

Technology and New Ways of Making Oral History Accessible: Improving Access to Video Oral Histories through Informedia Technologies and a Multimedia Web Portal

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Carnegie Mellon – HistoryMakers Work

- Mike Christel background (involved in digital video since its birth at RCA/Sarnoff Labs in late 1980s...)
- CMU Infromedia research (ongoing with research funding):
 - Speech recognition and alignment
 - Image processing
 - Named entity tagging
 - Synchronized metadata for search and navigation
 - Fast, direct video access to oral histories, news, surveillance video, YouTube video, etc.
- HistoryMakers IMLS Grant ~2003 initiates digital archive
- NSF funding to CMU for Oral Histories 2007-2011
- Result: www.idvl.org (demonstrated here)

Corpora Characteristics



- *The HistoryMakers Digital Archive*
 - Current digital archive contains 310 interviews covering over 14,000 stories and nearly 700 hours of content
 - Life oral histories with historically significant African Americans, interviewed between 1999 and 2005
- Harrisburg PA Highmark Blue Shield Living Legacy Series
 - 150 interviews 2009-2010, 2130 stories, 144 hours
- The ScienceMakers
 - Snapshot of growing digital archive contains 31 interviews covering 1600 stories, 67 hours of content
 - ScienceMakers recorded between 2001 and 2011



Development History

- Workshops to set requirements, 2007-2008
- Stand-alone .NET Windows interface for The HistoryMakers, field-tested 2008-2009
 - Users frustrated with closed delivery infrastructure
 - Users wanted 24/7 access from their own computers
- Flash application on openly accessible web site, www.idvl.org, with a Harrisburg PA oral history corpus added to test generality of the methods used
- Case studies reported at OHA 2008, OHA 2010 have led to second generation Flash application, posted Feb. 2011 for HistoryMakers Digital Archive and Harrisburg, July 2011 for the ScienceMakers

Metrics Collection

- Transaction log data (24,940 actions logged for *The HistoryMakers*, 16,048 logged for *Harrisburg* during July-Dec. 2010)
- Comments volunteered by users through email and through comments interface in the web portal
- Novice and expert commentary at workshops and at the Oral History Association 2010 demonstration session

Transaction Log Breakdown

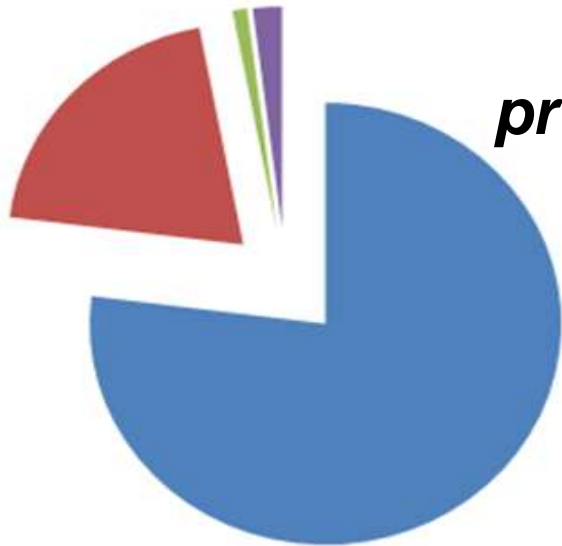
HistoryMakers logs

61% Play Video
2% Search-in-Search
<1% Personal Lists
<1% Filtering

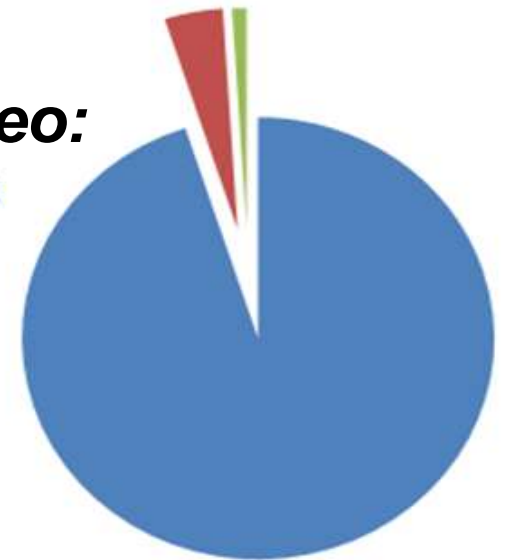
Harrisburg logs

64% Play Video
<1% Search-in-Search
<1% Personal Lists
<1% Filtering

Method used to produce sets of video:



- Table of Contents
- Text Search
- Map Search
- Tag Search



Simpler Navigation and Bookmarking

- Three open source projects provide help for Flash
 - swfaddress (provide deep linking)
 - swfobject (embed Flash in html)
 - swffit (resize Flash with browser window resize)
- Utilizing these projects provides better URL bookmarking (users can share video sets and stories)
- Menu bar added to provide breadcrumb-style navigation (promoting more search-in-search and filtering by keeping users informed of where they are)

Improved Information Seeking

- “Berrypicking” (gathering bit of info at a time) better supported with Play List area
- Support for mixing analytic search strategy (e.g., text search to find a story) with temporal chaining (e.g., playing video one after the other in video interview)

The screenshot displays a web-based video search and playback interface. On the left, a sidebar contains a 'Video Set' section with 'Interviewees: 23' and 'Stories: 68', a search box for 'Search within these 68 stories:', and a 'Play List: 2 stories' section. The central area shows search results for 'biology into 488 from {Search: science}', listing interviews with J.K. Haynes, Edwin Cooper, and S. Allen Counter. The right side features a large video player showing an interview with J.K. Haynes, with a progress bar at 00:07 / 03:58 and playback controls.

Video Set

Interviewees: 23
Stories: 68

Search within these 68 stories:

All words Any words

Play List: 2 stories

S. Allen Counter talks about his interests and influences durin...
3:01, interviewed Feb. 2006

Clifford Johnson discusses the role of science in society
3:50, interviewed Apr. 2011

Search-within: biology into 488 from {Search: science}

J.K. Haynes talks about the influential science faculty at Moreh...
3:57, interviewed Apr. 2011

Edwin Cooper explains his parallel interests in biology and art
4:43, interviewed Apr. 2011

Edwin Cooper talks about his interest in art
3:12, interviewed Apr. 2011

Edwin Cooper talks about his high school
4:26, interviewed Apr. 2011

The History Makers

Play 00:07 / 03:58

New Flash Interface – Intro Screen

Comments | Help

The HistoryMakers®

Welcome to *The HistoryMakers* Video Archive

Over 14,000 stories are assembled here from life oral history interviews with 310 historically significant African Americans. The interviews in this collection were recorded from Dec. 1999 through July 2005.

Match all words Match any words

New Flash Interface – Search Results

[Main](#) : [Results \(132\)](#) : [Subset \(30\)](#)

[Comments](#) | [Help](#)

Video Set

Show Facets

Interviewees: 11

Stories: 30

Search within these 30 stories:

Go

All words Any words

Play List: 2 stories



Floyd Griffin remembers
Tuskegee students' involveme...

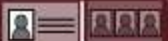
7:50, interviewed Mar. 2002



Alice Palmer details her family
history in Boston and Indianap...

8:30, interviewed June 2000

Search-within: ("Tuskegee Airmen") into 132 from {Search: Tuskegee}



Walter Hill recounts the history of
the Tuskegee Airmen

3:58, interviewed Sep. 2003



William Thompson expresses
concern about the image of theTu...

2:57, interviewed May 2000



William Thompson discusses the
Air and Space Museum's Tuskege...

3:25, interviewed May 2000



William Thompson recalls
Tuskegee airmen Hannibal Cox a...

4:15, interviewed May 2000



Walter Hill describes popular areas
of study on African American histo...

5:49, interviewed Sep. 2003



William Thompson calls for
individual mentoring and advises ...

3:11, interviewed May 2000



William White details his
experiences in the U.S. Navy as p...

10:07, interviewed Sep. 2000



Earl Strayhorn describes being
drafted into the Tuskegee Airmen

8:55, interviewed Jan. 2003

New Flash Interface – Video Story Playback

[Main](#) : [Results \(132\)](#) : [Subset \(30\)](#) : [Video](#)

[Comments](#) | [Help](#)

Walter B. Hill, Jr.

Walter Hill recounts the history of the Tuskegee Airmen

TheHistoryMakers.

About

Archivist and historian Walter B. Hill, Jr. (1949 - 2008) teaches at Howard University and was a senior archivist for the National Archives and Records Administration.

Favorites

Favorite Color: Black
Favorite Food: Spaghetti and Meatballs, Cornbread and Green Peas
Favorite Season: Thanksgiving
Favorite Vacation Spot: the beach

Tags

[Discrimination / Experience of Racism](#) | [Economic Issues](#) | [Making a Value Judgment](#) | [Explaining a Concept / Illustrating a Point](#) | [Inspirational / Motivational](#) | [Great Story](#) | [Historically Significant](#)



Transcript

Now, in terms of the [Tuskegee Airmen](#), I know you have a, some strong feelings about how they changed the, America--

Yeah, well, because, in the, the 20th, in the 19th century the white military established that used the same, had used arguments to keep, to prevent blacks from serving in the Army, that, you know, they weren't intelligent enough and they were not going to fight as vigorous and honorable enough like white troops. Well, those same arguments were used in the 20th century in World War I and World War II. The difference is the [Tuskegee Airmen](#)--these guys were flying airplanes. They became fighter pilots. So they had to be highly educated people to understand the mechanics and the aerodynamics of flying. And there was great opposition to them doing this. Now, there's a little bit of history that we need to understand because one of the pioneers--and I hate to use that term, pioneers--of trained black fighter pilots was a black woman by the

Great Story

4 stories [▶ See List](#)

Historically Significant

8 stories [▶ See List](#)

Captures his Personality

5 stories [▶ See List](#)

His Fantastic Quote(s)

1 story [▶ See List](#)

Highlights

Summary of 2011 Work

- Fielding collections and collecting metrics can iteratively improve the delivery of oral history digital video libraries
 - Simpler navigation and bookmarking
 - Better facet communication
 - Improved information seeking
 - Aesthetics for the portal
- Sharing results and learning from others via the annual Oral History Association meeting: presented at OHA in Pittsburgh in 2008, OHA in Atlanta in 2010, and at OHA 2011 in Denver

Tools To Be Shared at www.idvl.org

- Processing Tools
 - Start with oral history video; transcripts, titled stories as XML
 - Define facets of meaning for your corpus as XML (e.g., occupation, gender, birth year, “favorite color”, ...)
 - These XML files fed into software that runs on Microsoft Windows systems (written in Visual Studio C# and using SQL Server and Microsoft ASR) produce time-aligned multimedia database
 - OpenCalais used to generate linked locations (map search)
- Interface Code
 - Adobe Flex used to generate Flash front-end interfaces
 - Other open source tools used to allow deep linking into Flash
 - CSS used to allow for styling the application

Interested in Using These Tools?

- My contact info: christel@cmu.edu
- Keep following progress at www.idvl.org
- Send us your feedback!



Informedia Digital Video Library

LIVING LEGACY
1860 2010
Harrisburg, PA

Celebrate 150 years of the City of Harrisburg's incorporation through the memories of 150 Extraordinary People.

The Informedia research group at Carnegie Mellon University has worked with speech recognition, image processing, and language technologies through the years to facilitate machine understanding of video materials. This site, idvl.org, is devoted to aspects of Informedia research especially pertinent to Digital Video Libraries for cultural assets, with NSF funding supporting the application of Informedia technologies for oral histories. Hosted at idvl.org are examples of Informedia Digital Video Library (IDVL) interfaces that build from automatic alignment of transcripts to video, named entity detection, geocoding to support map search, and other multimedia indexing and interface technologies. The IDVL interfaces are built with Adobe Flex, producing a Flash application. Users armed with the Flash plug-in for their web browser can explore the IDVL data sets on their own.

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Entertainment Technology Center (ETC), Carnegie Mellon University
For a current list of ETC graduate student projects, see [ETC Projects](http://etc.cmu.edu)
For the Informedia Foundation work supporting idvl.org, see [CMU Informedia Research](http://cmu.informedia.org)

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Credits

Many members of the Informedia Project, CMU research community, and *The HistoryMakers* contributed to this work, including:

Informedia Project Director: Howard Wactlar

***The HistoryMakers* Executive Director:** Julieanna Richardson

Original HistoryMakers Beta Testers: Joe Trotter (CMU History Dept.), SUNY at Buffalo, University of Illinois (3 campuses), Drexel University

ETC Students: Andy Korzik, Xiaoxi “Cici” Liu, Srinavin Nair

HistoryMakers Primary Contributors: Kathryn Stine, Dan Johnson, Alison Bruzek, Marta Grabowski, Paul Mackey

Informedia Library Essentials: Bryan Maher

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