



CERNER: IMPROVING THE PATIENT EXPERIENCE

At a Glance

Industry:
Healthcare

Who:
Cerner Corporation, healthcare information technology provider

Products used:
Morae, Camtasia Studio, Snagit, Jing

Key uses:
usability research, prototype testing, e-learning, knowledge sharing



To raise the visibility of usability testing at a recent Cerner event, researchers ran 60+ user tests on the show floor with Morae—then shared their findings with product teams.

Cerner Corporation is a global healthcare company whose solutions are used in more than 8,500 facilities worldwide to ensure that the right people have the right information at the right time.

From securely managing electronic health records (EHR), to connecting those records with medical devices, to helping employers manage healthcare costs—Cerner solutions enable clinicians, support staff, and business teams to work together more efficiently to provide safe, effective, patient-friendly care.

DESIGNING FOR USER DELIGHT

Switching from a paper-based workflow to an EHR can create massive gains in efficiency—so long as the electronic system is easy for clinicians to use.

Bryan Bliven is director of a usability research team at Cerner that helps ensure the company’s applications and devices are truly built around the needs of end users. TechSmith software gives them an easy, affordable way to observe real users and discover opportunities for improving designs.

One common scenario is to install Morae usability testing software on the laptop of a clinician in the field to see how they’re using a particular Cerner application during a typical workday. Morae makes a digital recording of everything that happens on screen, along with the user’s voice and facial expressions via a webcam perched on the laptop. It even collects and indexes data like mouse clicks and keystrokes, automatically generating time on task and other common usability scores.

“Morae makes it very easy to do a baseline study and find what we call the ‘paper cuts’—slowdowns or common mistakes users make when interacting with

an application,” said Bryan. “We get ideas right away for what to improve.”

Of course, to comply with HIPAA , all patient information must be scrubbed from the video before it’s analyzed and shared—a task easily accomplished using the blur and editing tools in Camtasia Studio software, also from TechSmith.

SEEING IS BELIEVING

The final, edited highlight videos—along with a quantitative usability assessment—are shared with the engineering team, giving them a vivid window on the user experience.

“Video of actual users is very powerful,” said Bryan. “Instead of researchers stating an item is a design flaw, the design team can hear and see firsthand the way users interact with the software.”

And thanks to Morae’s ability to collect and analyze mouse movement and clicks, the design team is also presented with a wealth of quantitative data measuring the efficiency of a workflow and pinpointing areas that need improvement.

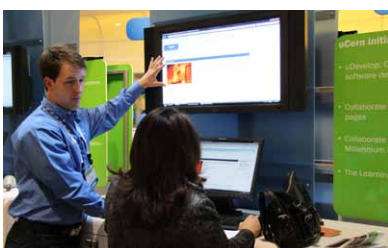
Bryan’s team also uses TechSmith’s Snagit screen capture software, together with Morae, to test product design ideas before committing engineering resources to build a functional prototype.

“We use Snagit a lot, to grab screenshots for interactive wireframes...or simply to illustrate an idea,” said Bryan. “Building and testing our own prototypes helps us keep a user-centered design focus and get things to a higher level before handing them off.”

PROVIDING CUSTOMIZED, ON-DEMAND TRAINING

Even the most easy-to-use tools require some training...and that’s the job of Luke Schnoebelen and a team of instructional designers at Cerner.

Below: Cerner embeds Camtasia-produced videos into their Multi-View Panel e-learning application.



Luke Schnoebelen shows Cerner conference attendees how to use learning collaborative site uCern; Camtasia-created videos supplemented these live demos.

Since 2004, Luke's team has used Camtasia Studio to create thousands of customized e-learning videos for Cerner clients. The videos lead users step-by-step through the exact steps needed to accomplish a task in their EHR or other application.

"Web-deliverable, on-demand, on-the-job training fits well with the pace and shift scheduling requirements of our clients," said Luke. "It often replaces the need for expensive, instructor-led training that pulls people out of rotation and into a classroom."

Cerner delivers the computer-based training content via a proprietary "player" called Multi-View Panel that supports multiple learning styles by displaying the video tutorial alongside step-by-step written instructions...and even allows the learner to follow along and interact with the actual application being taught.

"Since we have to fit the videos into a tight space, being able to zoom in with Camtasia Studio's SmartFocus™ feature is a huge deal for us," said Luke. "We selected Camtasia Studio to create training videos because it was the best at the time...and have been very happy with that choice."

Because Camtasia Studio can produce videos in a wide range of industry-standard formats and sizes, Cerner is able to customize the content for each client's particular delivery needs and limitations.

"With Camtasia Studio, we can create videos in WMV format for clients who don't put Flash player on their computers, or even reduce the bitrate (and thus the loading time) for a client who needs that," said Luke.

KNOWLEDGE SHARING AND

COLLABORATIVE LEARNING

Cerner encourages clients to use Camtasia Studio for knowledge sharing and continuous training among staff and clinicians.

"It's easy to record a PowerPoint presentation or live training meeting and turn that into reusable content that supplements and extends the training Cerner provides," said Luke.

In fact, TechSmith screen capture tools have also caught on across Cerner's internal staff as a quick, easy way to collaborate and share information of all kinds.

"I've personally trained probably 500 people on Camtasia Studio, just by posting a 'lunch and learn' invite on our internal network. Word spreads, I think because screencasts are kind of a new wave, fun, useful way to communicate," said Luke. "We also use Jing—both internally and on our uCERN social network—to create quick-turn videos that show how to do a certain task."

Jing is a free, lightweight tool from TechSmith—used to capture and instantly share screenshot images and short screencast videos.

"In the end, all our work comes back to creating a better 'day in the life' for healthcare patients—shorter waits, improved safety, better care," said Luke. "TechSmith software plays a role in helping us achieve those goals."