VisPod: A Visual Audio Player for Content Exploration

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Interface Overview

Title and duration time

Current speaker the position indicates play time

Speaker Information
Jade Harrell
Shawn Stevenson

Display the audio as a donut chart with each segment represents a topic corresponds to the topic left

Keywords of current topic

Yeah, If you’ve got neighbors who it’s not going to really w

Play/pause button

Read-time Transcript

Data Collection
VisPod allows users to upload their own audio data and the corresponding transcript.
Required data format and VisPod demo can be accessed via hci.nd.edu/vispod/.

Topic Segmentation
VisPod provides the user with an overview of the audio’s main topics.
We use the TextTiling algorithm to subdivide the transcript into the individual segments that represent subtopics.

Keyword Extraction
We use TF*IDF for individual keyword extraction, which reflects how important a word is to a document in a collection or corpus.
For key phrase extraction, we use Rapid Automatic Keyword Extraction (RAKE).

Interaction Design
VisPod is designed to allow users to quickly navigate through time and explore specific topics:

Time is controlled by dragging the profile picture to the desired time location in the audio.

A topic can be selected by either clicking on the topic title in the list or clicking on a topic segment in the donut chart.

A topic can be clicked, then the box will appear to translate to the central region of the donut chart, explode into the keywords-cloud.

Data Types

<table>
<thead>
<tr>
<th>Data</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Nominal</td>
</tr>
<tr>
<td>Audio duration</td>
<td>Interval</td>
</tr>
<tr>
<td>Topic Duration</td>
<td>Interval</td>
</tr>
<tr>
<td>Time</td>
<td>Continuous</td>
</tr>
<tr>
<td>Current Speaker</td>
<td>Nominal</td>
</tr>
<tr>
<td>Keywords</td>
<td>Nominal</td>
</tr>
</tbody>
</table>

Table 1: Raw data and the corresponding abstract data type