

## Detective in Forensic Services uses CorelDRAW® 12 to present the evidence

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Detective John Brunetti  
West Haven Police Department  
West Haven, Connecticut



**Detective John Brunetti works in the Forensic Services Division at West Haven Police Department in Connecticut. Much like the fictional heroes in the popular TV series CSI, he investigates crime scenes and presents the evidence to State's Attorney Mary Galvin, and other prosecutors in her office. "I use CorelDRAW Graphics Suite 12 every day in my work," says Detective Brunetti. "When I'm testifying in court, I have to explain the evidence to the jury in a clear and professional manner. It's essential that the maps and diagrams I create in my job are accurate and easy to understand. That's why I rely on CorelDRAW Graphics Suite 12."**

Detective John Brunetti is an experienced police officer with over 23 years of service. Seventeen of those years he has spent on fingerprint analysis and other crime scene investigation techniques. He also teaches a Palm Print Comparison course at the University of New Haven.

"As far as I'm concerned, CorelDRAW is the best thing since sliced bread," says Detective Brunetti. "Some police departments rely on programs specifically marketed to law enforcement but they lack the versatility of CorelDRAW. We do use a 3D CAD program occasionally, but all our 2D imagery is done in CorelDRAW. It's much more powerful, intuitive and easier to use than other programs out there."

CorelDRAW and Corel Photo-Paint are true workhorses in the West Haven Police Department. Almost everything the Forensic Services Division does involves one or both of the applications. John Brunetti describes a typical day:

"We often get requests for large crime scene maps, stretching over several city blocks with a multitude of buildings, intersections and other landmarks. You can, of course, spend a whole day carefully measuring every building and street before you start creating your map, but I just ask the city engineers for an aerial photograph of the particular section of the city we're interested in and import that image into CorelDRAW. I then use the Bezier or Polyline tool to trace the buildings, streets or other features we need to illustrate. I have a library of clipart images and symbols, so adding cars, traffic signs, or other items is just a matter of click-and-drag with the mouse. It couldn't be more simple."

When Detective Brunetti designs his crime scene maps, he uses the Object Manager in CorelDRAW to add each component category on a separate layer. This allows him to create several map versions by keeping or removing cars, street names, numbers on houses, etc. It only takes a click to toggle layer visibility.

"I often use the layer technique in preparation for courtroom exhibits. Some aerial photographs can be confusing to look at," explains Detective Brunetti. "In those situations, where we feel the jury may not clearly understand what we are trying to convey, I simply turn off the image part of the map and leave only the basic vector shapes of the buildings. The final product is then enlarged and mounted on 24" x 36" foamcore. The result is a simple and professional looking diagram with no unnecessary distractions."

Fingerprints or palm prints from crime scenes are often partial prints, some with such a small area of detail that it's impossible to tell immediately what's up or down, if it's a left or right hand print, etc. John Brunetti relies on Corel Photo-Paint to analyze the prints found on the scene, compared to prints taken from a suspect.

"I keep both the known print and the unknown print up on my screen and look for similarities. The first thing I do is to try to line them up the same way. If I find a particular characteristic at say the '2 o'clock' position on one print, I use Corel PHOTO-PAINT to reposition the other to see if there's a match. I really prefer Corel PHOTO-PAINT to Adobe Photoshop, because it feels much more intuitive."

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When a fingerprint chart is needed for court, Detective Brunetti imports the images into CorelDRAW where he is able to position both prints in the same fashion by using guidelines, object anchors, and object rotation handles. Similar points of unique characteristics in both prints are illustrated on a separate layer using the Polyline tool to trace the paths between the points. The lines are set to a desired thickness and using, the transparency tool, the underlying prints are made visible through the lines so that the complete pattern can still be seen.

In a recent case involving fingerprints on a fire extinguisher, investigators used Corel PHOTO-PAINT to help present the evidence more clearly. The crime scene technicians had dusted the red fire extinguisher with a black powder to reveal the fingerprints, but red lettering on a white background interfered with the print. By turning off the Green and Blue channels in the RGB image, investigators were able to use the remaining Red channel, essentially leaving a grayscale version of the image, which left a clear fingerprint minus the red lettering.

Some witnesses are asked to look at an array of photos to possibly identify a suspect. Corel PHOTO-PAINT is also used in the West Haven Police Department to ensure that the process isn’t unfairly biased. Detective Brunetti explains:

“A photo lineup must be done with images of similar quality to be accepted by the courts. Mug-shots are generally taken with good lighting and a neutral background, and the image is printed on good quality photo paper. But sometimes there are no mug-shots on file and we have to use other sources, such as a photograph taken for a driver’s license. These photographs are usually printed on an inkjet printer using regular paper, and the backgrounds are different from standard mug shot photographs. These images are sometimes grainy and the quality isn’t very high. We use Corel PHOTO-PAINT to add a similar background to the suspect’s photograph and reduce the quality of the other images so they all look as if they were taken under similar circumstances. If a witness points out the suspect, it’s not because the image looked different, and that’s what’s important.”

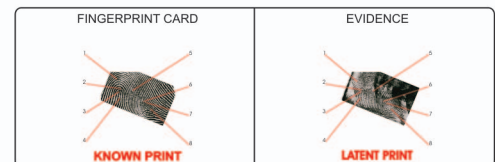
John Brunetti also uses layered Corel PHOTO-PAINT images to create images of bullet trajectories. Crime scene investigators

use laser beams at the scene to establish trajectories. In order to see the beams clearly, they turn off the lights in the room and spray a fine powder in the air. By putting a digital camera on a tripod, Detective Brunetti can take one image of the scene with the lights on, and one identical frame with the lights off at a much slower shutter speed. The first image contains the well-lit room, the other is completely dark except for the laser beams.

“It’s easy to combine the two images in Corel PHOTO-PAINT and change the opacity of the darker image to bring into view the image with the lights on but still retaining the laser beam of the previous photograph. This creates a composite image that really tells the story to the jury,” says Detective Brunetti.

The investigators at the Forensic Services Division at West Haven Police Department collaborate regularly with the State’s Attorney’s office and John Brunetti often presents mockups of the evidence to Mary Galvin.

“In a recent homicide case I created a large diagram in CorelDRAW that was presented to the jury. It included a few photos and illustrations of the murder weapon, a golf club, as well as callouts and arrows, with close-ups of blood stains and other important evidence. The State’s Attorney’s office has said more than once that they’re incredibly impressed with the high quality of our courtroom exhibits.”



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