

# SpokenMedia Project: Enabling Rich Media Notebooks for Learning and Teaching

spokenmedia.mit.edu

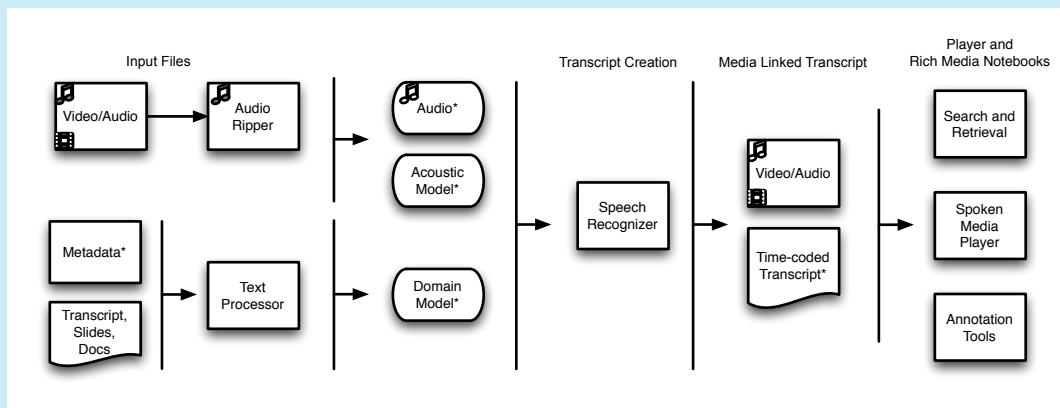
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## About the Project

The SpokenMedia project's goal is to increase the effectiveness of web-based lecture media by improving the search and discoverability of relevant media segments and enabling users to create rich media notebooks in which they interact with media segments in educationally relevant ways.

## How does it work?

The process for creating media-linked transcripts, as illustrated below, takes as inputs, the lecture media, a domain model (containing the words likely to be used in the lecture), and an acoustic model (either customized for the speaker or a relevant generic model that closely matches the speaker). The output from the speech recognizer is an XML file containing the best guess as to the words that were spoken and the corresponding start and stop times for the words. The time-coded transcripts and lecture media are brought back together and are viewable through a rich media player.



## Accuracy

Accuracy is the key challenge for automated speech recognition and is influenced by a variety of factors. The quality of the audio can have a dramatic impact on the ability for the speech recognizer to do its job. Research in the Spoken Language Systems group at MIT is focused on the creation of better speech recognizers, the creation of customized acoustic models for each speaker, and the creation of customized domain models.

As OEIT transfers the SpokenMedia software from the research lab to a production environment, we continue to work to improve initial speech recognition accuracy.

## SpokenMedia Player

The SpokenMedia player links lecture video with time-coded transcripts enabling the learner to watch the video and follow along with the transcript. The player allows for search and playback from the search results. And, if multiple transcripts are available, the player allows the user to seamlessly switch between transcripts.



Future versions of the player will allow the user to create bookmarks and annotations within the video. We are also developing a transcript editor based on this same technology.