INTERPOL

SPEAKER IDENTIFICATION INTEGRATED PROJECT (SIIP)

Privacy Enhanced
Speaker Identification

INTERPOL is participating in a four-year European Union-funded research project (May 2014 – April 2018) on speaker identification technology which is comprised of an international consortium of 19 partners including end-users, industry and academia. This project **was launched in 2014 at the INTERPOL General Secretariat**, during a meeting which brought together law enforcement agencies, academia and industry.

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SPEAKER IDENTIFICATION INTEGRATED PROJECT

Objectives

The partners in the SIIP project are working to develop cutting-edge speaker identification technology which will help law enforcement identify voices of unknown individuals. Voice recordings will be captured through a variety of means, including lawfully intercepted telephone calls, recordings from crime or terrorism-related investigations, which includes recordings captured via social media channels.

The project explores the operational, technical, forensic, legal and ethical perspectives related to the evolving field of speaker identification.

To aid law enforcement, the SIIP system will integrate:
• voice recognition
• gender identification
• age detection
• language and accent identification
• voice cloning detection.

The SIIP project aims to develop technology to help law enforcement rapidly identify suspects' voices and subsequently isolate conversations of interest in a wide range of cases using the SIIP tool.

Privacy by design

INTERPOL's primary role will be to focus on ensuring that speaker identification technology meets the operational needs of law enforcement. This will take into account the legal aspects of the technology, to ensure it is compatible with existing national legislations and includes safeguards which respect individual privacy and INTERPOL's Rules for the Processing of Data.

Operational utility

The SIIP project is a unique opportunity to create a platform to test technologies that will be used by law enforcement agencies in the future.

From an operational standpoint, the combination of speaker identification with other biometric technologies such as fingerprints and facial recognition can only enhance investigative capabilities, as it will facilitate checks made against INTERPOL's databases.

Country consultation

To better understand the needs of its member countries in the field of speaker identification, INTERPOL circulated a questionnaire to its National Central Bureaus worldwide. Responses from more than 100 countries formed the basis of the legal and operational needs assessment, which led to the development of a tool that meets the requirements of law enforcement. The results of the "INTERPOL survey of the use of speaker identification by law enforcement agencies" were published in the Forensics Science International Journal in April 2016[1].

Proof-of-concept

The concept of the SIIP system and its contribution to speaker identification in the context of police investigations was demonstrated during the Proof of Concept event held at the Carabinieri School in Rome in June 2016. Attended by police officers from more than 20 law enforcement agencies, forensic experts and representatives from academia and the private sector, the system's capabilities were shown in a variety of scenarios. During the demonstration, the system successfully isolated and matched individual voice recordings extracted from social media using key identifiers such as gender, age, language and accent.

Field test

The SIIP consortium presented the SIIP system through a field test event in March 2017 in Lisbon, Portugal. This event demonstrated the SIIP system's innovative capabilities and its contribution to investigation work. Attended by more than 130 speaker identification researchers and experts, forensic experts and police investigators from some 40 law enforcement agencies, the event also promoted an open discussion on the challenges and issues that must be considered for the development of a privacy-enhanced speaker identification system with a global reach. A follow-up field test and end-user training event will be held in November 2017 at the INTERPOL General Secretariat. For more information about the event or the SIIP project, please visit the project website: www.siip.eu.

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