Speaker Recognition Enhanced Voice Conference (SREVC) Demo

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Introduction to SREVC

- Problem:
  - Hard to tell who is speaking during phone conference
- Solution: SREVC
  - A client-server based platform for voice conferencing
  - Enhanced with recognizing who the speaker is

Technology Used

- Programming Language: Java
- Speaker Recognition Algorithm: Implement existing speaker recognition algorithm
- Database: MySQL
- Supporting Platform: Windows, Mac OS, Linux

Recognition Algorithm

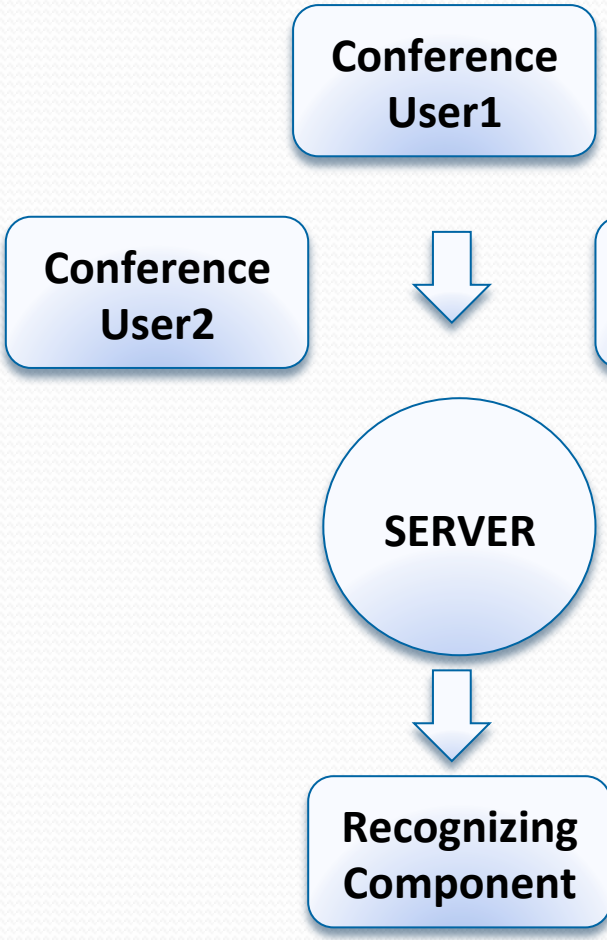
- Voice Feature Extracted & Compared:
  - LPC: The 12-order LPC is calculated by using Levinson-Durbin recursion.
  - LPCC: LPC-derived cepstral coefficient, calculated from LPC.
  - Overlapped LPC: LPC calculated on half-frame overlapped data.
  - Voice Pitch

Functionalities

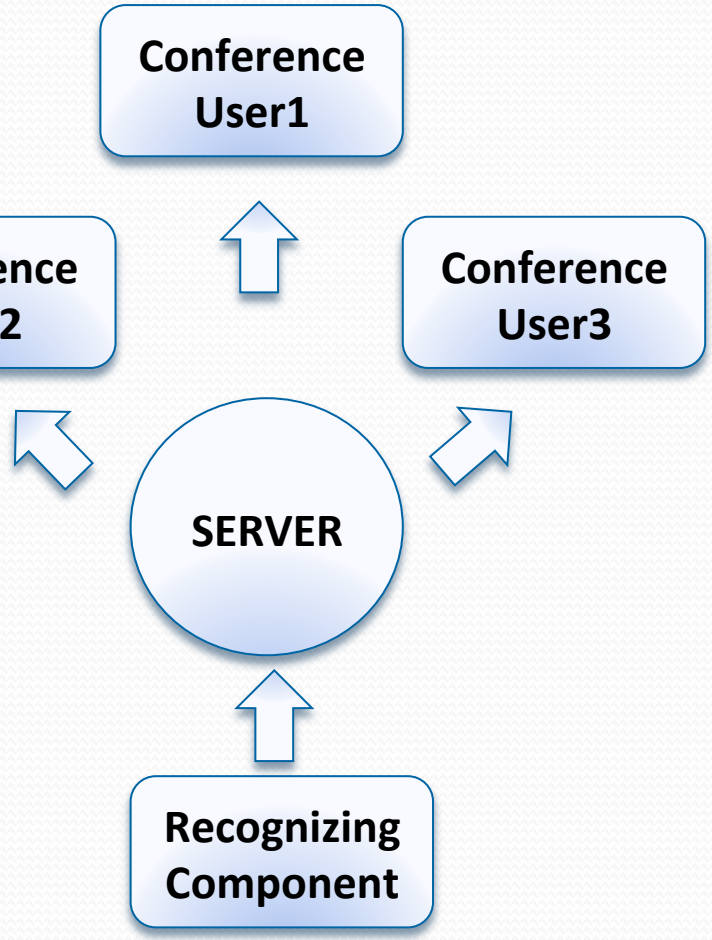
- Client:
  - Upload their voice records training the recognize component
  - Start voice conference and talk to the system
  - Send the voice sample to server in order to be recognized
  - Receive the speaker recognition result
- Server:
  - Receive & process the voice sample sent from user
  - Send the received record to recognize component
  - Send back the recognized result back to client
- Recognize Component:
  - Process the training voice record & store the voice feature into DB
  - Compare the received voice sample with DB records
  - Send back speaker recognition result to all the server

Work Flow

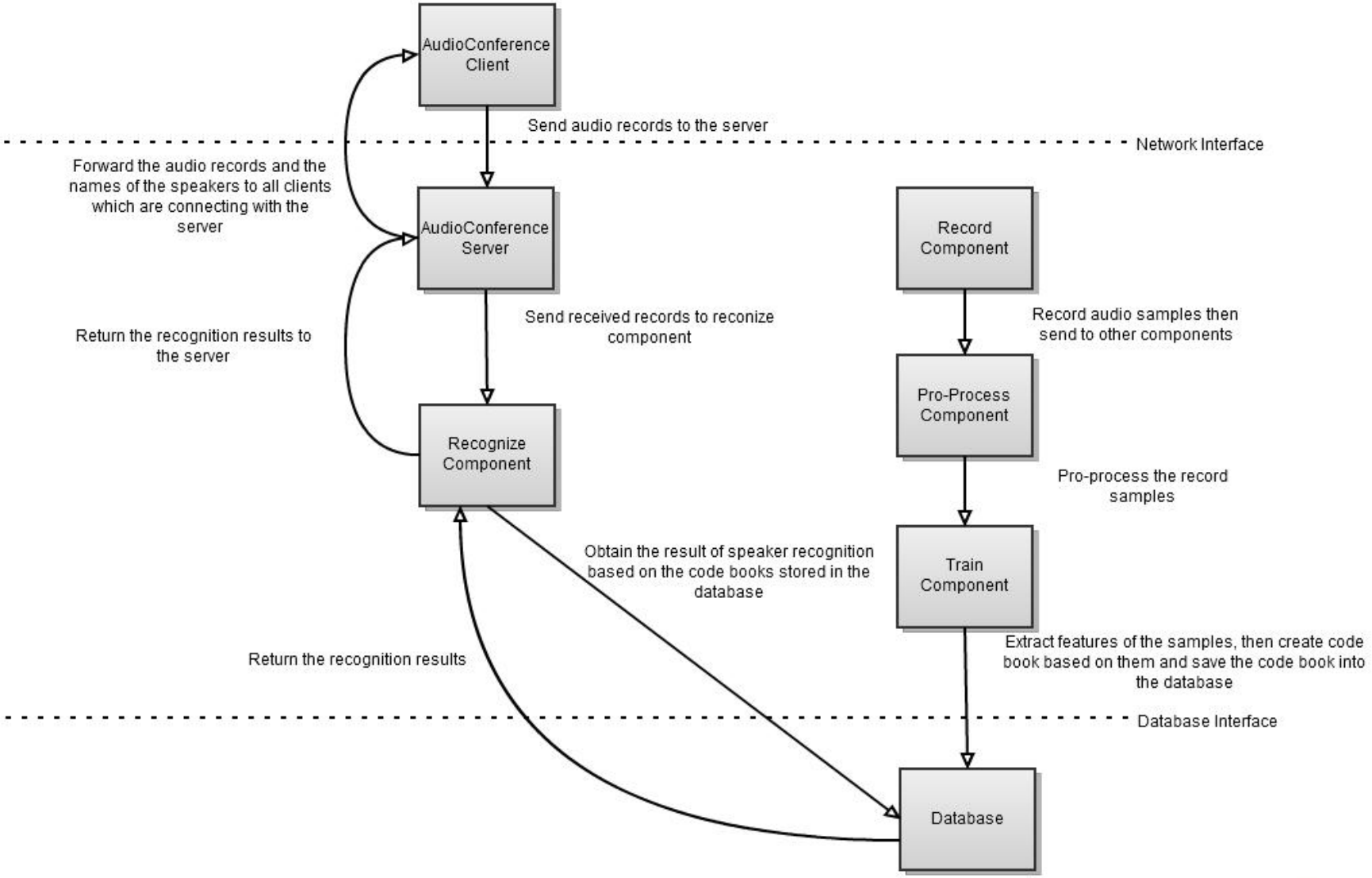
- Talk & Send



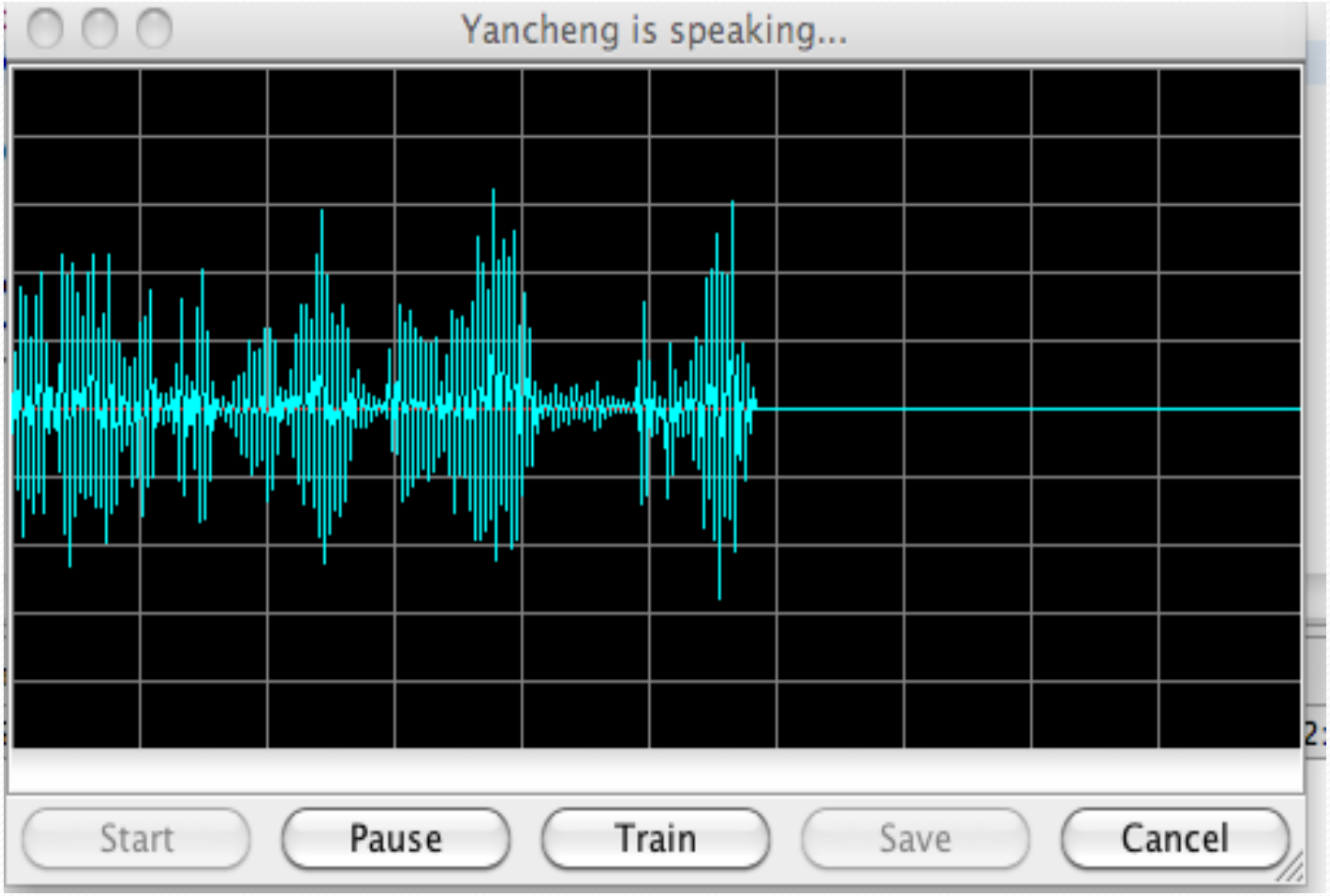
- Recognize & Return Result



System Architecture



Screen Snapshot



Demo