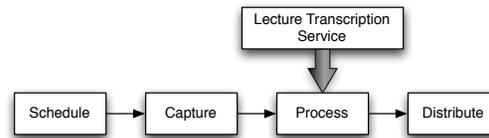


SpokenMedia Project: Enabling Rich Media Notebooks for Learning and Teaching

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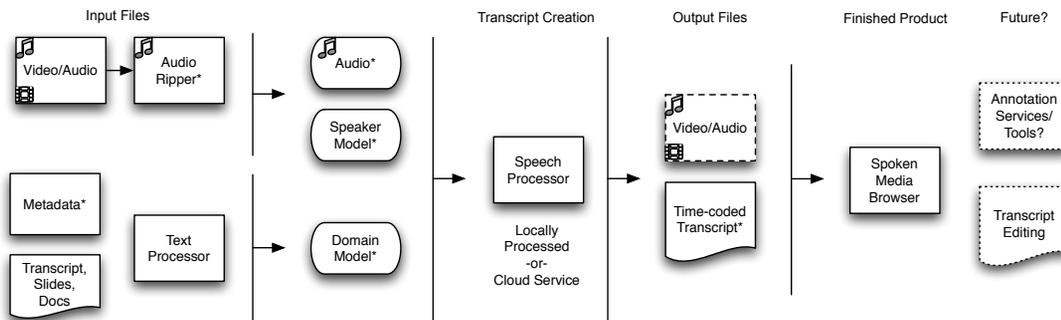
About the Project

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 words likely to be used in the lecture, and a speaker model selected to most closely match the speaker(s) in the lecture. The output from the speech processor is an XML file containing the words spoken and their time codes. The time-coded transcripts and lecture media are brought back together and are viewable through a rich media browser.



Speaker Model

A personalized speaker model can be created for the lecturer that models his/her voice and accent. Previous research has shown that a personalized speaker model can increase the quality of the transcription up to 80-82% accuracy.

Domain Model

A domain model, created from slides, lecture notes, relevant research papers, etc, is necessary to provide the corpus of text that will be recognized from the speech recognition process. Well-formed domain models coupled with unique vocabularies can increase the quality of the transcription up to 91-93% accuracy.

Part of a Podcast Producer Infrastructure

The system is envisioned as a service that can be integrated directly into individual campus podcasting solutions; the architecture of the system will be flexible enough to integrate with existing workflows associated with lecture recording systems, learning management systems and repositories.

3. Torques, Oscillating Bodies, Hoops
Lecture 21, Physics I: Classical Mechanics, Physics, MIT, 1999 47:38 (Walter Lewin)

4. The Birth and Death of Stars
May 7, 2003 (Walter Lewin) 1:13:19

5. Momentum, Conservation of Momentum, Center of Mass
Lecture 15, Physics I: Classical Mechanics, Physics, MIT, 1999 52:14 (Walter Lewin)

6. Kepler's Laws, Elliptical Orbits, Satellites, Change of Mass
Lecture 22, Physics I: Classical Mechanics, Physics, MIT, 1999 49:02 (Walter Lewin)

Transcript snippet: *of angular momentum just accept it for now but you've also seen ... beautiful with little guys which are skating and then they rotate and then they pull their arms in and when they pull their arms in they go faster and then it will be armed out they go slower and pull your minute ago i that's the same for know it's exactly the same ... it is because of this strange conservation of angular momentum and for those of you would have some physics you will be able to understand that a little better so from the twenty five day rotation of the sun collapsible to six miles you end up roughly it with a rotational period of about one thousandth of a second ... and so clearly these neutron stars that were discovered by Jocelyn bell were um-hum in the past undergoing a collapse and were spun up enormously in that case right to about a second ... now why you would see ears radio beams going over using the poor more difficult and i will not make a very serious ten in fact if you leave and so well student came out of years later so forty years later still going to stand quite details all white and i these radio beams coming out but we do know that neutron stars must have an extremely high magnetic field ... the same idea when that is a collapse right goes spin faster that also some basic laws of physics why the magnetic field strengths would go up ... and even though some people question but those laws can still be applied an implosion still is that the magnetic field strength must be extremely high on the neutron star ... and so now comes the idea that is the star is rotating about this axis is these the actors of the star ... but if the magnetic poles are not here and there but if the magnetic poles for instance are you in there then the poles are moving around and it is believed that the poles have search lights of radio beams and so if you happen to be the search light of these radio beam so the star goes around like this remember rotates about this line and united magnetic poles that you see the radio and wait a little of another radio that comes in ... and so the idea then is that the magnetic poles should not coincide with the end of the axis of rotation ... the now you will see that's very artificial why does it have to be so complicated that's not artificial of all you cannot name one planet for which that is not the case they the earth and you ralfing north pole is not coincide with our magnetic pole our magnetic pole is someone cattle and that you're getting the geographic north pole is that the north pole and then all the same there's a substantial difference and that's the case with almost all planets with one exception and*