

Audiovisual Accessibility: Evaluating Workflows for Closed Captioning and Transcripts

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INTRODUCTION

The University of Utah's J. Willard Marriott Library is working on a grant funded project to explore methods for generating and displaying closed captions and transcripts for digital audiovisual resources.

Without a text analog available for this type of content, users with a disability such as hearing impairment are not able to fully use the resources, and the potential for scholarly digital analysis of the materials is limited. By testing different tools and workflows for creating this data in-house and examining options for outsourcing some or all transcription of audiovisual items, this project will help to ensure that audiovisual content becomes more accessible to all users regardless of their needs.

Building upon the work of other archivists determined to achieve full accessibility for their audiovisual collections, this poster outlines the parameters of the University of Utah's ongoing project.

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METHODS AND WORKFLOWS

Interdepartmental Partnerships within the Marriott Library		
Department	Function	Project Role
Audio-Visual Archive	Collects unique regional moving images and sounds	Select and analyze files of various representative genres, formats, and quality for project tests
Digital Library Services	Conducts digitization, digital preservation and metadata creation	Oversee creation of captions and transcripts by student transcriptionist, Google Speech-to-Text, vendor Rev.com
Digital Infrastructure Development	Manages the technical framework of the digital library	Set up outsourced transcription APIs, integrate transcript and captioning display into the digital library public interface

Potential Tools and Media Players to Review

HIPSTAS	Autosub
Google Cloud Speech-to-Text	Descript
Oral History Metadata Synchronizer	Ensemble Video
oTranscribe	JWPlayer
MovieCaptioner	WebVTT

Workflow for Student Digital Audiovisual Transcriptionist

Manually transcribe audio using oTranscribe and MovieCaptioner
Review and correct automated transcriptions created by Google API
Review transcriptions created by vendor service Rev.com, correct as needed

Example File Selection Grid and Statistics

Collection	Title	Creation date	Date digital	Duration	Sample rate	Bit depth	Genre	Original format	Speed	Audio quality	Audio channels	Speakers	Time to manually transcribe and QC	Cost for manual transcription (per hour)	Time to transcribe 1 min of audio
A0095 Golden Spike Oral History Project audio recordings	Mayme Wells Lower	1974	2010	0:47:43	44.1	16	oral history or interview	reel-to-reel audiotape	1 7/8 ips	poor	1 mono	2	9:52	\$2.07	00:12:41
A1005 Lois Milner collections of broadcast radio audio recordings	Heart Throbs of the West: The Dorion Woman	1947	2011	0:11:49	44.1	32	radio program	phonograph record	33 rpm	very poor	1 stereo	multiple	3:22	\$2.85	00:17:09
A0409 Gail Plummer collection of Maud May Babcock audio recordings	Dr. Maud May Babcock's final address given before the Speech Association of America	1950	2014	0:12:44	44.1	16	speech, lecture, or telecourse	phonograph record	33 rpm	poor	1 stereo	2	1:19	\$1.03	00:06:20
A0236 International Womens' Year audio recordings	Employment	1977	2013	0:50:26	44.1	32	public event	audiocassette	1 7/8 ips	very poor	1 stereo	1	16:02	\$3.18	00:19:07

ASSESSMENT AND RESULTS

Workflow adjustments, time required, and costs incurred for each transcription method and each genre, format, and quality situation will be assessed throughout the project. After transcripts and captioning have been created for some audiovisual content, we will ingest that content into our digital library to make it accessible to all patrons. Once these files are online, we will conduct an evaluation of the new content with some of our digital library users to make sure that the accessibility and user experience has improved for all patrons.

TRANSCRIPTION EXAMPLE

Comparison of Transcription of a Poor Quality Audio Clip from A0236 International Women's Year: Employment

Manual Transcription by Student	Google Automatic Transcription
I've spent a great deal of time in the last few months 00:13 [unclear][something full?]. It's a very interesting and informative program for you. Um, we think that the whole issue of employment is exceedingly important because a great many women work. Um, you probably heard this rumor -or myth- going around that, well, we women don't work quite 00:35 [unclear] concerned about employment. What, uh, that they aren't realizing that over half of our population are women, and over half of those women work between the ages of six to 18 to 64. And you've also maybe heard myths, well, women do work and possibly work because, uh, or they'd like the 01:00 [social jealousy?]. Or they, uh, that they don't like to be in the home. Actually, 42 percent of women who work, work because of the economic necessity. Now that, we work because we need the money to pay for many things. Um, 42 percent of the women who work are either single, widowed, divorced, have husband absent, or the husband makes under 3,000 dollars a year. So women, like everyone else that's in the workforce, are there because it is an economic necessity.	what does a good killing time the last few months will be very interesting employment is exceedingly a great many women work you probably heard this rumor going around that well if we women don't work what does you may not realize it's been over half of our population our limit and over half of those ribbons work you can get into the 6th 1864 Operation Christmas what I was going to do work and probably work because they like your social or are they classical economic necessity we want to talk we use the money to pay for many sitting 40% of the women who work hard either single Leno's help husband absence for tugging makes under \$3,000 a year so women like everyone else was in the workforce is there are there because it wasn't even on it he said to be

DISCUSSION

Accessibility needs to be at the forefront of all library projects to make sure that we are meeting the needs of our patrons. It can be difficult to know all of the needs to our digital library users since we do not have face-to-face interactions with the majority of them. If a digital library patron is not able to get the information they need from our resources because we have not done the necessary work to make them accessible, we are not serving our patrons to the best of our abilities. This project will give the Marriott Library and its industry partners the practical information we need to effectively implement a program to make digital audio and audiovisual collections fully accessible to all users, including the hearing impaired.

THE PROJECT SO FAR

- Project test files selected
- Student Digital Audiovisual Transcriptionist hired
- Manual transcription begun
- Automatic transcription begun

PROJECT DELIVERABLES: SUMMER 2019

- Workflows and infrastructure for the creation and display of captioning and transcripts for AV files in the digital library.
- Presentations and a white paper or scholarly article sharing the details of each workflow tested and information about the quality and costs of each process.