MOBILE VOICEPRINT ANALYSIS PLATFORM

Requirements

01

Real Identity Confirmation

The identity of the suspect is unknown. Need to compare and find the identity of the unknown suspects in a sample database of known identities by searching Similar face and fingerprint for authentication.

03

Massive Voice Processing

The data involved in the case is massive, and manual hearing is difficult. Therefore it requires technical means to sort out historical data to form a structured voice database for the case.

02

Virtual Identity Confirmation

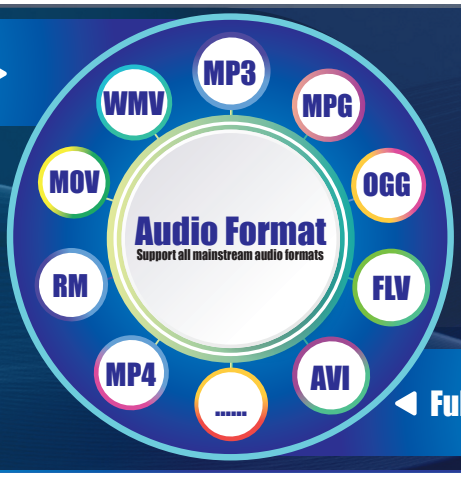
The identity of the suspect is known. Need to use the voiceprint samples of the known suspects to compare and find the voice data in the terminal which is involved in the case to realize the association of phone number for work and number for daily life use.

04

Voiceprint Library Building

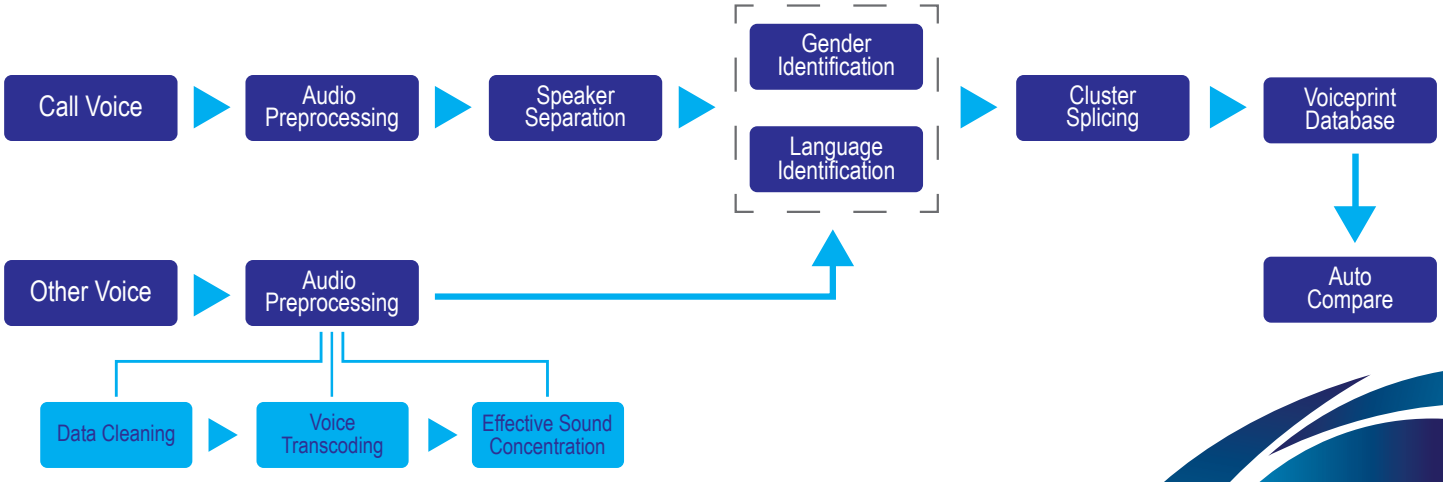
"Internet + social media" has become the main way for most criminals to exchange information, of which voice data is the most common. With the trend of reducing the number of tracks in real space, voiceprint has become the second spatial fingerprint. The construction of voiceprint library is urgent.

Support for extracted audio from video ▶



◀ Full mainstream audio format conversion

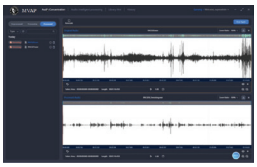
Working Flow



XCILON FZCO
Dubai Silicon Oasis, DDP, Building A2,
Dubai, United Arab Emirates
Phone : +971 58 557 3111
E-mail : info@xcilon.com

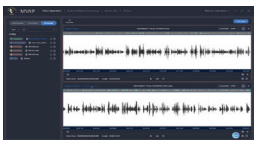
Main Functions

Audio Processing



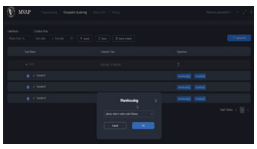
Voice concentration

Voice can usually be divided into human voice segments and non-human voice segments. Human voice segments refer to segments with the speaker's voice, and non- human voice segments refer to interference segments such as background noise and music. In order to provide a more reliable signal for the subsequent processing links, it is necessary to detect the starting point and ending point of the human voice segment to extract the effective human voice, and cut off the non-human voice segment to eliminate noise and other interference. This process is called effective sound concentration.



Speakers Separation

Using the AHC clustering method, there is no need to determine the number of speakers in advance.
The system will independently judge and obtain the optimal clustering results. Based on the current business side data, the speaker separation error rate DER is less than 3.2%



Voiceprint Clustering

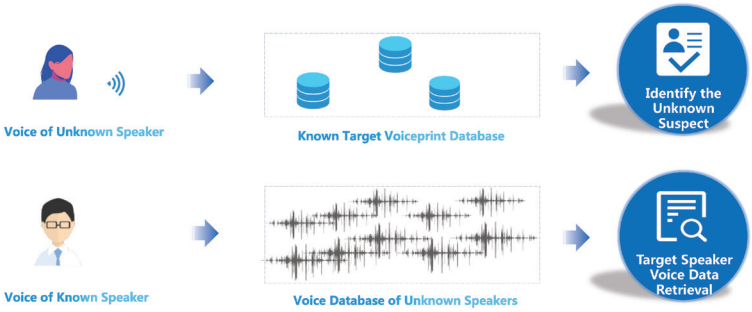
Through the CURE clustering method, unsupervised clustering can be realized, without the need to specify the number of clustering categories in advance, and the clustering efficiency has been improved. A total of 717 speech test sets of 100 speakers are provided by the business side, among which the national voiceprint clustering accuracy F1 score is greater than 95%

Voiceprint Comparison

Voiceprint Verification 1:1 | **Voiceprint Identification 1:N** | **Voiceprint Comparison n:N**

The platform provides an AI voice intelligent engine tool set, which is convenient for users to perform offline and diversified actual combat applications

Adopt voiceprint identification technology to automatically complete the comparison of massive voiceprints or voice filtering.
Examples of actual application scenarios are as follows:



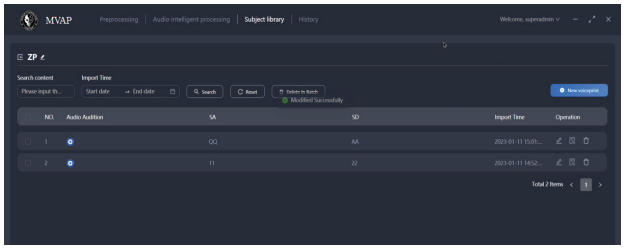
1:1 Comparison

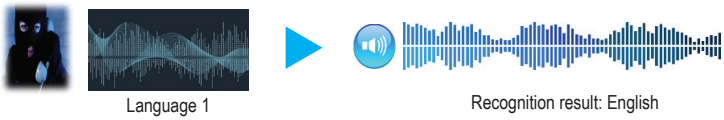
1:N Comparison

n:N Comparison

Voiceprint Library

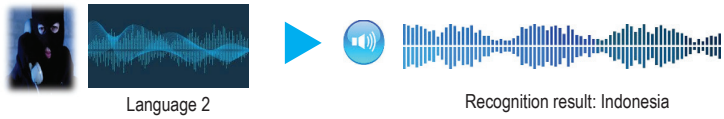
Language Recognition



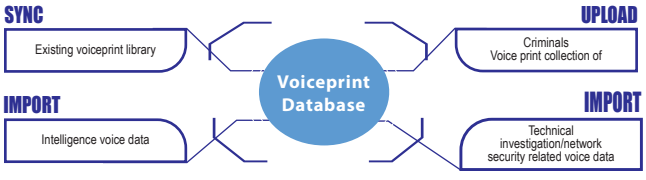


Language 1 — Recognition result: English

Language recognition is carried out for the audio of the special language of the concerned group, and the recognition results are displayed.



Language 2 — Recognition result: Indonesia



Establish a database of voiceprint samples of criminals through multi-channel collection and external collection. Access to multi-source voice data, such as intelligence voice data, technical investigation/network security related voice data, etc.
After data cleaning, establish voiceprint sample database

XCILON FZCO
Dubai Silicon Oasis, DDP, Building A2,
Dubai, United Arab Emirates
Phone : +971 58 557 3111
E-mail : info@xcilon.com