

DHS Science and Technology Directorate

Eye-Dentify - Emphasizing training improves operational security at the border

U.S. Customs and Border Protection (CBP) trainers needed improved training options

CBP secures and manages 328 ports of entry all over the country, including in remote areas. By validating the identity of every person entering the U.S., CBP helps stop human trafficking, drug trafficking, and other smuggling attempts at the border. Security screening prevents criminals and terrorists from entering the country as well. Yet, trainers and trainees did not have an objective measure of where they to look when inspecting an ID, how long it takes them to do the task and in what pattern they are searching. Realizing this gap, the U.S. Department of Homeland Security Science and Technology Directorate (S&T), CBP and the Federal Law Enforcement Training Center (FLETC) partnered to build Eye-dentify, an adaptive training module using eye tracking software to capture visual search process.

Current training for imposter detection primarily consists of slide presentations and training booklets

Eye-dentify's imposter identification training leverages eye tracking software to measure visual search performance in comparison of facial images. Eye-dentify, a training capability based on the [ScreenADAPT®](#) visual search training platform, will soon be extended into other tasks as well (e.g., searching for signs of fake or altered forms of identifications and/or credentials, as well as searching video for pre-assault indicators and/or suspicious behavior detection).

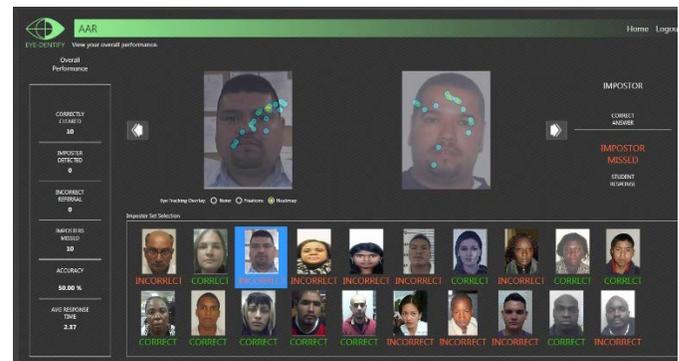
Eye-tracking software captures eye movements when trainees examine image pairs to determine whether they match (i.e., cleared) or do not match (i.e., imposter). Trainers provide immediate feedback after each image pair, to not only confirm if the trainee's decision was correct, but also to review the thoroughness of their visual scan, adherence to procedures, and attention to facial attributes. Trainees can also review their own performance and make further corrections.

Eye-dentify makes the unobservable, observable

Eye-tracking technology allows trainees and instructors to see how a given image pair was searched, and provides feedback on whether any key features were missed. A

completed a Training Effectiveness Evaluation of the tool at FLETC, demonstrating measurable improvements to trainee performance.

Trainees using Eye-dentify for imposter detection training were able to detect more imposters and complete more classifications of image pairs resulting in increased efficiency and effectiveness.



Milestones

- S&T transitioned eight Eye-dentify systems to CBP on March 23, 2017.
- New-hire CBP officers were administered three, seven-minute Eye-dentify training sessions.
- CBP Officers showed a 15 percent increase in imposter detection based on the three training sessions.
- S&T will transition another four systems in July 2017.
- FLETC has fully implemented Eye-dentify, and it is being used as part of the training program for all newly hired CBP officers.

Participants

Program Performer: [Design Interactive Inc.](#)

Program Sponsor: S&T

Partners: CBP, FLETC



Homeland Security

Science and Technology

To learn more about Eye-dentify and the Training and Optimization Portfolio, contact Darren Wilson, Program Manager, at first.responder@hq.dhs.gov.