

Speech Intelligence Platform

Building of data mining systems for intelligence agencies is very difficult. Many technologies are involved, the data come from several sources, processing schemes change rapidly and the exact procedures are very secret know-how.

Phonexia Speech Intelligence Platform allows you to design and deploy any speech processing system easily, alone, in a very short time and without any extensive knowledge of the technology.

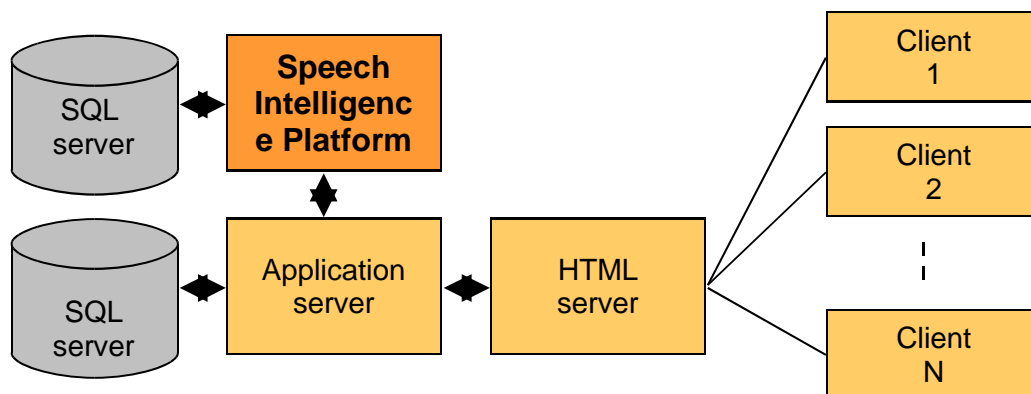
The speech platform integrates **technologies for audio segmentation, quality measurement, spoken language identification, speaker identification, gender identification, speech transcription and keyword spotting**. The platform can be used as a stand alone application or easily integrated to large systems.

The main application areas are:

- Intelligence gathering systems for security and defense agencies
- Information extraction and quality control in call centers
- Preprocessing, indexing and search in large audio archives

Possible integration of Phonexia Speech Intelligence Platform

Phonexia Speech Intelligence Platform communicates with an application server over an open network communication protocol. The application server provides some additional application logic, for example access to database services, post-processing of outputs, merging of multimodal sources etc. The application server can be one of the installed servers used for the current company business, one of many freely available application servers (for example TomCat), or it can be simply replaced with some web-based scripts, written for example in PHP. The web based architecture allows integrators to build large multi-user systems very quickly.



Integrated solution from one provider

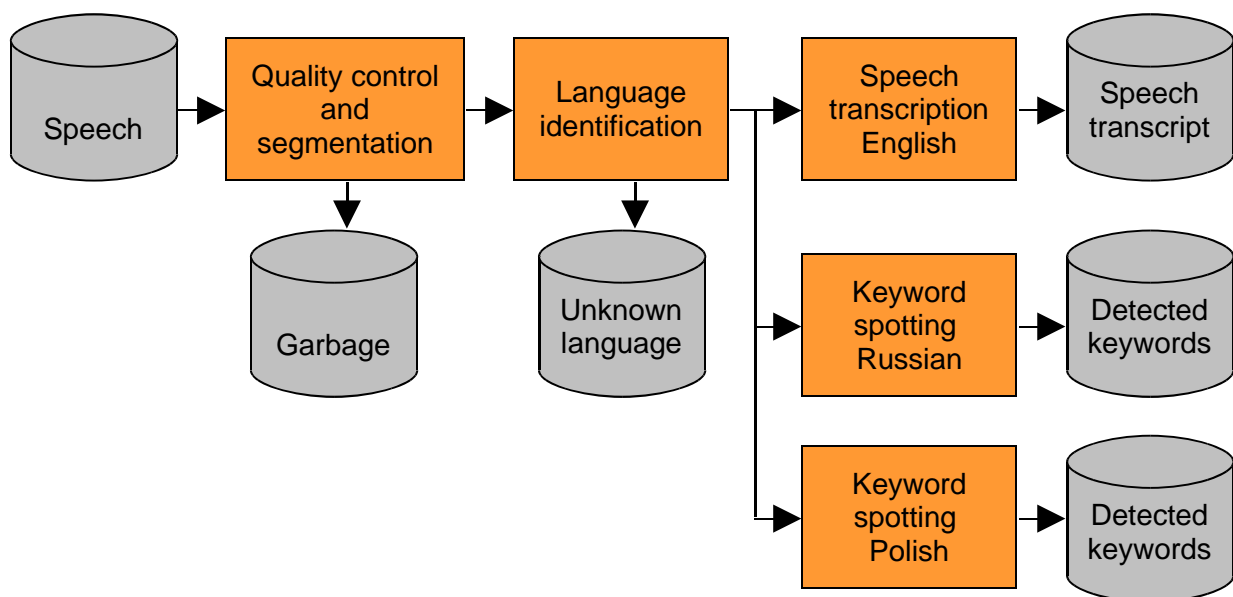
Before Phonexia Speech Intelligence Platform, building a system integrating several speech technologies was a challenge. The different technologies (such as pre-processing, speaker identification and keyword spotting) were delivered by different providers, each with its own API, configuration, documentation, etc. Setting up a system that would perform complex processing on speech recording was a tedious task for a group of developers skilled in speech processing, programming and system administration and it required considerable development costs and time.

With Phonexia Speech Intelligence Platform, designing a scheme for such processing is a matter of writing one configuration file, which can be done by an analyst without an extensive technical background. The system can be immediately tested and deployed. For tactical applications, the re-configuration can be done directly in the field. Phonexia delivers all necessary technologies and interconnects. Definition of “what you are looking for”, and “what to do with the result” was never easier. Just look at the examples below.

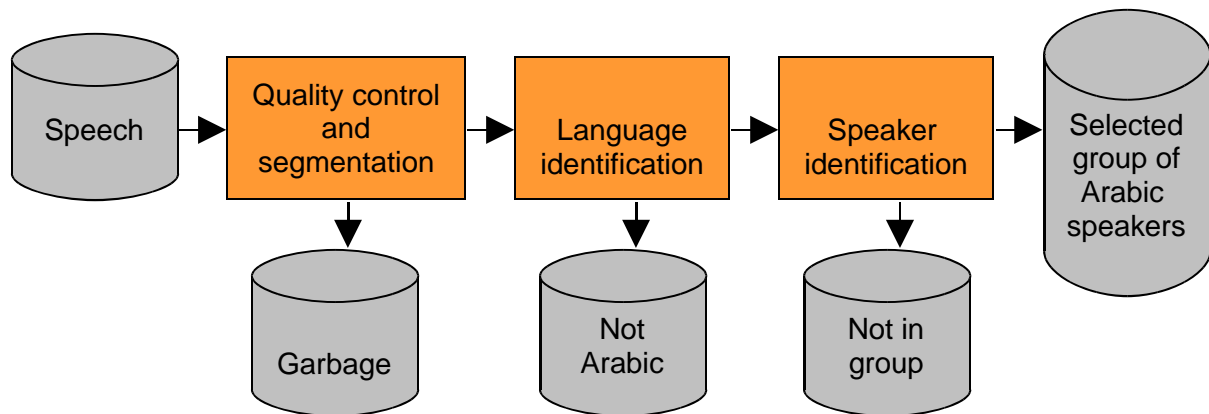
Phonexia Speech Intelligence Platform will allow you to find what you look for: faster, with better accuracy and with minimal costs.

Examples of processing schemes:

1) Multilingual speech transcription and keyword spotting scheme



2) Monitoring of selected group of Arabic speakers



Main features:

- complex coverage of speech technologies
- fast deployment in 3 different ways:
 - 1) server with open network communication protocol
 - 2) desktop application
 - 3) library for direct integration to products of third parties
- arbitrary processing scheme (connection of technologies)
- output in XML format
- processing of auxiliary information in log files
- configuration examples for desktop application

Audio segmentation and quality measurement:

- finds relevant and good quality parts of audio records and routes the records to other technologies
- segmentation to speech, silence, and technical signals
- reporting of different statistics

Language identification:

- detects languages in speech records and routes the records to human operators or to other speech technologies
- languages: Arabic, English, Farsi, French, German, Hindi, Japanese, Korean, Mandarin, Spanish, Tamil, Vietnamese
- possibility to train a new language by the user

Speaker identification:

- makes a voice print of speaker's voice and then searches the speaker in the incoming speech records
- the technology is language independent
- the technology uses the state-of-the-art acoustic channel compensation techniques to reach the highest accuracies

Gender recognition:

- identifies if the speaker is male or female
- the technology is very accurate and robust under all conditions
- if it is applied for search, the search space is immediately reduced by 50%

Speech transcription:

- transcribes speech records to words and sentences
- languages: English, Czech
- the recognizer was carefully designed to deal accurately with low quality conversational speech

Keyword spotting:

- detects keywords in speech records
- languages: English, Russian, Slovak, Czech, Hungarian, Polish
- the technology can be easily adapted for new languages
- the processing speed is higher than for speech transcription

Support:

- Phonexia provides full support for Phonexia Speech Intelligence Platform. The support may include user case and feasibility studies, design of data processing diagrams, system deployment, operator training, administration, and maintenance