Science and Technology

TRANSPORTATION SECURITY & EXPLOSIVES CHARACTERIZATION

BIOMETRIC IDENTITY DISAMBIGUATION

A SYSTEM TO CORRECTLY IDENTIFY INDIVIDUALS WITH COMMON NAMES, BIRTHDAYS, OR ERRONEOUS INFORMATION.

Common first and last names and birthdays are shared by multiple people in the U.S., adding complexity when biometric identity processing occurs at security checkpoints. Biometric verification systems may struggle to confirm an individual's identity with corresponding biometric data if multiple people are registered under the same name and date of birth. Additionally, data input errors, including misspelling of names, use of nicknames, or transposed numbers in birthdates, can cause similar complications. When this occurs, identity verification is delayed, extending the screening process time and causing significant bottlenecks for security personnel and travelers.

Researchers at the Department of Homeland Security's Science and Technology Directorate and Transportation Security Administration addressed this issue with the Biometric Identity Disambiguation (BID) system. The BID system provides an efficient method for identifying individuals who share common names, birthdays, and other biographic information. The innovation also addresses issues with incorrect or incomplete information on identification documents, boarding passes, or tickets.

KEY BENEFITS

+ Decreases vetting time of ambiguous biometric data
+ Increases screening throughput
+ Enables effective biometric identification for large volume applications

STAGE OF DEVELOPMENT

Proven System

PARTNERSHIP SOUGHT

License

INVENTORS

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DHS COMPONENT

Transportation Security Administration; Science and Technology Directorate

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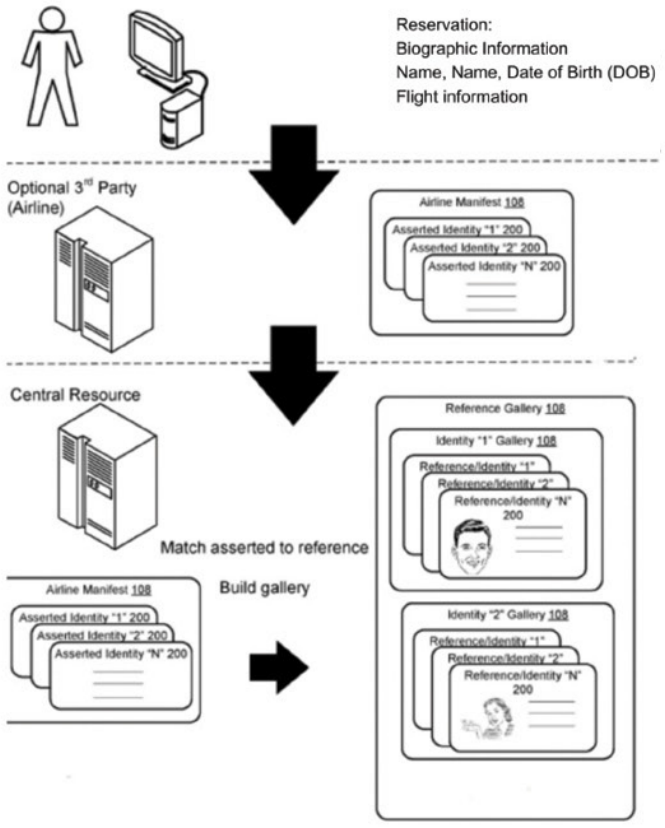
The Technology Transfer and Commercialization Branch (T2C) within the Office of Industry Partnerships (OIP) of the Department of Homeland Security (DHS) Science and Technology Directorate (S&T) serves as the centralized point to manage technology transfer activities throughout DHS and the DHS laboratory network. **T2C@hq.dhs.gov**

THE TECHNOLOGY

The BID system uses an individual's biometrics captured at an access control point and scanned ID and compares this information to a set of access control identity records to determine the level screening needed for that individual. The BID system calculates the percentage of biographic similarity to stored biographic information based on a comparison of first name, last name, and date of birth and conducts a biometric analysis of fingerprints, facial images, or iris scans to compare the individual's biometric information with stored biometric data. This additional step calculates a degree of similarity to confirm the identity of the individual.



An individual enters their biographic information when booking a flight reservation. Upon security screening or check in, the individual presents identification information that is compared to the biographic information on the airline manifest. The BID system then calculates the degree of similarity and confirms that the presented individual matches the individual listed on the manifest.

APPLICATIONS

The technology has several potential end users:

+ **Border checkpoints**
+ **Event or venue security**
+ **Transportation security**
+ **Testing or registration centers**

PATENT INFORMATION

US Patent numbers 11,531,737; 11,127,013; and 11,392,951

CONTACT INFORMATION

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TECHNOLOGY SOLUTION

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