Digital Cameras Essay, Research Paper

The use of digital cameras for procedures such as collecting fingerprint evidence is also gaining wide acceptance. Digital cameras operate much like traditional cameras except that instead of images being transferred to film, they are stored on the camera’s hard drive. Up to 48 images can be stored and then downloaded from the camera to Macintosh computers or Pcs.In Newport Beach, Calif., a small, affluent Orange County community with a population less than 70,000, the police department is using digital cameras to collect and prepare fingerprint evidence.

The beachfront community has its share of crime, mostly car and home breakins. “The digital camera saves an incredible amount of time in preparing fingerprint evidence,” says George Reis, photographer for the Newport Beach Police Department. “The bottom line for our community is that we will solve cases faster, apprehend suspects quicker and give our department more time to devote to noninvestigative police services.”Reis, a civilian photographer who heads the police photography operation, first became interested in digital photography two years ago. After first rejecting digital cameras due to cost and image quality, he later purchased a higherquality product in January 1993.

With the aid of a laser or forensic light source, the camera allows a fluorescing fingerprint image to be made. Prints can then be sent to CAL ID – a statewide criminal fingerprint database – in an hour, rather than the eight hours required using conventional means. “You get a better quality fingerprint image and get it into the system quickly to catch suspects faster, cutting crime and making citizens happy,” Reis says. Reis primarily uses his camera to take pictures of fingerprints collected by traditional lifting methods. With conventional black powder lifts, the camera provides clarity and detail allowing print enhancement capabilities and enlargement. On some occasions though, pictures have been taken directly of fingerprints at crime scenes. The department uses a scanner to input fingerprint images lifted from objects with tape. “The lift tape picks up a lot of stray powder, surface texture and other background material,” Reis says. “Photographing the print with the camera before making the lift provides a cleaner print to work with.”The camera brings images directly into the computer for immediate viewing, networking from one person to another and enhancement. Distracting backgrounds can be eliminated in the computer, making prints easier to view.The camera is linked to the computer and prepares fingerprint evidence using Adobe Photoshop software. “In southern California, fingerprints are a very important part of forensics,” Reis says.

Additionally, the system can be used to prepare court displays of fingerprint evidence. Typically this involves making posters of two fingerprints, the known and a latent, and marking important points on each for juries. Using conventional methods, this process normally takes one to two days. However, by taking photographs of the prints and importing the images into the computer, black and white or color printouts can easily be blown up to poster size. Using this method, displays can be produced in an hour.Reis foresees other applications for the camera beyond fingerprint work, including surveillance and situations that require immediate viewing of images. “As a photographer working withother specialists, you often need to see results immediately to determine if you are showing the subject correctly,” Reis says. “For instance, when photographing bite marks with a forensic dentist or odontologist, we are able to view an image right away. Usually, the specialist is not at the scene, but using the camera we can easily transmit an image to the odontologist.”Reis also expects to totally eliminate conventional chemical photography processing in July if the budget allows.

Developed film would not be made into prints but would instead be scanned into the computer system, and prints would be made from the computer. This is beneficial because it helps comply with OSHA regulations governing the use of chemicals in theworkplace and creates a healthier work environment. It also creates faster and easier printing capabilities and reduces the number of prints made because officers will be able to view photos on their computers. The camera also allows immediate viewing of reflective UV photography, which normally requires film development to determine results, and photogrammetry, which aids measurement verification on accident and crime scene photography. To produce a measurable image, a grid is superimposed over a photograph allowing accurate measurements to be made directly from the print. A photogram of the scene confirms measurements taken at the site. Reis sees the cost of the system as justified. “It’s paying for itself in terms of results,” he says. “The large volume justifies the cost in materials alone.”