B35 Digital Forensics and Service Learning: The Oklahoma Tornados Project

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The goal of this presentation is to provide the participants with a case study of using digital forensics in service-learning projects.

This presentation will impact the forensic science community by providing tested examples of using service-learning projects in the digital forensics classroom.

During the afternoons of May 24, 2011, May 20, 2013 and again on May 31, 2013, several large tornados touched down in Oklahoma killing numerous people and leaving a path of damage fifty miles long. Not only were lives lost, but computers and other digital devices were severely damaged leaving victims without access to pictures, documents and other vital data stored on these devices. University of Central Oklahoma (UCO), Forensic Science Institute, digital forensics students, using the knowledge and skills they learned and the same high-tech equipment used to solve crimes were able to recover terabytes of treasured memories and important documents for tornado victims. This service learning project provided a rich learning experience for students, integrated meaningful community service, and strengthened ties with the community.

Following these devastating tornados, the community pulled together to help tornado victims with their immediate needs of food, clothing and shelter. While those needs were the most urgent and critical following the storms; tornado victims began to take stock of what else they may have lost. Many had computers and other digital devices that stored precious memories in the form digital pictures and videos that were damaged by the high winds and rain. Others lost important business and personal documents that were stored in digital format. Recovery of this information required specialized assistance and could costs hundreds of dollars. Digital forensics students at the UCO Forensic Science Institute offered to apply the knowledge and skills learned in the classroom to help tornado victims recover important data from their damaged computers.

The National Service-Learning Clearinghouse defines Service Learning as a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities.[1] Service learning represents a potentially powerful form of pedagogy because it provides a means of linking the academic with the practical. There is growing evidence that having students apply theoretical material learned in the traditional classroom in a “real world” setting has a positive effect on student learning and interest in the subject matter.[2] Service learning projects also benefit the community by providing new perspectives into the work of the university and strengthening relationships with faculty and students.

While all the examinations were not successful, due to the severe damage to the computers and hard drives, students were able to recover several terabytes of data in the form of pictures, videos and documents for 90% of the tornado victims. The ability to return precious memories and vital documents back to the tornado victims gave the students confidence in their abilities as digital forensic examiners and a great sense of pride in providing a service to the community.

References:

1. National Service-Learning Clearinghouse (2011). Retrieved from : http://www.servicelearning.org/what-service-learning October 24, 2011
2. Astin, A.W., Vogelgesan, L.J, Ikeda, E.K. & Yee, J.A. (2000). How Service Learning Affects Students. Higher Education Research Institute, University of California, Los Angeles

Digital Forensics, Service Learning, Case Study

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