Carnegie Mellon researchers create new scanning system

September 29 2007

Indiana Jones, step aside. Carnegie Mellon University's Yang Cai is developing new technology that could revolutionize the way archeologists work.

Cai, director of the Ambient Intelligence Lab at Carnegie Mellon CyLab, is developing new software to scan 200-year-old gravestones at Old St. Luke's Church in nearby Carnegie to help its Episcopal pastor identify all the names on the cemetery's tombstones.

"We are very excited and pleased that Professor Cai and his research team are helping us reclaim our past by identifying some of the 20 graves at our cemetery," said Rev. Richard Davis, director of Old St. Luke's Church at 330 Old Washington Pike.

The church, established in 1765 as a stockade church for British soldiers, is operated as a special events building for weddings, book reviews and special holiday services, according to Davis.

During the past two weeks, Cai's research team trekked through the church's three-acre cemetery, scanning unreadable gravestones and then storing the images on laptops.

"We are exploring new 3-D reconstruction technology to decipher the gravestone names," said Cai. "Essentially, we reconstruct the tombstone surfaces by applying filtering and detection algorithms for revealing the words on the archaic surfaces," he said.

In addition to discovering who is buried in the church cemetery, Cai is developing a digital cemetery for Old St. Luke's Church.

"Our goal is to take the guess work out of archeology and make this reconstruction technology available for a variety of other industry sectors, such as the security and medical fields," said Cai.

Source: Carnegie Mellon University