



College of Information Studies

University of Maryland Hornbake Library Building College Park, MD 20742-4345

User Needs

Session 6

INST 301

Introduction to Information Science

Muddiest Points

- Link types (in, out, back, forward, ...)
- The TF*IDF formula
- Behavior

The PageRank Paper



What are Humans Good At?

- Sense low level stimuli
- Recognize patterns
- Reason inductively
- Communicate with multiple channels
- Apply multiple strategies
- Adapt to changes or unexpected events

What are Computers Good At?

- Sense stimuli outside human's range
- Calculate quickly and accurately
- Store large quantities and recall accurately
- Respond rapidly and consistently
- Perform repetitive actions reliably
- Work under heavy load for an extended period

Synergy

- Humans do what they are good at
- Computers do what they are good at
- Strengths of one cover weakness of the other

Human Senses

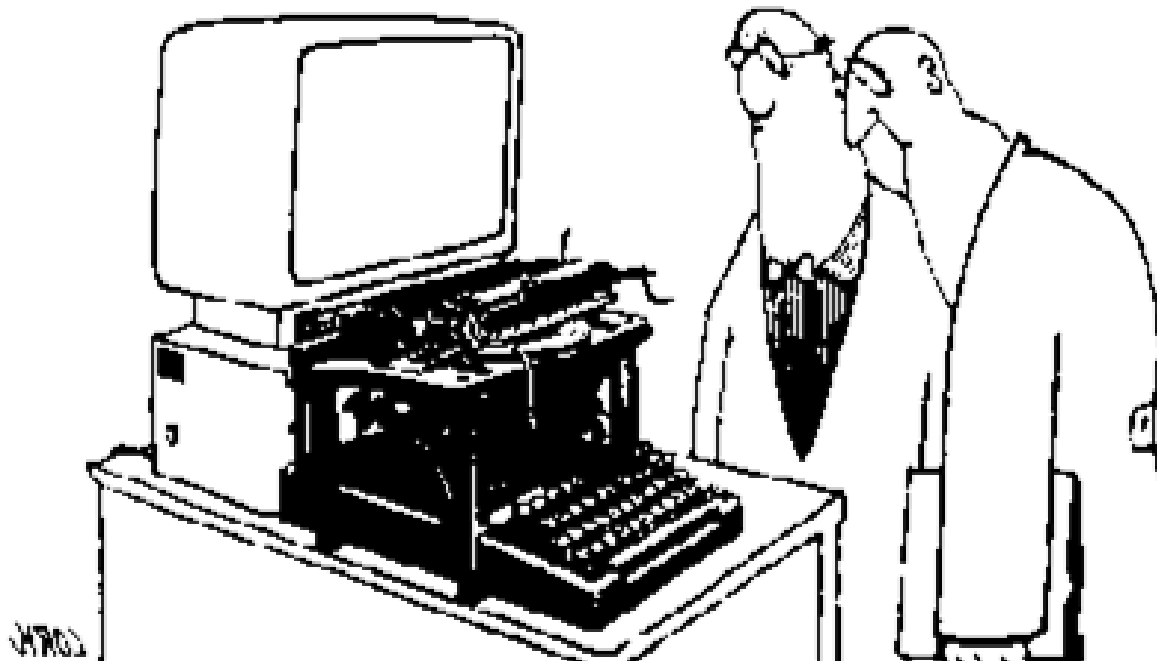
- Visual
 - Position/motion, color/contrast, symbols
- Auditory
 - Position/motion, tones/volume, speech
- Haptic
 - Mechanical, thermal, electrical, kinesthetic
- Olfactory
 - Smell, taste
- Vestibular

User Characteristics

- Perceptual
 - The five senses
- Physical
 - Anthropomorphic (height, left handed, etc.)
 - Age (mobility, dexterity, etc.)
- Cognitive
 - Conceptual
 - Cultural

Transfer Effects

- People transfer expectations from similar objects
 - Positive: prior learning applies to new situation
 - Negative: prior learning conflicts with new situation



Caller: Hello, is this Tech Support?"

Tech: Yes, it is. How may I help you?

Caller: The cup holder on my PC is broken and I am within my warranty period. How do I go about getting that fixed?

Tech: I'm sorry, but did you say a cup holder?

Caller: Yes, it's attached to the front of my computer.

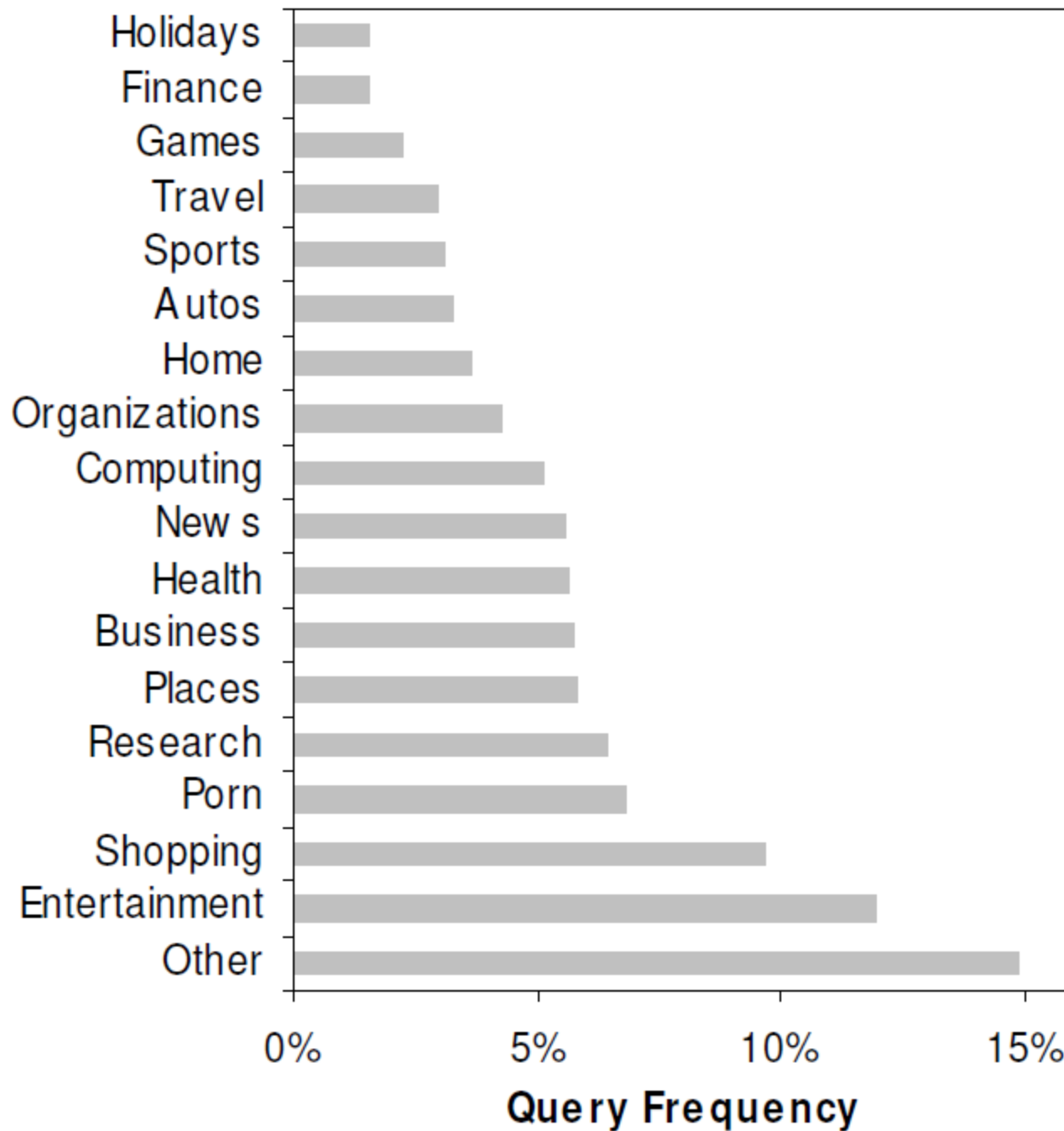
Tech: Please excuse me if I seem a bit stumped, it's because I am. Did you receive this as part of a promotional, at a trade show? How did you get this cup holder? Does it have any trademark on it?

Caller: It came with my computer, I don't know anything about a promotional. It just has '4X' on it.

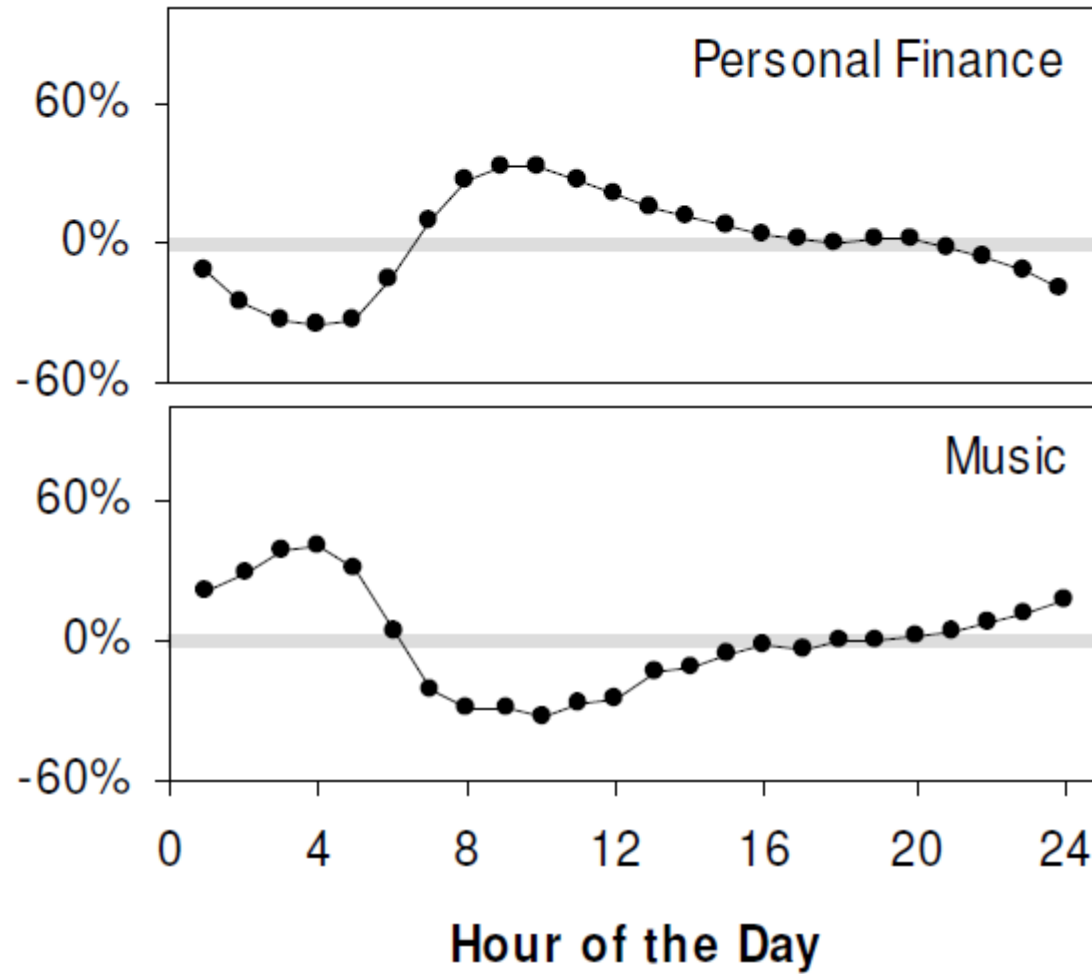
At this point the Tech Rep had to mute the call, because he couldn't stand it. The caller had been using the load drawer of the CD-ROM drive as a cup holder, and snapped it off the drive.

Types of User Needs

- Informational (30-40% of queries)
 - What is a quark?
- Navigational
 - Find the home page of United Airlines
 - Refinding something you have found before
- Transactional
 - Data: What is the weather in Paris?
 - Shopping: Who sells a Viao Z505RX?
 - Proprietary: Obtain a journal article



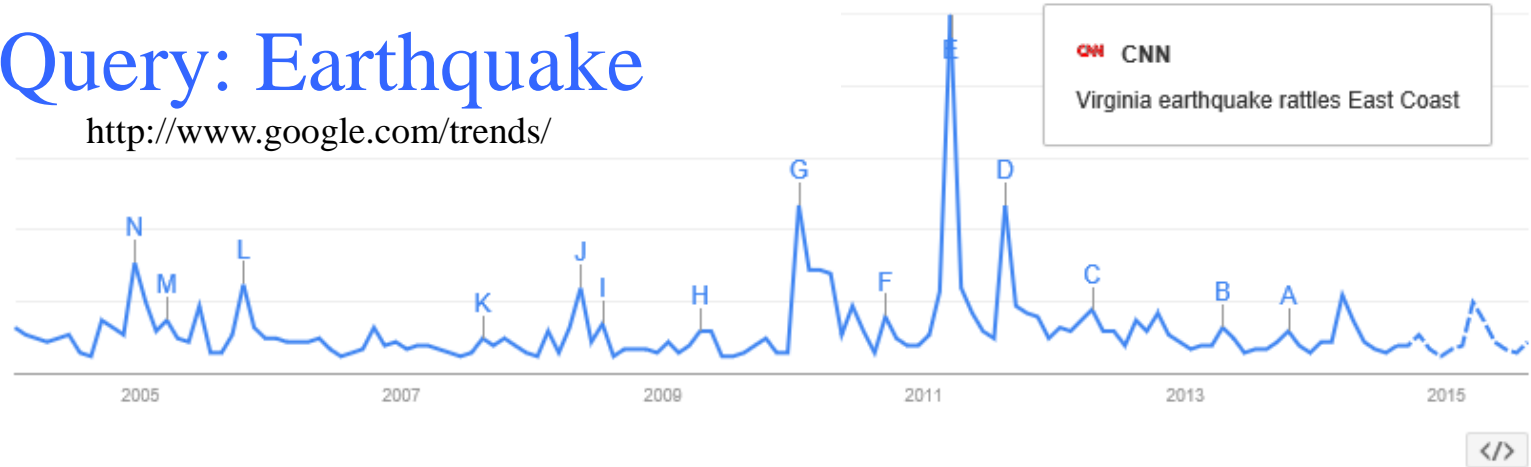
Difference from Daily
Mean Query Frequency



Burstiness

Query: Earthquake

<http://www.google.com/trends/>



Regional interest ?



Region City	
New Zealand	100
Bhutan	57
Fiji	48
Cayman Islands	42
Antigua and Barbuda	36
Philippines	35
St. Vincent & Grenadines	35

▼ View change over time ?

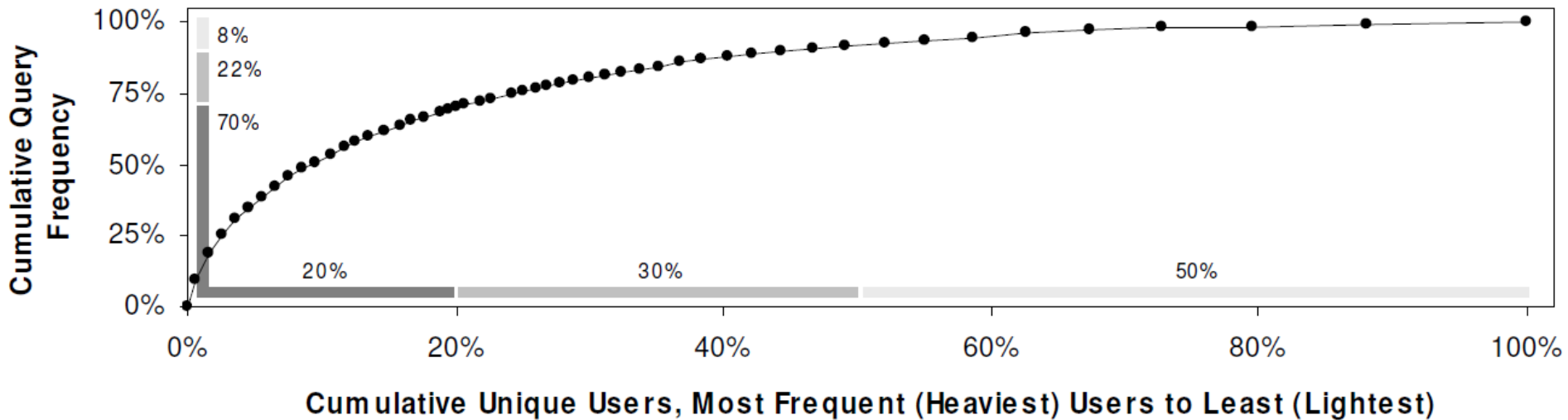
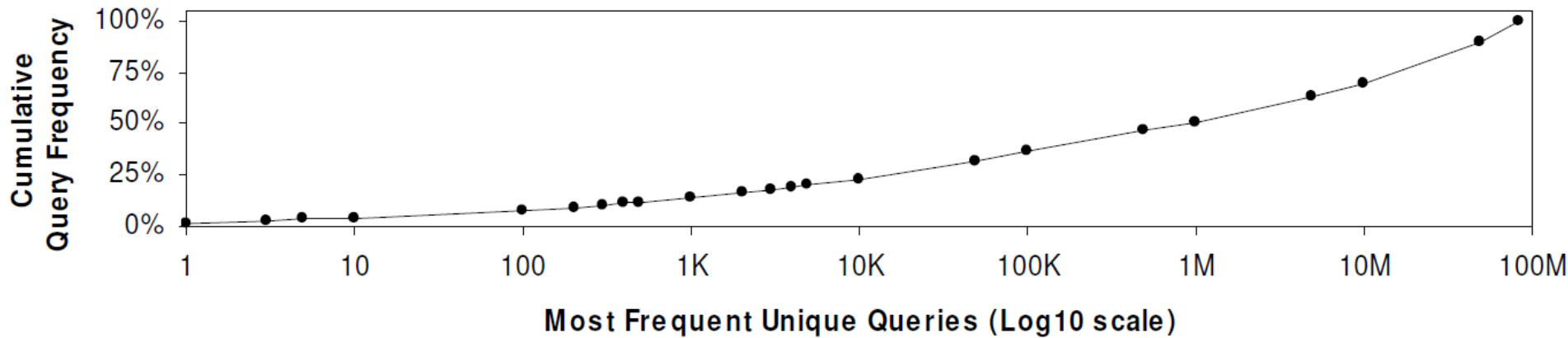


Jan-Jun 2011

</>

</>

Query Statistics



User Needs Exercise

- Form teams with diverse expertise
- Think about a specific search problem
 - User needs, user characteristics
- Identify needed system capabilities

Multilingual Access to Large Spoken Archives

Douglas W. Oard

University of Maryland, College Park, MD, USA



William Byrne, Martin Franz, Lisa Goodgame, Samuel Gustman, Jan Hajic,
Michael Picheny, Josef Psutka, Bhuvana Ramabhadran, Dagobert Soergel

Who Uses the Collection?

Discipline

- History
- Linguistics
- Journalism
- Material culture
- Education
- Psychology
- Political science
- Law enforcement

Products

- Book
- Documentary film
- Research paper
- CDROM
- Study guide
- Obituary
- Evidence
- Personal use

Question Types

- Content
 - Person, organization
 - Place, type of place (e.g., camp, ghetto)
 - Time, time period
 - Event, subject
- Mode of expression
 - Language
 - Displayed artifacts (photographs, objects, ...)
 - Affective reaction (e.g., vivid, moving, ...)
- Age appropriateness

Observational Studies

Workshop 1 (June)

- Four searchers
 - History/Political Science
 - Holocaust studies
 - Holocaust studies
 - Documentary filmmaker
- Sequential observation
- Rich data collection
 - Intermediary interaction
 - Semi-structured interviews
 - Observational notes
 - Think-aloud
 - Screen capture

Workshop 2 (August)

- Four searchers
 - Ethnography
 - German Studies
 - Sociology
 - High school teacher
- Simultaneous observation
- Opportunistic data collection
 - Intermediary interaction
 - Semi-structured interviews
 - Observational notes
 - Focus group discussions

Thesaurus-Based Search

Search History

Broad Categories Search

Segments:

Language, Gender, My Projects

Search Results

Segments: 0

new search

To find a keyword, double click on any Broad Category which will open to reveal additional categories and/or keywords. Choose a **keyword(s)** (in red) or **variation(s)** (in green) and click "ADD TO MY LIST". To conduct your search, click "NEXT".

- ☒ starts with
☐ exact match
☐ contains

My Choices:

Activities
Concepts
Conditions
 + economic conditions
 + environmental conditions
 + health conditions
 + living conditions
 + physiological conditions
 - social conditions
 + assimilated
 + socioeconomic status
 + status and conditions
 + transport conditions
Institutions and Organizations
Miscellaneous
Objects
People
Places
Time
Types

Keyword & Definition:

socioeconomic status

The social standing of an individual as determined by his or her economic status, e.g. an individual is considered socially "privileged" or "upper-class" if he or she has a well-paid occupation and/or access to considerable financial resources.

My List

socioeconomic status

>> ADD >>

<< Delete <<

back

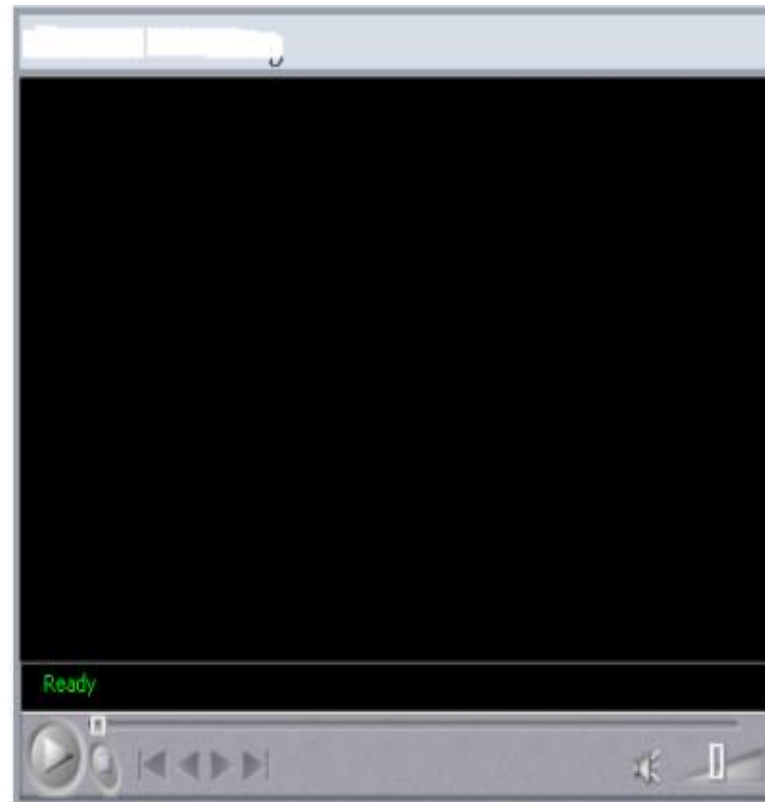
next

Segment Viewer

Right-click on your mouse for additional video controls.

- ZOOM adjusts the size of the video screen.
- VOLUME adjusts the sound.

To start video, click here:



Choose One:

- ◀ Video
- Slide Show

Download Time:
less than 15 minutes

All Keywords in this Segment ▶
Biographical Profile
Special Thanks

Keywords for Segment #1

education
family life
Cologne (Germany)
socioeconomic status
divorces and separations
religious holidays, Jewish
Germany 1920 (June 6) - 1923 (August 12)

- Maximize/Minimize Data
- Next Segment
- Previous Segment
- Back to Search Results
- Choose New Search
- Save to My Projects

Observed Selection Criteria

- Topicality (57%)
 - Judged based on: Person, place, ...
- Accessibility (23%)
 - Judged based on: Time to load video
- Comprehensibility (14%)
 - Judged based on: Language, speaking style

Functionality



Needed Function	<p>Boolean Search and Ranked Retrieval (13)</p> <p>Testimony summary (12)</p> <p>Pre-Interview Questionnaire search/viewer (9)</p> <p>Rapid access (7)</p> <p>Related/Alternative search terms (3)</p> <p>Adding multiple search terms at once (2)</p> <p>Keywords linked to segment number for easy access(1)</p> <p>Multi-tasking (1)</p> <p>Searching testimonies by places under 'Experience Search' (1)</p> <p>Extensive editing within 'My Project' (1)</p>
Desired Function	<p>Temporary saving of selected testimonies (4)</p> <p>Remote access (3)</p> <p>Integrated user tools for note taking (3)</p> <p>Map presentation (2)</p> <p>Reference tool (1)</p> <p>More repositories (1)</p> <p>Introductory video of system tutorial (1)</p> <p>Help (1)</p>

Search Strategies

