J5 Counterfeit Detection E-Learning: Deployment Progress and Content Updates

Joel A. Zlotnick, MSFS, US Department of State, 600 19th Street, NW, Ste 12.601, Washington, DC 20522; Tyra S. McConnell, MSFS, US Department of State, 600 19th Street, NW, Washington, DC 20552; and Tyra Lundy, MS, All Native Group, 2230 Gallows Road, Ste 300, Dunn Loring, VA 22027*

After attending this presentation, attendees will better understand how the deployment of counterfeit detection e-learning training at the United States Department of State was accomplished, the benefits and challenges of delivering training on this topic through e-learning, and the task of assessing trainee knowledge retention.

This presentation will impact the forensic science community by providing examples of how training for basic questioned document examination, targeted toward laypersons whose job duties are primarily non-forensic functions, can be delivered at scale to employees of large, complex organizations.

The Department of State recently concluded development of an e-learning primer on counterfeit- and alteration-resistant security features used in documents such as passports, identity cards, visas, birth records, and currency. Instead of training on specific documents, the course focuses on how security feature technologies such as watermarks, micro printing, color shifting inks and optically variable devices are used in similar ways across different document types, and in documents from different issuers. This strategy was chosen because it is impossible for learners to memorize which security features are present in, for example, the hundreds of distinct passports globally in use, but it is possible to understand how to recognize and authenticate the finite pool of security technologies that are used by all security document issuers. The ultimate course objective is for learners to gain the ability to self-train on an unfamiliar document by quickly assessing its security features and drawing conclusions about its authenticity, even in the absence of prior training or experience with that document.

The design and editing processes required for development of e-learning on the topic of counterfeit detection required extensive photography and animations of document manipulation for user interactivity. For example, many of the security feature technologies require transmitted lighting, ultraviolet light, tilt effects, or other specialized viewing conditions to be authenticated, and these effects were simulated in digital animations that provide users with the ability to control lighting conditions and play animations that simulate manipulation of virtual documents. Because the training is deployed over the internet, another important consideration was file size as it relates to data transfer speed and the ability of the course to load quickly, even in locations with suboptimal internet speeds. Furthermore, e-learning can be deployed onto a learning management system (LMS), any mobile device which permits tracking of learner completion and records the results of testing, over the internet as an always-available job aid, or on CD to be used as an instructional tool in classrooms. Accordingly, decisions about the environments in which the course will be used affect the kinds of functionality that can be incorporated into it and will necessitate development of different versions of the course for different applications.

Finally, developing quizzes, review questions, a final exam and a study guide required careful assessment of the specific capabilities and actions that learners are expected to master. Accordingly, the final exam tests understanding of concepts in four primary subject areas: locating security features in documents, risks of counterfeiting and alteration, differentiating between security feature technologies, and techniques for inspecting security features.

Testing utilizes images to measure comprehension, application, and analysis. Passing depends more on the learners' ability to recognize what to do with a document or feature simply by looking at it, instead of recalling abstract information or returning memorized information such as definitions.

Counterfeit, Document, E-Learning