Dialogue systems

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Speech Processing and Generating History

- 3 millions years ago – Australopithecus – articulated speech ability řeči
- antiquity – talking gods building
- 1779 – Kratzenstein – speech imitation resonators system for vowels a, e, i, o, u.

Speech Processing and Imitation History

- 1791 – Wolfgang von Kempelen – the mechanical talking machine

- 1835 – reconstructed and modified by Wheatstone in Dublin – flexible oral cavity
- 1846 – J. Faber – the Euphonia talking machine
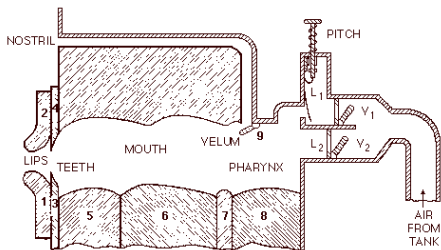
Speech Processing and Imitation History

- 1937 – R. R. Riesz – the mechanical talking machine simulating the human speech system

- 1939 – H. Dudley – VODER (electromechanical speech synthesizer), VOCODER(electrical device for speech coding and transmission)
- 50th years of 20th century – frequency domain speech synthesis, later the time domain speech synthesis (need of disk space to store speech samples).

- approx 1970 – computers
- 1966 – J. Weizenbaum – Eliza (Communications of the ACM, January).

Modern Speech Analysis Foundations

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History of
Sound
Processing

Fundamental
technologies

- 19th century
    - J.B. Fourier – Fourier theorem – used to perform the spectral analysis of a sound
    - H. Helmholtz – research in the area of a music perception, invented the Helmholtz resonator
    - J. R. Ewald – physiology of hearing
- 1924 – spectral analysis based on the formant vowel analysis
- 1939 – VOCODER – device for speech compression used in radio and transatlantic cable speech transition
- 1946 - 1947 – graphical speech recording device
- 2nd half of 20th century – intensive progress of as well as theory as the computer applications.

Fundamental Speech Technologies

- speech synthesis
- speech recognition
- related areas – the time domain as well as frequency domain speech processing
- speaker recognition and identification
- emotion detection
- word spotting
- . . .