



Audio Search

LNTS

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Outline

- **Company Introduction**
- **Technology Overview and Key Challenges**
- **Analyze & Compare**
- **Supporting Modules**
- **Audio Search**
- **Short Demonstration**



About LNTS

- Founded in 2007, LNTS has targeted to become a technology leader in audio processing and specifically, in Speech Recognition.
- The team is comprised of skilled algorithm engineers, mathematicians and physicists, backed by an experienced Board of Directors.



Our Technology

LNTS has developed a unique, speaker-independent, Phoneme Recognizer.

By using the most elementary component of speech, we are able to search, in real-time, live, continuous audio recordings with no need for a dictionary or grammar — not even a language model.



Key Challenges

- Diverse voices
- Varying accents
- Continuous speech
- Multiple languages
- Environmental noise (e.g. music, car noise)
- Low quality recordings
(from cellular phones, laptop/pc microphone etc.)



Supporting Modules

- Gender Identification
 - Noise filtering
- Speech Enhancement
- Echo and Reverberation Cancelling
 - Music detection
- Audio & Video Files



Audio Search

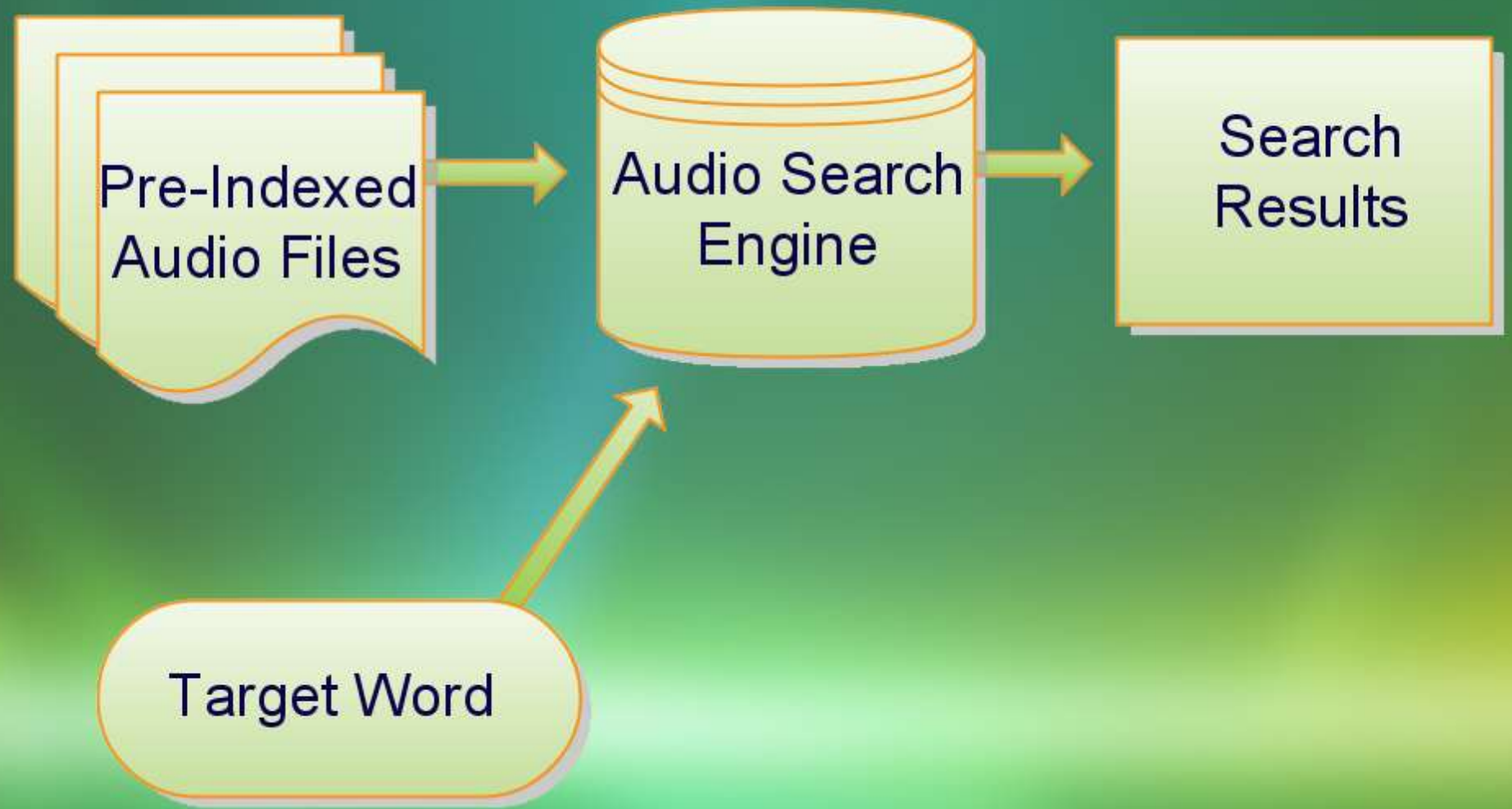
An information-retrieval process for locating a target word or a phrase within a database of audio files.

The searched word is either typed into the system or spoken by the user.

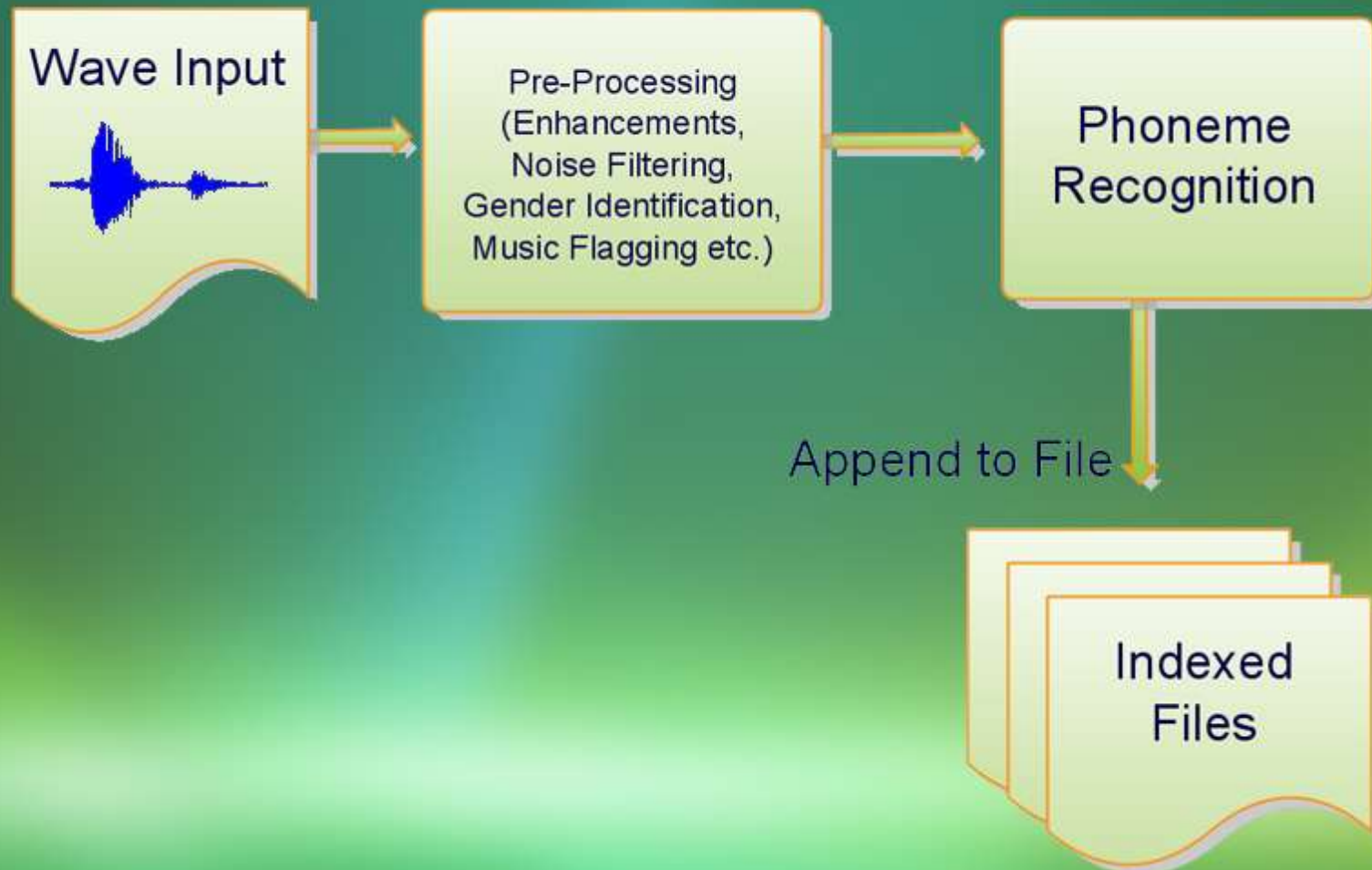
The system's output is a sorted list of locations within the files and a relevancy score.



Audio Search

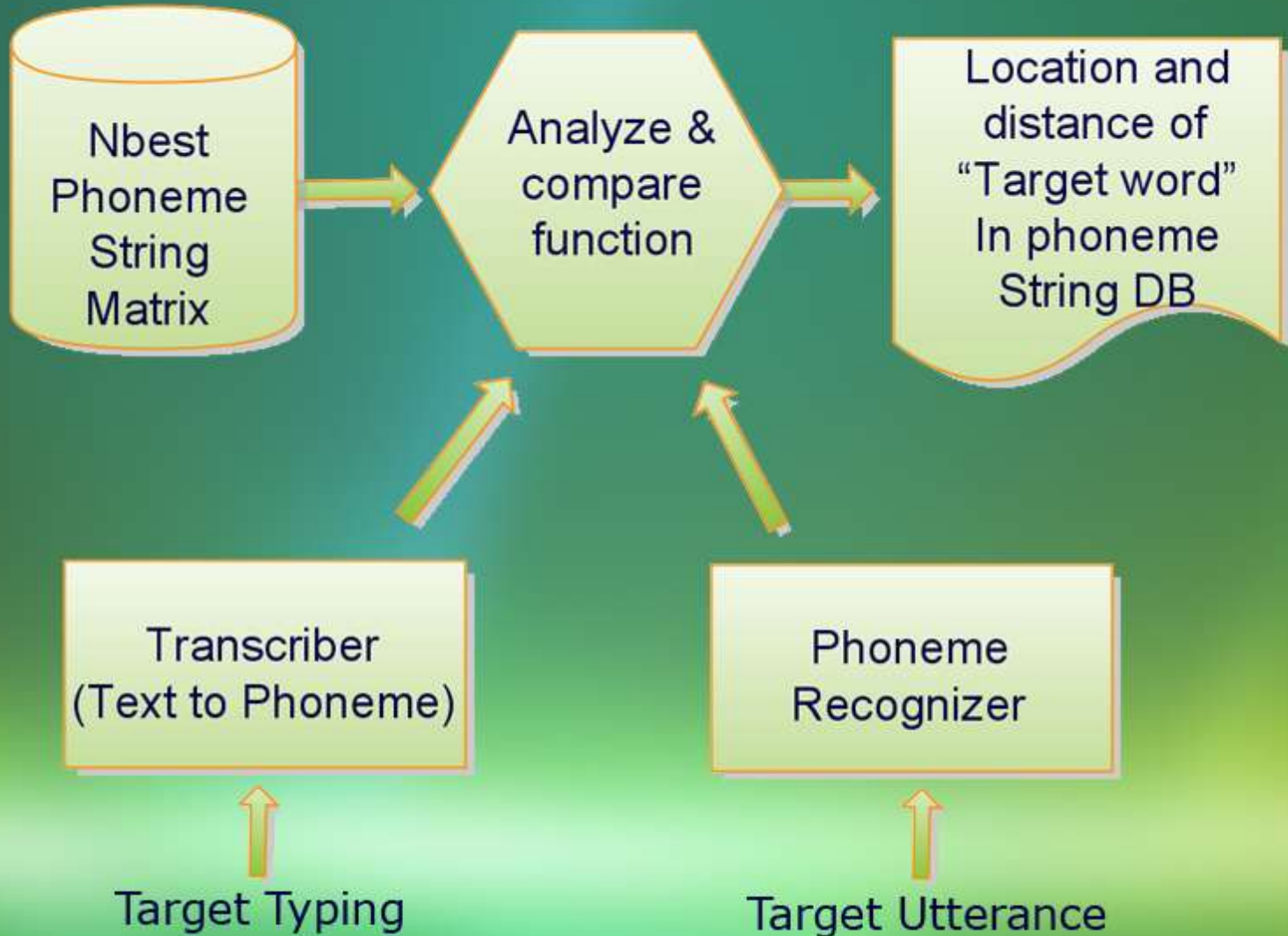


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Audio Search Recognition Process





Analyze & Compare

- The Analyze & Compare function gets as an input the word transcription, and searches for it with a special search algorithm within "Nbest Phoneme String Matrix".
- The outputs are the locations and distances of each word transcription that was found in the "Nbest Phoneme String matrix".



Analyze & Compare

- Using sophisticated techniques, we are able to properly score a word that has achieved high correspondence with our continuous speech models.
- As a result, the algorithms can be tuned to achieve extremely low false alarm rates (e.g. take into account only words with above 90% accuracy).



Main Advantages

- Ability to work with low quality audio files and various sampling rates.
- All algorithms run on an average pc or laptop.
- Each module can be used separately in a variety of applications, with simple customizations.



Thank You!

LNTS

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