usage to begin

Best practice

During the course 'Theory of Practical Presentation', study groups of five to six students compile and evaluate presentations among the study group members. The best presenter is selected within the study group to compete in the class contest.

Evaluations and discussions are carried out in the virtual debate room online. Communication among the students is conducted via forum and workshop functions on Moodle.

Cyber University also provides students networking options, including Twitter and Facebook, with app interfaces right next to the course content, as well as cloud services such as Evernote available for file storage.

The student generated content is removed from storage services when the term ends.

The GSMA represents nearly 800 mobile operators and over 6 billion connections worldwide. Today we are working in mobile education to help bring the operator and education industries together to address market barriers, foster collaboration and speed up the adoption of mobile education services. For further information please contact us at **mobileeducation@gsm.org**

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