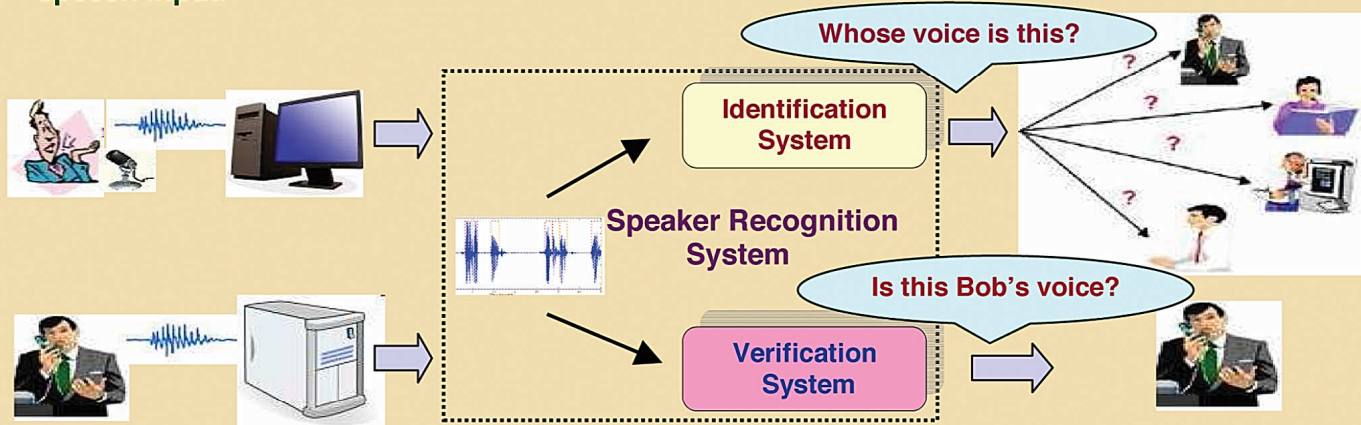


TEXT INDEPENDENT AUTOMATIC SPEAKER RECOGNITION USING VOICE BIOMETRIC



Objective:

- **Automatic recognition (identification and verification) of personal identity from individual's voice.**
- **Presently developed as a desktop based application with microphone speech input to be used for:**
 - **Identification** - In house Office attendance purpose where system will automatically identify the correct speaker from the spoken utterance and record their attendance in daily basis.
 - **Verification** - Secured access to any restricted area. System stores the voice prints of only authenticated persons. Users have to select their name as claiming identity and then verify the claim by their voice each time before entering into that area.
- **Same technology can be further adapted to server based remote applications with telephone speech input.**



System Features:

- **Uses Voice Biometric:** no need to carry keys/badges/access cards or remember passwords/PINs.
- **Easy to use:** speech is behavioral biometric, easily available, user friendly and less intrusive.
- **High acceptability:** low cost, less storage space, compact for small electronic devices/handhelds.
- **Text Independent:** no specific text, accepts any valid utterance of varying length in any language.
- **Less interaction time:** requires 1 minute of enrolment speech, 5 sec of test speech (min^m).
- **Remote accessibility:** same technology can be used remote authentication via telephone.

System Requirements:

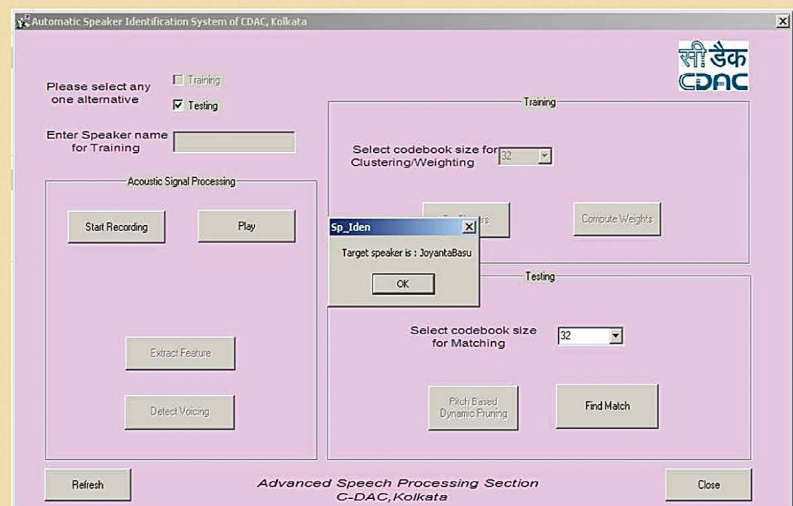
- **Hardware:** (at present) Standard P4 machine with one good quality noise canceling microphone. For remote access – ISDN-PRI / E1 channel and Asterisk server.
- **OS & Software:** (at present) MS Windows XP professional and above. For remote access – Linux, Asterisk Gateway Interface (AGI), PHP and MySQL

Key Technology:

- Acoustic signal processing
- Pattern recognition
- Search space optimization

Applications:

- Banking/Financial services
- E-commerce (purchase of goods)
- Secured access to mobiles, handhelds
- Door Access Control in smart homes
- Information retrieval
- Immigration
- Forensic investigations



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