V-Brick Project Innovation of the Year 2009-10 Submittal

V-Brick Team

Scott Kozakiewicz - GCC Main Library Media Services
KC Hundere – GCC Main Office of Information Technology
Frank Gonzalez – GCC Main Library Media Services
Victor Fortino – GCC North Library Media Services
Patrick Lovings – GCC North Office of Information Technology
Sherri Dickinson – GCC Nursing Faculty
John Grima – GCC North Math Faculty
GCC Nursing Department
Josh Krek – GCC Main Office of Information Technology
Joe Ranus – GCC Main Library Media Services
Marco Pineda – GCC Main Library Media Services
Justin Johnston – GCC Main Library Media Services
Mike Flynn - GCC Main Library Media Services
Viktor Serov - GCC Main Library Media Services
Cyril Azoulay – GCC Main Office of Information Technology
Susan Bedker – GCC Main Office of Information Technology
Josef Conway – GCC North Library Media Services
Justin Macari – GCC North Library Media Services

In 2007, Glendale Community College faced the challenge of meeting the diverse video distribution and information needs of the expanding North campus. Specifically, GCC was looking for a single technology solution that would provide for streaming, storage and delivery of a new video collection, a campus electronic bulletin board and live video programming. V-Brick and IDSoluitions would provide an opportunity not only to meet this challenge but begin a partnership that would enable GCC to build a video delivery and storage system with a potential that has continued to expand to include an automated recording system in our state of the art Nursing Simulation Laboratory, video streaming of live events from GCC Main to GCC North and a pilot project to test the effectiveness of digital recording Math class lectures that are then made available online for student review.

GCC's V-Brick system consists of three components that work together to provide Glendale Community College with an affordable, scalable, user friendly technology. The first component, the Portal, is a special secure web based server and website that enable users to view live feeds and the stored Asset Library video files using Windows Media Player. The Live Broadcasts section is where users can go to access multicast streaming video channels. A multicast is a video stream that users tune into much like a cable TV channel. It requires very little bandwidth on our network because it is a single video stream that can be viewed by multiple users at the same time. Access can be limited to specific channels based on the user's profile. We currently have channels for CNN, Fox News, CBS Channel 5, VH1, and a DVD/VHS channel that can be used to encode videos for storage or to show DVD or VHS content. In addition, we have channels for one-way video conferencing between the GCC and GCCN campuses that are used for college wide meetings and events. The VBrick Portal also makes it possible to control access to the content and features available to users based on profiles that are created for individual users or user groups. In this way, we can control what level of access is granted to users that is appropriate to meet our obligations to FERPA, as well as the standards and policies of MCCCD and GCC.

The second component, the V-Bricks, are literally an electronic box that streams video and audio signals so that they can be viewed through the Portal website.

The third component, the Video-On-Demand Servers, consists of a specially designed servers that store the Asset Library video content for retrieval via the Portal. These videos range from videos like the "Cycles of Life – Exploring Biology" video series that is popular with our Biology Faculty, to a whole host of MCCCD Honors Forum videos. There are many other types of videos that can be stored and viewed from the Asset Library including training and orientation videos, video lectures, and any professionally produced videos that GCC or MCCCD owns digital distribution rights to.

This technology has also been adapted to significantly improve student success in both our Nursing and Math departments. VBrick encoders and a VOD server were installed in our new Life Science Building at GCC to record and archive student competency and practicals that are required as a part of the Nursing Program. This process was automated so that as students enter the simulation or exam rooms they type their Student ID and a special code that indicates which competency they will be demonstrating on a touch screen located on the wall. Once this information is entered the student then starts the recording by pressings another button on the touch screen. After they have completed the demonstration they then stop the recording by pressing another button on the touch screen. The system then uses the information they entered to automatically route the video to an appropriate folder on the VOD where a faculty member can retrieve and view the file. A similar system is also being developed for the Communications Department to record student presentations.

A VBrick encoder has also been deployed as part of a pilot program to record and store lectures. John Grima was an integral part of a project where a process was developed to record his MAT-120 and MAT-150 lectures using VBrick equipment. A VBrick Encoder and

a special microphone was installed in his classroom and connected to the existing audiovisual system. The system was configured to record anything that was displayed on the audiovisual system plus the audio from the microphone. All that is required by Mr. Grima before starting his lecture was to press a record button on the encoder and then at the end of his class to press another button to stop the recording. The recorded video files were then automatically transferred to his instructor website where students would have access to the file immediately following his lecture.

This has had a dramatic impact on student success as demonstrated by student surveys and feedback from Mr. Grima. Students have seen significant improvements in their grades and they have reported a greater level of satisfaction with the learning experience. An added benefit that has also been observed is an increase in enrollment and a higher retention rate. As a result of the success of this program a Hybrid course has been developed where students have the option to attend classes or to view the previously recorded lectures and then take tests at our testing center. This model has proved to be very popular and also resulted in all of the benefits listed above. In the near future we also plan to expand this project to make it possible for students to view lectures in real time and have the ability to ask questions via a chat program from anywhere in the world that they can gain access to the internet.

So how does the V-Brick Project meet the criteria for Innovation of the Year? The V-Brick Project has allowed GCC to consolidate equipment requirements into a single cost effective and scalable solution. It can grow as campus demand increases by simply adding V-Bricks and VOD storage. You continue to use a single Portal and can partition a single VOD server to meet the needs of several classes.

The Portal and Asset Library also enable multiple classes to access a single video title at the same time period. Faculty have the flexibility to start and stop the unicast viewing without impacting other classes. This reduces the number of copies the campus would be required to purchase.

GCC's use of V-Brick technology in the Nursing Labs has served as a model for other Maricopa Community Colleges with Estrella Mountain Community College developing a similar V-Brick facility for their nursing students. The model could be fully implemented throughout the district providing standardization and the sharing of resources. The V-Brick Project has brought together the efforts of Library Media Services and the Office of Information Technology and has provided our team with new resources to make the plays necessary to remain a leader in meeting the ever changing needs of our faculty and students.