

An Interactive Flash Website for Oral Histories*

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ABSTRACT

Automatic speech alignment and natural language processing technologies provide full content search and retrieval access into oral history collections. These tools have been field-tested with The HistoryMakers and Harrisburg Living Legacy oral history archives, showing the value of an Adobe Flash front-end interface. Built with Adobe Flex 3, the interface works across browsers and operating systems, supports deep linking and browser-based navigation, provides synchronized transcripts that can be fully searched and tracked while watching the interviews, and incorporates filtering by facets, a menu bar breadcrumb interface, and a user play list to collect stories of interest. Refinements to the interface are discussed following the first six months of web deployment, with suggestions offered for other digital video libraries, particularly oral histories.

Categories and Subject Descriptors

H5.1 [Information Interfaces and Presentation]: Multimedia Information Systems.

General Terms

Design, Human Factors.

Keywords

Oral histories, digital video libraries, video retrieval.

1. INTRODUCTION

The Informedia research group at Carnegie Mellon University has worked with oral history archives to apply automatic speech alignment, image and language processing in order to generate time-aligned metadata for use in accessing the video narratives. A study in 2007 showed the value of representing the oral histories in video form, especially for exploratory search [1]. Oral historians have welcomed the utility of such tools to provide direct access to the audio and video content of their collections [3]. They bemoaned the prior state of the field in which text transcripts were the sole accessible representation, with original audio and video sources either set aside or even discarded altogether [3]. For oral historians, “the digital revolution provides new possibilities for the analysis, archiving, and public dissemination of recorded narrative sources” [3].

This oral history interface deployed at www.idvl.org showcases two video collections: The HistoryMakers African American life oral histories, and the Highmark Blue Shield Living Legacy Series, Harrisburg, PA, recording the memories of 150 Harrisburg area residents in celebration of the city of Harrisburg’s 150 years

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of incorporation in 2010. A Flash application was fielded at this web site to provide access to these two corpora. After six months of use (July-December 2010), the Flash interface was revised based on transaction log data, comments volunteered by users through email and the website, novice and expert commentary at workshops, and careful review of literature discussing facets and exploratory search (e.g., [4, 5]). This paper overviews those interface changes and their underlying rationale, with the new website posted in February, 2011.

2. FLASH ORAL HISTORY PORTAL

The archivist initiates the creation of the web portal into their collection by providing an XML document with segmented transcripts for a video interview, and additional provenance and other categorical detail regarding the interviewee, interviewer, and interview. The categories, i.e., facets, may be different for each collection, e.g., HistoryMakers offers a “Maker” category like PoliticalMaker while both Harrisburg and HistoryMakers offer gender, birth year, and O*NET job types. The XML and its associated video are fed through Informedia processing scripts that result in a web video surrogate for each story segment, thumbnail image surrogates, and other derived descriptive data stored in an Oracle database with web services code acting as the intermediary between the database and the Flash front-end client.

Users can navigate from the opening state of the Flash application into stories through searching by text, by tag when available, by map, and by browsing the table of contents coupled with descriptive facets for filtering. Tag search was available for The HistoryMakers archive as it received human tagging utilizing a controlled vocabulary under direction from oral history experts Michael Frisch and associates to give an inferential layer of access, a way to search unspoken concepts. For both HistoryMakers and Harrisburg, individual interviewees and segment story titles listed in html pages act as a web-indexable table of contents on idvl.org, and link into the Flash application to show just those story segments.

After six months of use, we learned that by far the most prominent use of the Flash application was for playing video with its synchronized transcript. For The HistoryMakers, playing a video segment accounted for over 61% of the 24,940 transactions logged. For the Harrisburg collection, over 64% of the 16,048 actions were to play video. Harrisburg access to video stories was overwhelmingly through table of contents (in Flash and in html) to bring up individual story segments or all the stories for an interviewee. Harrisburg video displays were produced through table of contents actions 95% of the time, text search 4%, and map search less than 1%. Filtering by facets, search in search, and manipulating one’s own personal marked subset, i.e., “play list,” accounted for less than 1% of the logged actions with the Harrisburg corpus. With the HistoryMakers archive, producing a

listing of video stories was also dominated by table of contents actions (77%), followed by text search (20%), tag search (2%), and map search (1%). With the HistoryMakers corpus, 2% of logged user actions were search in search, 1% updating personal play lists, and less than 1% filtering. Volunteered comments suggested that the table of contents views needed more powerful filtering interfaces in order to promote collection understanding and stimulate use by researchers.

Placing the oral history collections on the web allows discoveries of the materials by not only dedicated researchers, but also casual browsers. A Flash interface allows for visual richness and cross browser compatibility, is a prevalent way of displaying video on the web, and through open source tools can support expected browser button navigation and bookmarking as well to internal Flash program states. After witnessing the use of our Flash portal into two different oral history corpora for six months, we revised the interface to provide better branding and aesthetics, offer clearer means of information seeking, filter by facets shown with results and content tables, and navigate simply between states of the interface.

To improve facet communication, we followed advice regarding faceted interfaces for digital libraries suggesting that the facets be presented along with the data, rather than in a separate control page [4, 5]. In accordance with such guidelines, the faceted interface was added into the table of contents, allowing for the contents listing to be dynamically updated as the pie chart and/or legend representations of facets are moused over. The same faceted interface is listed with a video set produced from a query, allowing users to explore facets of a video set without leaving the result page (see Figure 1).



Figure 1. Facets as interactive pie charts shown with results.

When facets are utilized to thin out a set, the subset is described appropriately in a brief text title. There is still tension over screen real estate between presenting the facets and set details on one page. Some corpora may have tens of facets, and in the current iteration we only display up to three simultaneously, with menus allowing the user to change which facets are shown at any time.

The original interface suffered from a lack of cohesion, multiple layouts, wasted space, and poor navigation choices such as a “Back” button in the original video page. In the new interface, the menu bar with its inclusion of common tasks for commenting and help brands the Flash application and lets users feel that they

are on the same site as they move between different states. The redesigned pages make use of a CSS style sheet, e.g., a rose theme for HistoryMakers and blue and gold for Harrisburg. CSS and external logo images as resources for the Flash application allow it to be tailored to produce different looks. Hence, the open source resources demonstrated and to be made available through idvl.org become more flexible for future digital video library consumers.

Given its frequent access, the video page is of primary importance, with the time-aligned transcript allowing for fast access to neighborhoods of interest within even very long oral history stories. The time-aligned transcript makes the video more accessible [2] and offers potential to keep users on-site longer in support of exploratory search [1]. The locations of matching areas following a query are represented on the video timeline, with button access to quickly jump forward and back through match areas. The grid layout of the old interface has been replaced with a style consistent with the rest of the Flash application states.

Future work is producing a new sense of web information space, one that encourages exploration and serendipitous browsing as opposed to quick fact-finding and information look-up. Can we produce an interface that encourages staying within the Flash application to explore a broader tapestry of stories? Can such a multimedia interface address the hopes of oral historians to have their source audiovisual forms explored more deeply [3]? Such emphasis is natural for oral history web portals: they cannot compete on the basis of quick fact-finding (for that, text transcript-only representations work fine, and authoritative text sources may exist as well), but they offer truly unique opportunities for experiencing and exploring first-person multimedia narratives.

3. ACKNOWLEDGMENTS

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