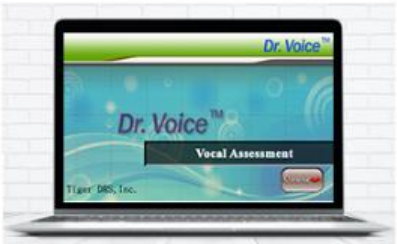
Tiger DRS, Inc.

Products

Our products offer comprehensive speech, voice assessment and training designed by experienced speech-language therapists. We are focused on improving Speech, Hearing, Language, Cognition, Vocabulary, Reading, and Functional skills.

Our Products May Be Used By

Software Modules



Vocal Assessment

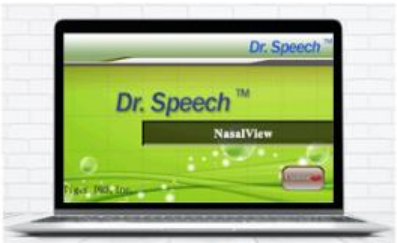
Real Speech

Speech Therapy

Pitch Master

AAC

My Words



Nasal View

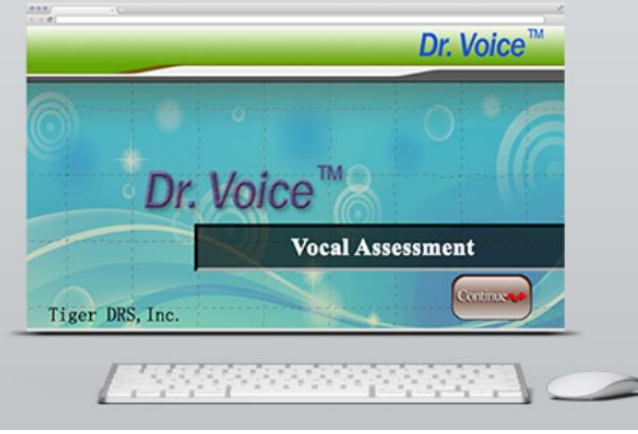
Scope View

Phonetogram

Speech Training

Vocal Assessment

Vocal Assessment provides you with the ability to analyze and display both acoustic and EGG features of a sustained vowel.



System Overview

Vocal Assessment provides you with the ability to analyze and display both acoustic and EGG features of a sustained vowel. A wide range of parameters (jitter, shimmer, NNE, etc.) and graphic displays (spectrogram, F0, intensity, etc.) are offered. Used to guide diagnostic assessments for voice disorders by measuring hoarse, harsh, and breathy voice.

Features

- Provides diagnosis and rehabilitation data about laryngeal function signals (voice signals, laryngeal acoustics signals) and speech signals.
- Uses precise signal detection and processing.
- Easily edit and store your collected data.

Recommended for

Functions

— Advanced multidimensional voice parameter detection and analysis.

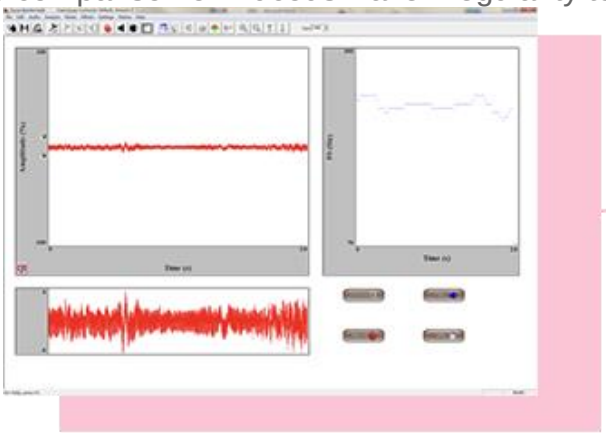
— Provides a comprehensive report for voice quality assessment using acoustic parameters – jitter, shimmer, fundamental frequency tremor, amplitude tremor, normalized noise energy (NNE), harmonic-to-noise ratio (HNR), signal-to-noise ratio (SNR).

— Useful for patients with moderate hoarseness, mild roughness, and severe breathiness.

— When used in combination with EGG, provides data such as: contact quotient (CQ), contact index (CI), open quotient (OQ), closed quotient (CQ), contact quotient perturbation (CQP), contact index perturbation (CIP), etc.

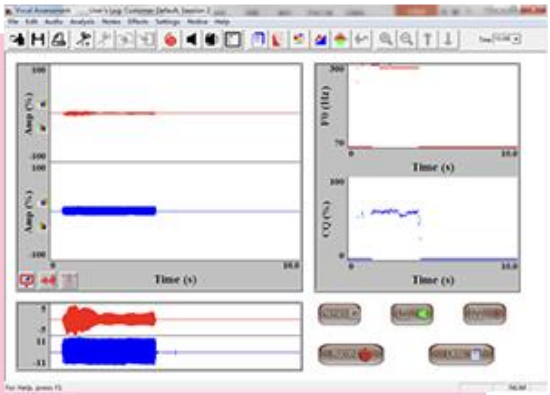
— Provides analysis of glottal closure time and vocal cord vibration regularity.

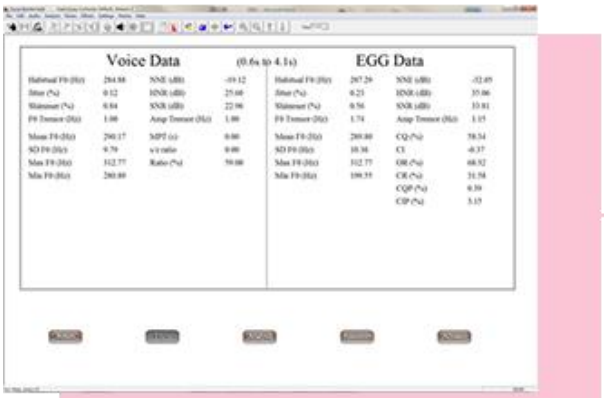
— Comprehensive comparison of mucous wave irregularity to make up for the lack of laryngoscopy.



EGG

Audio & EGG





Data Analysis

Real Speech

Real Speech is a real-time biofeedback tool used in clinical and educational environment.

System Overview

Real Speech is a real-time biofeedback tool used in both clinical and educational environments. It's used to guide diagnostic assessments for speech disorders by measuring respiration, phonation, and resonance. Our software provides a wide range of parameters and special features, benefitting both clinicians and clients.

Features

- Comprehensive analysis and processing tools.
- Real-time displays – spectrogram, F0, intensity, vowel tracking, and formant (LPC), etc.
- Enhances client's biofeedback using special features that allows the user to model-match a record sample.
- Easy-to-use interface.
- Clinicians enjoy the easy-to-use format in logging client's session and one-step printing.

Applications

Benefits a wide range of professional users, including:

Patients with speech impediments:

- Cerebral Palsy
- Down's Syndrome
- Hearing Impaired
- Autism
- Language Delay, etc……

Voice Practioners:

- Singers
- Vocalists
- Vocal teachers
- Public speakers, etc
- ……

Recommended for

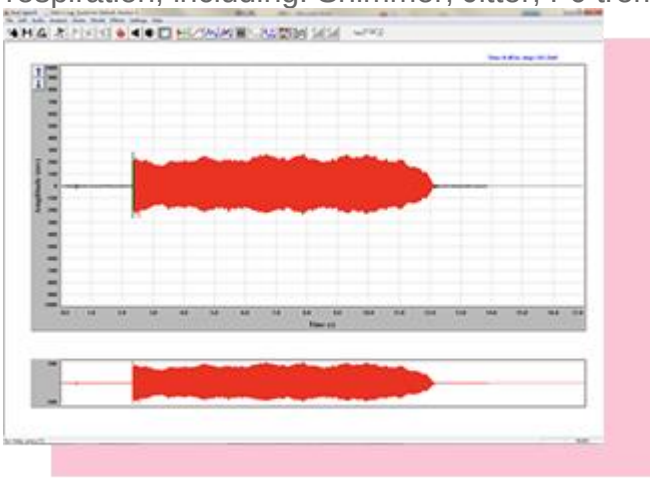
Functions

01 Speech Respiration

— Assesses shortness of speech, hyperkinetic, abnormal pause, inspiratory pronunciation, and hard glottal attack or breathy speech.

— Real-time measurement of maximum phonation time (MPT) and maximum counting ability (MCA).

— EGG measurement of speech respiration, including: Shimmer, Jitter, F0 tremor, and Amplitude tremor.

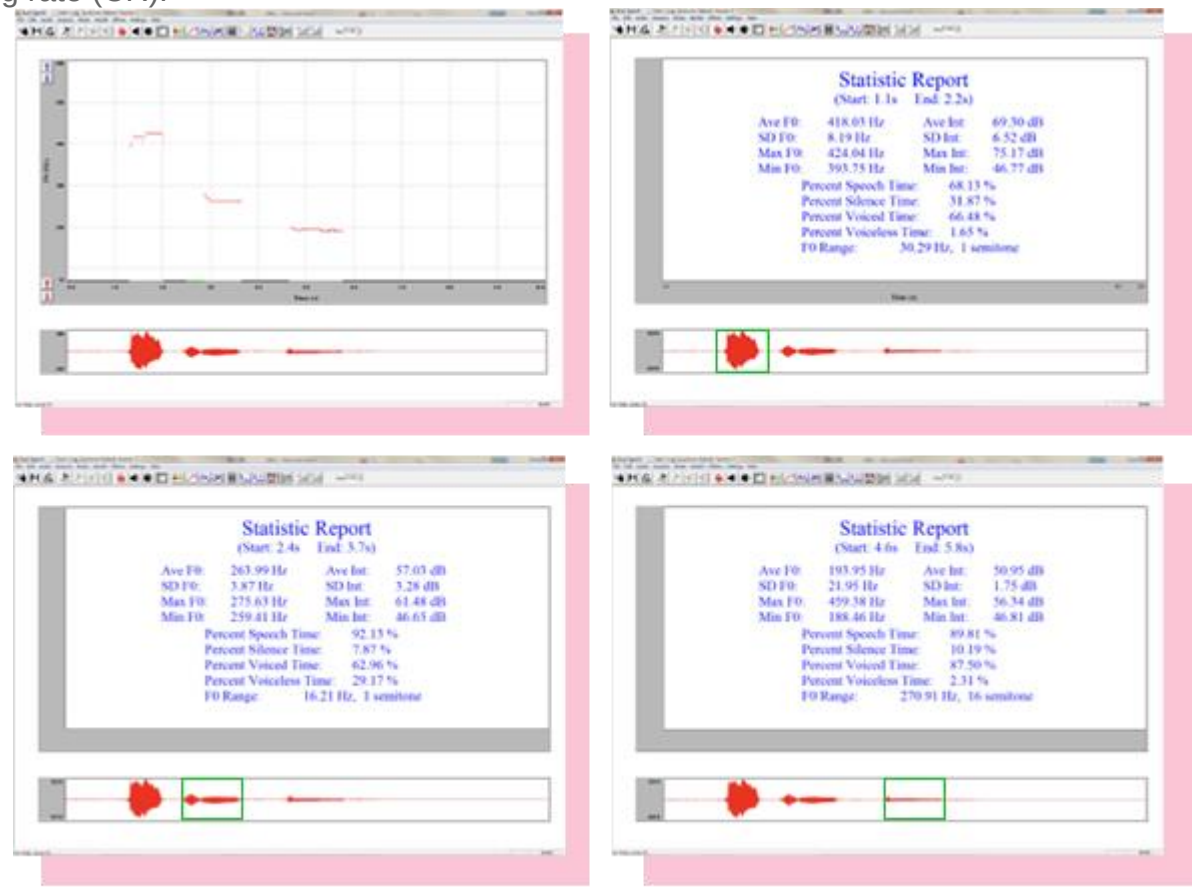


Maximum Phonation Time (MPT)

02 Phonation

— Assesses abnormal frequency, tone disorders (low and high pitch, monotone, high frequency variability), abnormal intensity (low and high intensity, low and high intensity variability), abnormal vocal quality (hoarseness, roughness, breathiness).

— Real-time measurements of phonation, including: pitch, loudness, voice range profile, contact quotient (CQ), contact quotient perturbation (CQP), contact index (CI), contact index perturbation (CIP), opening rate (OR), and closing rate (CR).



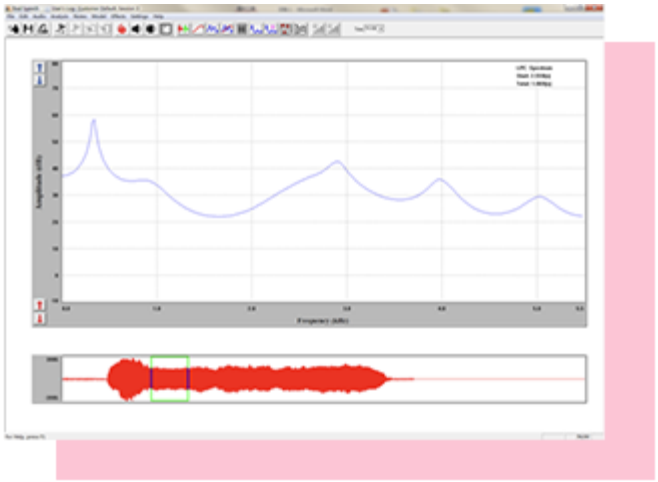
Speech Fundamental Frequency Detection

03 Resonance

— Assesses oral and nasal cavity dysfunction, harshness, sharpness, tremulous voice, obstructive voice, hyponasality, and hypernasality.

— Real-time measurement of harmonics, formant, and 聚焦图, in order to establish a well-rounded articulation framework.

— EGG measurement of resonance, including: normalized noise energy (NNE), harmonic-to-noise ratio (HNR), signal-to-noise ratio (SNR).

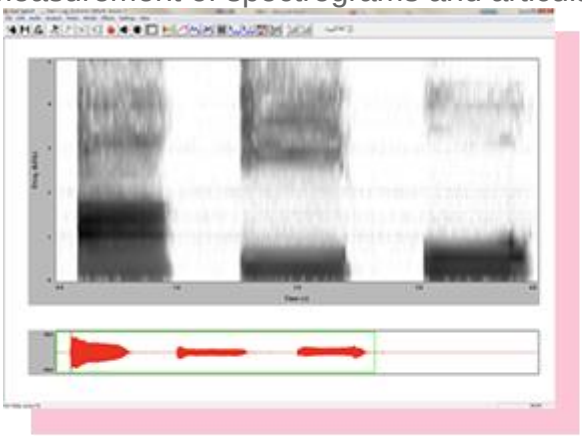


Formant, Linear Predictive Coding (LPC), Harmonics

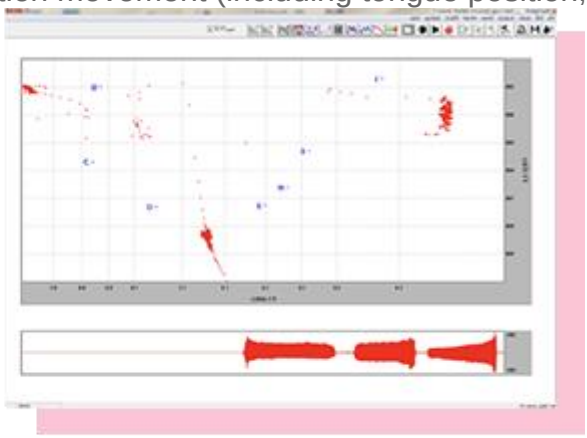
04 Articulation

— Assessment of the structural abnormalities of the jaw, lip, tongue and soft palate, functional disorders, target phoneme's pronunciation characteristic misunderstandings, causes of tone and rhythm abnormalities, speech, clarity and intelligibility.

— Real-time measurement of spectrograms and articulation movement (including tongue position, jaw, and lip).



Formant Tracking and Spectrogram



F1-F2 Vowels

Speech Therapy

Speech Therapy is an entertaining and interactive game-like software that provides real-time reinforcement and feedback on performance.

System Overview

Speech Therapy uses over 30 voice-activated interactive and entertaining games providing real-time reinforcement of changes in pitch, loudness, voiced and unvoiced phonation, voicing onset, maximum phonation time, sound and vowel tracking.

Speech Therapy is divided into two interactive learning groups:

1) Awareness – teaches children about the attributes of their voice.

2) Skill Builder – gives the user goals to achieve for a given range and time.

Features

- Creates a fun and engaging environment to further learning and therapy.
- Our colorful and interactive game-like software offers immediate animated feedback on performance.
- Enjoy the versatility and unique features of the program.

- Quickly review the graphical display or statistical data of the user’s performance while they are playing the game.
- Efficiently calculates therapy time and tracks client's progress with our comprehensive user log system.
- Real-time recording and playback provides you with tools needed to maximize your client's therapy.

Applications

Benefits a wide range of professional users, including:

Patients with speech impediments:

- Cerebral Palsy
- Down’s Syndrome
- Hearing Impaired
- Autism
- Language Delay
- And more……

Voice Practioners:

- Singers
- Vocalists
- Vocal teachers
- Public speakers
- And more
- ……

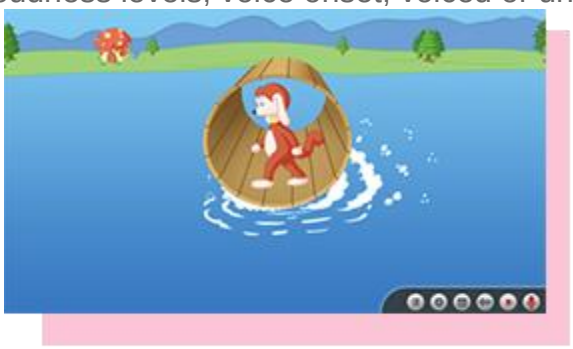
Recommended for

Functions

01 Speech Induction

— Real-time measurement of sound, pitch, loudness, voice onset, voiced and unvoiced sounds.

— Engaging training activities using animated cartoons that changed along with real-time parameters (voice, pitch and loudness levels, voice onset, voiced or unvoiced sounds, time duration).

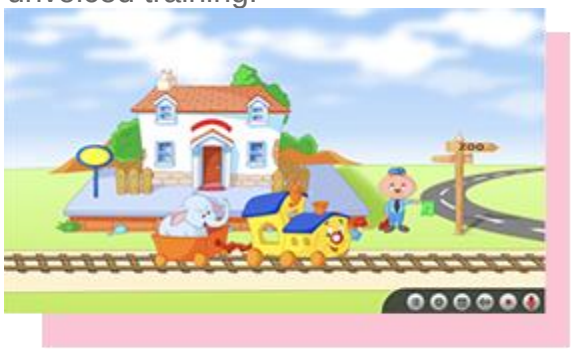


Sound Awareness

Pitch Awareness

02 Speech Respiration

— Maximum phonation time (MPT) training for treating insufficient respiratory support.
— Voice onset training for the coordination of respiration and phonation treatment.
— Voiced and unvoiced training.



Phonation Time Skill Building

Phonation Time Skill Building

03 Phonation

— Real-time training for pitch (low and high pitch, monopitch).
— Real-time training for intensity (low and high intensity, low intensity variability).
— Vocal therapy for hoarseness, roughness, and breathy voice.

Pitch Skill Builder

Loudness Decrease Skill Builder

Pitch Master

Pitch Master provides diagnosis, evaluation, rehabilitation training and guidance for speech, language and prosody disorders by using real-time audiovisual feedback technology.

System Overview

Pitch Master provides diagnosis, evaluation, rehabilitation training and guidance for speech, language and prosody disorders by using real-time audiovisual feedback technology. Key functions include real-time feedback and training of vowels and consonants using lento, andante, and allegro (tempo), as well as real-time training of consonants using the accent method.

Features

- Allows teachers to provide a target voice or speech sample.
- Allows students to match the voice to speech performance of the teacher.
- Record, store, playback, analyze and display specific characteristics of voice or speech samples.
- Easy-to-use interface.
- View speech waveform, fundamental frequency contour, intensity with just one simple click of your mouse.
- Provides visual feedback regarding an acoustic parameter of interest when teaching voice or speech control.

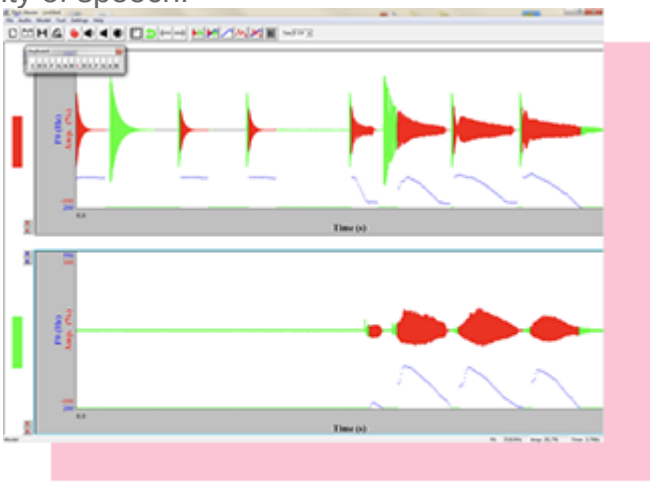
Recommended for

Functions

01 Prosody – Multidimensional Measurement

— Supersegmental phoneme's pitch level measurement – Real-time multidimensional prosody modeling to measure the change in speech fundamental frequency.

— Supersegmental phoneme's intensity measurement – Real-time multidimensional prosody modeling to measure the change in intensity of speech.



Top graph: Target pitch model
Bottom graph: User's pitch reproduction

AAC

AAC provides non-verbal communication training for those in the early-language stage.

System Overview

AAC uses non-verbal communication training during the early-language stage. Provides 384 core words for rehabilitation training. The goal of this software is to help develop a reasonable and personalized treatment program that may be used for therapy at home.

Features

- Provides assessments including: body and sensory functions, cognitive functions, language functions (nonverbal expression and communication, pre-linguistic communication).
- Four different types of training: Speech-assisted communication training (minimum phonemes), Language-assisted communication training, Language-prosody communication training, Cognitive communication training.
- Uses multidimensional language modeling and single test technology to monitor the full effect of language rehabilitation.

Recommended for

Functions

01 Limb and Sensory Assessment

— Assessments for: fine motor ability and range of motion, finger agility, tactile information processing and kinesthetic abilities, fine writing motor ability, perceptual (tactile) input ability, tactile finger recognition.

02 Cognitive and Language Assessment

— Cognitive assessments for: spatial order, action series, target recognition, graphical reasoning, logical analogy, numerical reasoning, distinguish categories, situational awareness, cognitive and non-verbal strategies for memory and communication.

— Language assessment for: verbal ability (mouth movement, pre-linguistic communication).

03 Non-Verbal Communication Rehabilitation Training

— Provides arousal training (visual brain waves induced).

04 Auxiliary Communication Training – Pre-Linguistic Stage

— Audio-visual arousal, audio-visual interactive voice-activated training, image-assisted communication (alternative, compensatory).

— 384 standard graphical symbols for social skills training.

05 Communication Activities

— Creates a personalized plan that demonstrates communication training activities for language awareness, speech and hearing, and emotional training, through audio sounds, images, and graphic and audio editing.

06 Audio-visual Induction and Communication Intervention

— Audio-visual induced communication intervention, including: low frequency, intermediate frequency, high frequency, and full frequency training.

My Words

My Words provides comprehension and communication training for early speech disorders.

System Overview

Interventions for early speech disorders: provides comprehension and communication training for basic words, core nouns, core verbs, numerals, and adjectives.

Recommended for

Universities

Functions

01 3 Different Training Sections: Awareness, Skill Builder, and Puzzle

— Awareness Section: awareness-based audio-visual training to help patients understand basic words, nouns, verbs, numerals, and adjectives.

— Skill Builder Section: helps patients recognize basic words, nouns, verbs, numerals, and adjectives by creating an association with pronunciation.

— Puzzle Section: fun and entertaining method of training for basic words, nouns, verbs, numerals, and adjectives by helping the patient strengthen their comprehension of the words and their characteristics.

Awareness Section

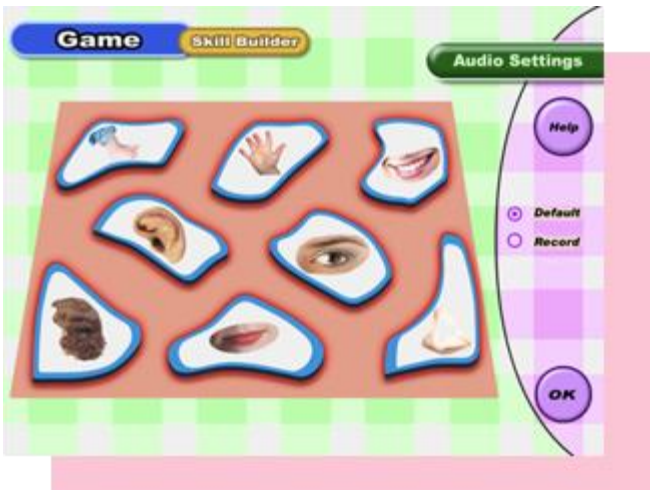
Skill Builder Section

Puzzle Section

02 Board Game

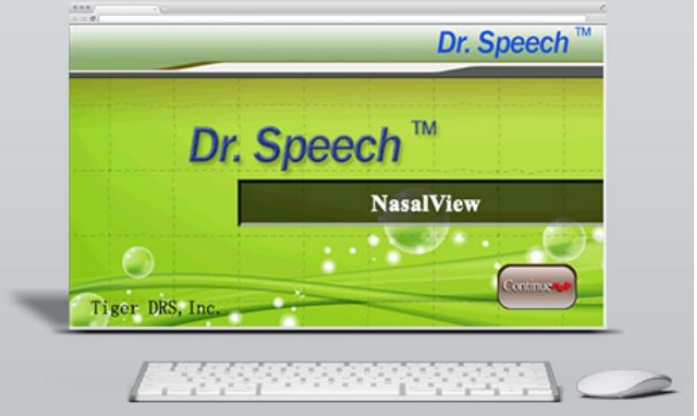
— Uses 14 daily items for phonetic training. Allows users to have fun with the game-like functions.

— Develops a foundation for communication by helping patients recognize a word's corresponding forms, colors, and applications.



NasalView

NasalView is a software/hardware system designed for the data acquisition, clinical analysis and treatment of nasal resonance disorders.



System Overview

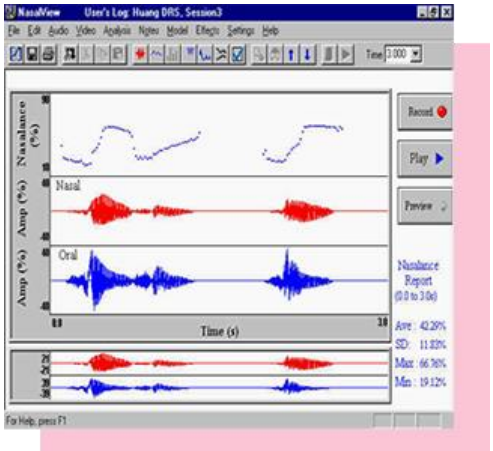
NasalView is a cost-effective software/hardware system designed for the data acquisition, clinical analysis and treatment of nasal resonance disorders. It's a powerful clinical and teaching tool that provides highly versatile information for speech assessment and therapy features pertaining to resonance disorders.

Features

- Real-time measurement and assessment of nasal flow.
- Real-time measurements of hypernasality/hyponasality and nasal emission via a simple, graphic display without requiring any extra Digital Signal Processing (DSP) hardware.
- Added convenience and clinical utility of instant playback and database retrieval of all recorded speech samples.
- Real-time recording and playback.
- Real-time feedback of nasalance + dual oscillograms display.
- Nasalance Statistics Report and Nasalance Histogram.
- Real-time feedback of Power and LPC Spectrum.
- Real-time feedback of vocal F0 and intensity.
- Real-time Model-matching features.
- Detailed spectral analysis (FFT; LPC; wide and narrow-band spectrograms).
- Treatment of nasal resonance disorders is achieved through user-friendly tasks providing visual and auditory feedback to the patient.
- Easy-to-use documentation and printing.

Functions

01



Phonetogram

Phonetogram is a real-time vocal ability assessment system that helps to analyze, document and report vocal ability in various applications.

System Overview

Phonetogram is a real-time vocal ability assessment system that may be used as a powerful clinical and teaching tool to help analyze, document and report vocal ability in various applications. It displays the dynamic range of the human voice with both fundamental frequency (pitch) and intensity (loudness). This software is useful in identifying the limits of vocal function.

Features

- Provides highly versatile information for vocal ability.
- Helps identify the limits of vocal function.
- Many features are the similar as in Real Speech with the exception of not having the vowel tracking and real-time formants option.
- A sound pressure level meter and preamplifier is required to obtain the Phonetogram display.
- A fully windows-based program without requiring any extra Digital Signal Processing (DSP) hardware.
- Real-time recording and real-time voice range profile.
- On-screen power cursors for quick and precise measurements.
- Comprehensive statistic reports.
- Easy-to-use documentation and printing.

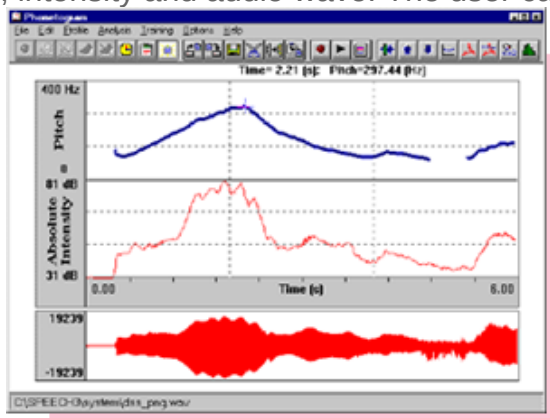
Applications

- Speech pathologists Voice teachers Singers ⋯⋯ Laryngologists Singing teachers

Functions

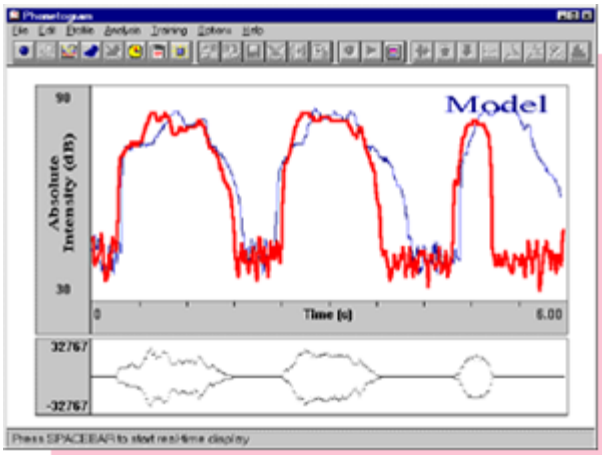
01

— A speech sample with F0 (pitch), intensity and audio wave. The user can also zoom or edit the sample.



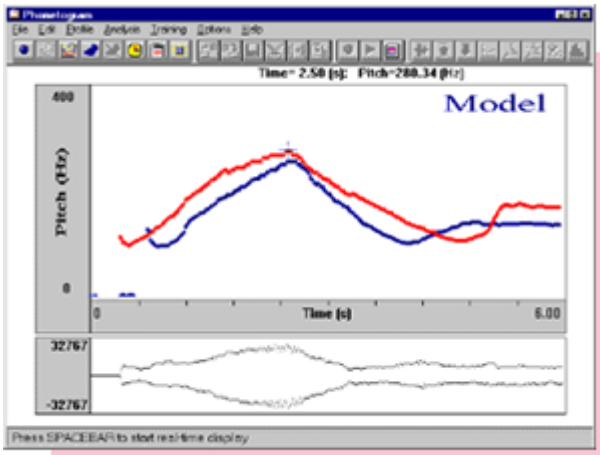
02

— Real-time Intensity Display: The blue curve is a model can be saved. The red curve is the user's attempt to match the model.



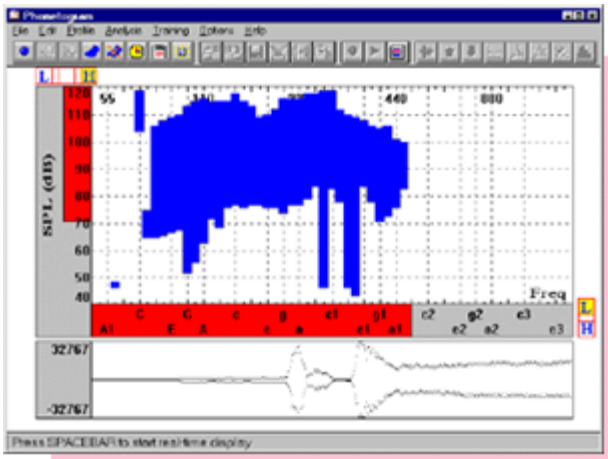
03

— Real-time F0 (pitch) Display: The blue curve is a model can be saved. The red curve is the user's attempt to match the model.



04

— Dynamic ranges of the human voice can be obtained.



Speech Training

Speech Training software is a real-time dual-screen speech assessment and training system that helps analyze, document, teach, reinforce and report speech waveform in various applications.

System Overview

Speech Training software is a real-time dual-screen speech assessment and training system that helps analyze, document, teach, reinforce and report speech waveform in various applications. It's a powerful clinical and teaching tool that provides highly versatile information for speech assessment and therapy features.

Features

- A dual-screen display allows the teacher to provide a target voice or speech sample on one screen while the student tries to match the voice to speech performance of the teacher on a second screen.
- The user can record, store, playback, analyze and display specific characteristics of the voice or speech samples.
- Comprehensive features such as speech waveform, fundamental frequency contour, intensity or spectrogram.
- Provides visual feedback regarding an acoustic parameter of interest when teaching voice or speech control.
- Each window can be further analyzed with the results displayed in a "view Window" on the right of the screen. For example, you can display the spectrum of a selected portion of the waveform or have a dynamic display of F1 and F2 changes over time.
- Easy-to-use documentation and printing.
- On-screen power cursors for quick and precise measurements.
- Comprehensive statistic reports.
- A fully windows-based program without requiring any extra Digital Signal Processing (DSP) hardware

Applications

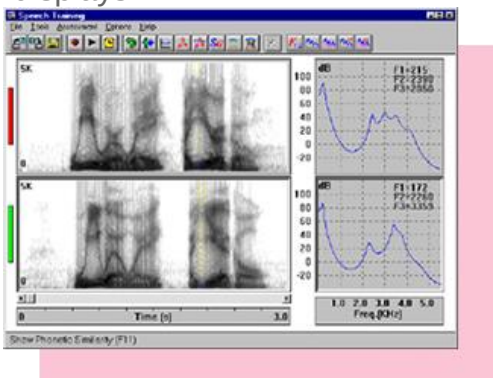
- Speech pathologists
- Otolaryngologists
- Speech scientists
- Speech researchers……

Functions

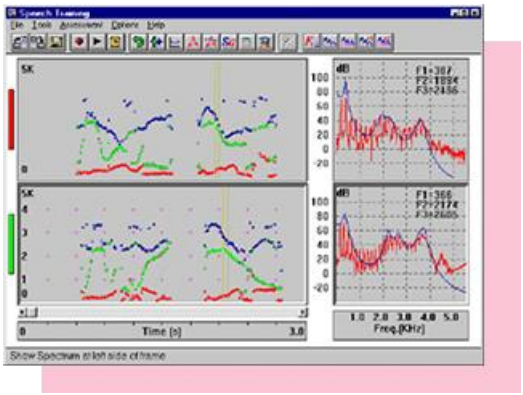
01 — Spectrogram: Two speech samples are viewed in spectrogram format. Selecting a sample allows the user to view spectral slices.

— Real-time dual-screen Recording and Playback.
— Real-time dual-screen Audio wave display.
— Real-time dual-screen F0 and/or Intensity displays.
— Real-time dual-screen Spectrogram displays.

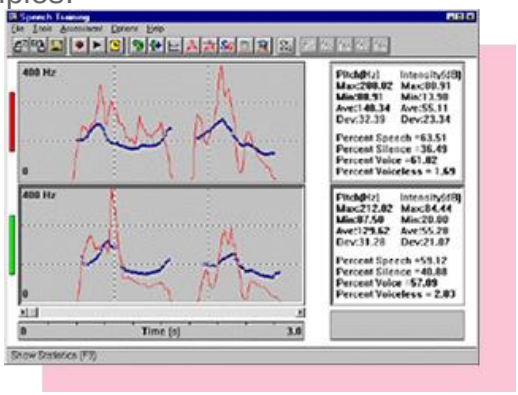
— Real-time dual-screen Power and LPC Spectrum.
— Real-time dual-screen Vowel Space displays.



02 — Formant Tracking: Two speech samples are viewed in formant tracking format. Selecting a sample allows the user to view power spectrums.



03 — F0 and Intensity: Two speech samples are viewed in F0 and intensity format. The comparison can show the statistical parameters of both samples.



04 — Wave Format and Vowel Tracking: Two speech samples are viewed in audio wave format. Selecting a sample allows the user to view the vowel tracking (F1-F2).