

### Introduction

One of the requirements of the Epsilon Pi Tau (EPT) initiation is the apprentice has to physically be at the initiation (EPT, 2004). Since the majority of nontraditional students and working professionals are physically removed from an initiation site, they have missed the opportunity to join EPT.

Distance education in technological fields is continuing to grow to meet the needs of students and working professionals that are unable to attend traditional, on campus classes. Just as instructors can reach out to distance education students through the use of multimedia technology, so must organizations reach out to those same students. A key question, how societies can reach out and embrace nontraditional students, can be answered through the use of multimedia tools. By using the multimedia tools from the classroom in the initiation, nontraditional students and working professionals are now able to have the opportunity to participate in a live ceremony and experience the common social bond that develops in an interactive environment

The initiation itself consists of lessons with members of a ceremonial team playing the role of teachers/advisors. The lessons teach the apprentices about the organization, its fundamental beginning, basic beliefs and values, and the value and strength of the three precepts of EPT: technology, skill, and professional ideals. Therefore, it is very appropriate that one multimedia tool, streaming video, which is used in the classroom should also be used to teach the lessons of EPT.

On 8 April, 2005, the Beta Mu Chapter of The International Honor Society for Professions in Technology at East Carolina University (ECU) performed the first virtual initiation for the honorary in technology. Members of the ECU initiation team performed a face-to-face initiation for eight new apprentices while simultaneously initiating twenty more apprentices through the Internet using streaming video and an Internet relay chat client (mIRC). When the apprentices were required to respond to questions during the ceremony, the face-to-face group did so verbally while the students watching and listening on the

Internet responded with a real-time, typed and transmitted text message.

This paper shows the benefits that schools and EPT Chapters can realize using a common and affordable Internet technology application to increase student participation and achievement, and provide EPT membership to deserving individuals who are geographically separated from traditional initiation sites.

### The Value of Streaming Video

Streaming media technology distributes a real-time or on-demand combination of audio, video and multimedia via the Internet. Streaming media provides a simultaneous transfer of digital media so that it is received as a continuous real-time stream. Streaming video can deliver live or archived instructional presentations to all types of students, regardless of their available bandwidth. It is a series of compressed images that is sent in a continuous data stream over the Internet to a user's computer; the user can then view the images, or video, with only a short, few-seconds delay of buffer time. Streaming video replaces the downloaded video file, which can absorb massive amounts of computer memory and take a long time to download. Streaming video allows the user to start watching the video at almost the exact moment the data arrives on his or her computer (Waggoner, 2000). The great advantage streaming video has over other types of archived movies is that it does not leave behind a physical file on the viewer's machine; therefore, the speed or bandwidth of the Internet provider is less of a factor.

Streaming video has other benefits; it can be retrieved using broadband or dialup, is fairly easy to use, and is becoming less expensive each year (Cofield, 2004). Video streaming in the workplace is quite common now, covering issues such as diversity, safety, stress and time management, employee development and training, and total quality management. More people are realizing the benefits of streaming video in that it can bridge the gap between theory and practice. Traditional students, online students, and working professionals can now all have access to videos showing real-world problems, laboratory simulations, and lectures.

## Overcoming Obstacles

While there are currently many obstacles to overcome regarding the adoption of video technology, there are also ways around these obstacles. Bandwidth refers to the amount of data that can be transmitted over the Internet in a fixed amount of time. For computing purposes, bandwidth is usually expressed in bits or bytes per second. Internet connection speeds include dial-up modems at 56 Kilobits per second (Kbps), DSL, which can range from 128 Kbps to 8 Megabits per second (Mbps), and T-1 lines at 1.544 Mbps. Generally speaking, the broader the bandwidth, the better the quality of the streaming video and audio. Many schools and students currently do not have sufficient bandwidth to support dependable downloaded video files, though the technology is coming.

According to one study, students who received instruction incorporating the video-on-demand application showed dramatic improvement in achievement (Boster, Meyer, Roberto, & Inge, 2002).

Potential advantages to multimedia are numerous. Claims ranging from reduced learning time to cost-effectiveness abound. Few of those advantages have been evaluated using formal experimentation, just as have the actual specific multimedia tools. One such tool, streaming video, has yet to be fully analyzed as a new instructional tool for both online and on campus classes; streaming video has the potential to bridge the divide between all types of students, and enhance material retention of said students.

## Social Belongingness

Unfortunately, distance education does have its disadvantages, one of which is the lack of face-to-face social interaction. Online students are often cut off from campus activities and camaraderie with fellow students; the only form of interaction is through multimedia devices, which may enable visual interaction, but not physical interaction. Technology that is being used today in education has decreased face-to-face interaction and communication (Hagan, 1999). Online students often find themselves lacking in social presence, those qualities present when people are communicating and interacting in close physical proximity (Saenz, 2002).

This lack of physical interaction, or depersonalization, goes against human nature. Humans have basic needs, one of which is the

need to belong. Maslow's hierarchy of needs show that one of the most fundamental biological needs is that of love and belongingness (1954). People seek relationships with and their places in formal, informal, and social groups. Numerous studies have been in agreement with Maslow's idea of belongingness (Mioduser, Nachmias, Lahav, & Oren, 2000; Ladyshewsky, 2004; Nohria, Lawrence, & Wilson, 2001; Ryan & Deci, 2000; and Thompson, Grace, & Cohen, 2001). Belonging to a group or a social set provides people with information and purpose, and gives them a foundation of social identity, including values, attitudes, and behavioral intentions (Haythornthwaite, 2002). Hence, many who are online are turning to virtual organizations and/or groups to satisfy their need to belong. The virtual groups give individuals a sense of affiliation and social satisfaction (Watson-Manheim, Crowston, & Chudoba, 2002; Dholakia, Bagozzi, & Pearo, 2004).

While Epsilon Pi Tau (EPT) is not necessarily categorized as a virtual organization, it does provide a means of emotional support, social support, companionship, and a sense of belongingness to its individuals. However, the organization has not been able to reach many distance education students because of students' location, work schedule, and other various issues.

## Initiation Methods

Two emails were sent out to East Carolina University distance education (DE) and on campus (OC) students nominated for membership into EPT. DE students are defined as nontraditional students who usually attend classes through the Internet, and typically have an age range of 25 to 65 years. OC students are defined as those students who usually attend on campus classes, and typically have an age range of 18 to 24 years.

For those students who accepted the nomination, a second email was sent with instructions concerning the initiation. The OC students received the traditional instructions, including the time and location of the initiation. The DE students received different instructions, which included the time of the initiation, instructions concerning the set up of mIRC, location and access to the streaming video website, and instructions on responding to the pledge statement. Both sets of instructions were also posted on the College of Technology and Computer Science website.

The initiation was held at ECU, and the following multimedia components were used: a 64-inch screen television, a web camera with remote movement capabilities, five microphones, a computer with a video capture card, software, a high bandwidth internet connection, video compression, mIRC, and Microsoft software.

The ritual itself was divided into an 84-slide PowerPoint presentation; a chapter member controlled the speed of the presentation by a remote mouse. The PowerPoint presentation was displayed upon the television, which acted as a teleprompter. The webcam was placed above the television so that when the presentation was read aloud, it appeared as if the initiation team members were looking straight into the camera, connecting with their audience. Three technicians controlled the broadcast, camera movements, audio and visual components, and the mIRC chatroom.

DE students were instructed to view the live streaming video broadcast through the Global Classroom website and, at the same time, be logged into a specific mIRC chat room, which kept logs of the conversation and the students who were in the chat room. An ECU moderator controlled the mIRC chat room. The moderator gave instructions at the beginning of the ceremony concerning chat room etiquette and the proper response during the pledge statement. During the pledge, DE students were asked to repeat the pledge in real time, and then type their names into the mIRC chat room as verification of completing the pledge. OC students followed the normal initiation procedures.

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## Conclusion

The Beta Mu Chapter members and the Region 2 Director, Robert E. Wenig, who attended and participated in the initiation, considered the initiation a success. An informal survey of attendees and initiates showed a very favorable response. As of yet there has been no formal response from the Board of Directors of Epsilon Pi Tau, but informally they are considering the virtual initiation for adoption as a way to reach more deserving nominees.

After an exhaustive search, it appears that EPT is possibly the first organization to ever attempt an online initiation ceremony, and has proven that it is a viable alternative. Using distance education technology tools, EPT can now extend membership to individuals who were once geographically incapable of physically attending an initiation, increasing interest and participation in EPT activities and membership.

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