

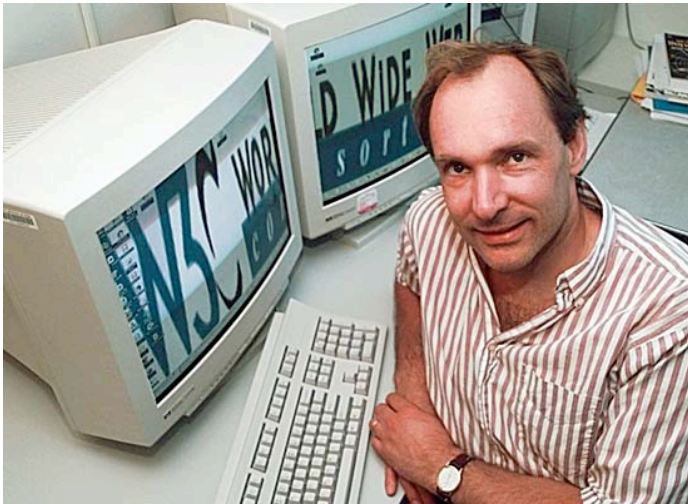


Questioning "Accessibility", Conceptualizing Diversity, and Practising Inclusion

Michael Felczak

Second International PKP Scholarly Publishing Conference
July 9, 2009

“The power of the Web is in its universality.
Access by everyone regardless of disability is
an essential aspect.”



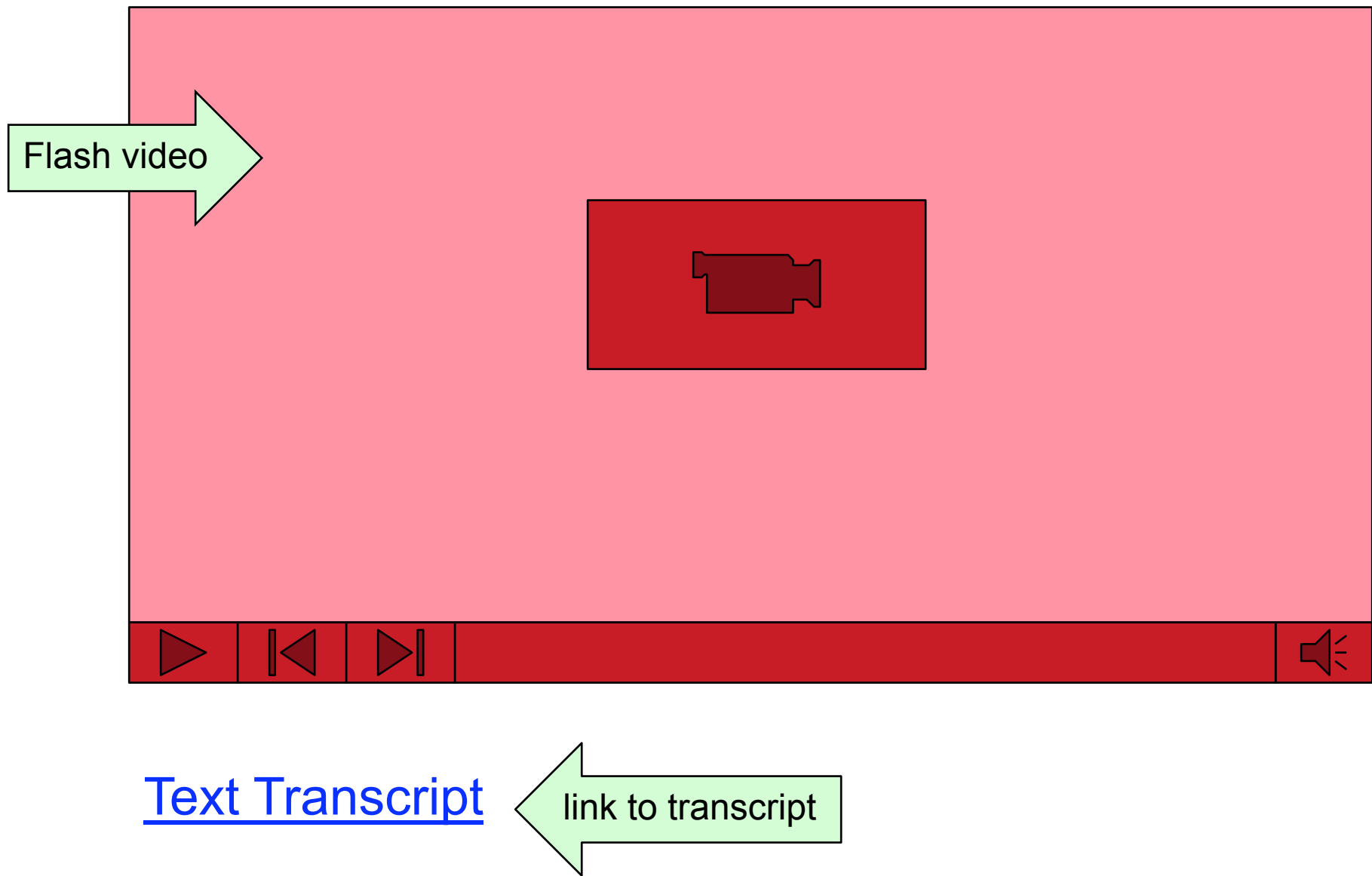
Tim Berners-Lee
Director, W3C
Inventor of the World Wide Web¹

- Describe how to make Web content accessible to people with disabilities.
- Foundation for accessibility guidelines for governments, education, and the private sector.
- General guideline:
 - Provide text alternatives for any non-text content.
 - Text can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

W3C Web Accessibility Guidelines

- Focus on video for this presentation
- Video increasingly used in scholarly online publishing
 - to demonstrate a complex process
 - as data for content analysis
 - etc.
- But Web Accessibility Guidelines very narrow
 - address needs of users with disabilities
 - do not address accessibility needs of other groups online

Online Publishing and Multimedia



Flash Video + Transcript Meets Guidelines

- Currently defined primarily in terms of disability
- What about ...
 - availability of Internet connection?
 - stability of Internet connection?
 - cost of Internet connection?
 - speed of Internet connection?
 - type of device?
- Broader conception is more socially inclusive
 - Across geography, socioeconomics, technology

Revisiting Accessibility and Diversity

“Here’s something I’m tired of: the phone and internet cables in our area are stolen.”



Internet user from the Philippines²

“I'm in that situation: my home connection is great, but my uni has really low limits and high costs. This is fine when I can download something at home and bring it into uni, but if I go over my cap at uni, I can not browse anything at uni. This means I can't look up some papers or follow some links.”



Internet user from South Africa³

“[Current Internet applications] assume all users have high-speed connection in accessing the Internet. The problem is that when the connection is bad, they decide to fail the operation without leaving the user with any option.”



Software Researchers and Engineers
Yogyakarta State and Gadjah Mada University
Indonesia⁴

- Users who access the Internet using cell phones
 - including users in developing countries
- Students, faculty, and professionals with the latest gadgets
- Flash support starting to appear for some devices
- No Flash support for Apple devices (iPhone/iPod)

And users with mobile devices?

1) Provide direct download options

- enables users to save video to PC and view offline
- one download, but users can view many times

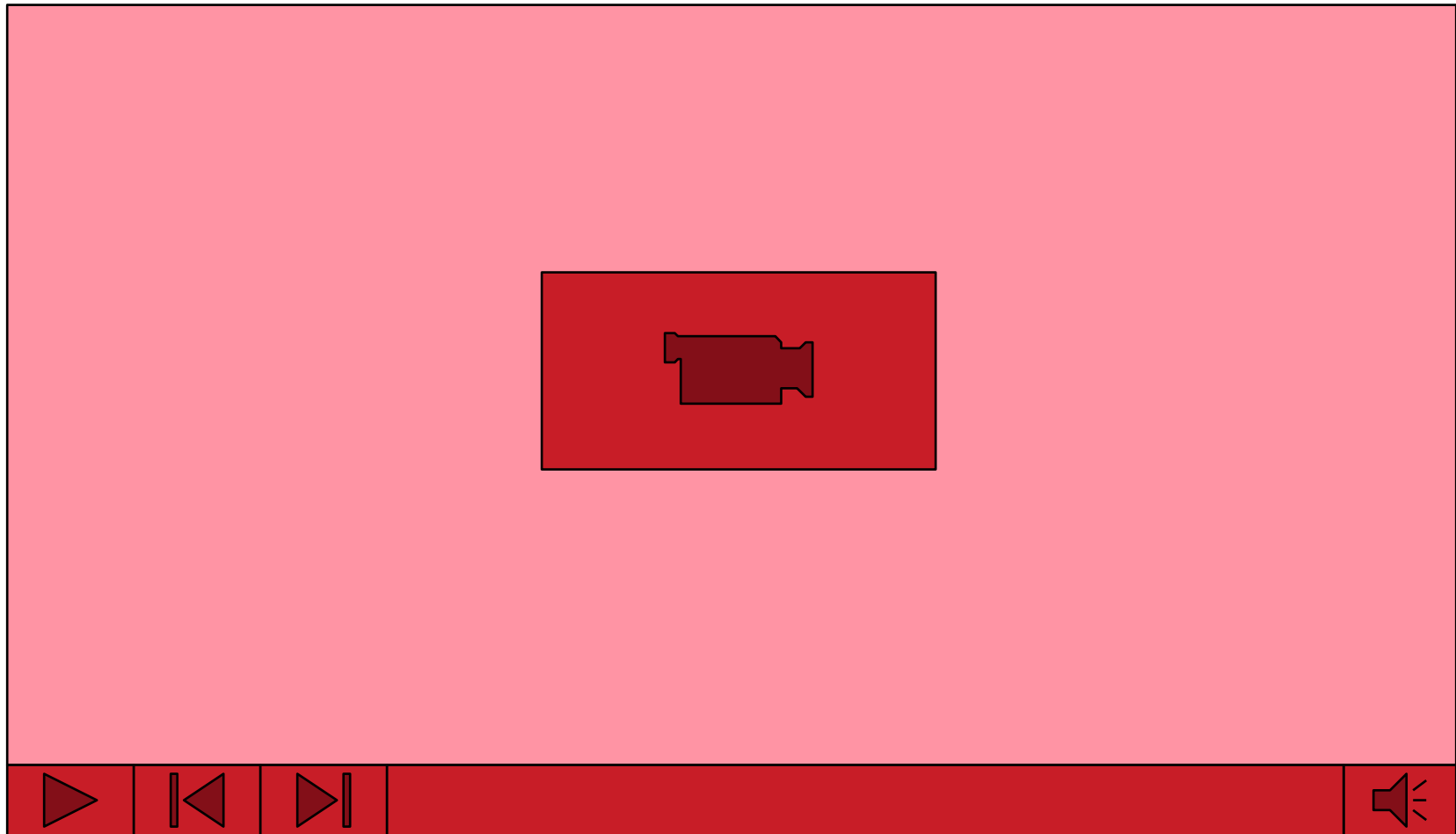
2) Provide multiple file formats

- for users with Windows, Mac, and Linux PCs
- users will not need to install additional software

3) Provide high and low resolution

- for users with bandwidth limitations and mobile devices

How can we improve things?



High Resolution: [Windows](#) [Mac](#) [Linux](#)

Low Resolution: [Windows](#) [Mac](#) [Linux](#)

[Text Transcript](#)



- 1/3 of all Dell netbook sales are Ubuntu Linux⁵
- Increasingly adopted in developing countries⁶
- Non-profits provide free PCs with Linux⁷



Combined offers valid 10/10-10/15. 8.9"



MORE FUN. LESS BAGGAGE.
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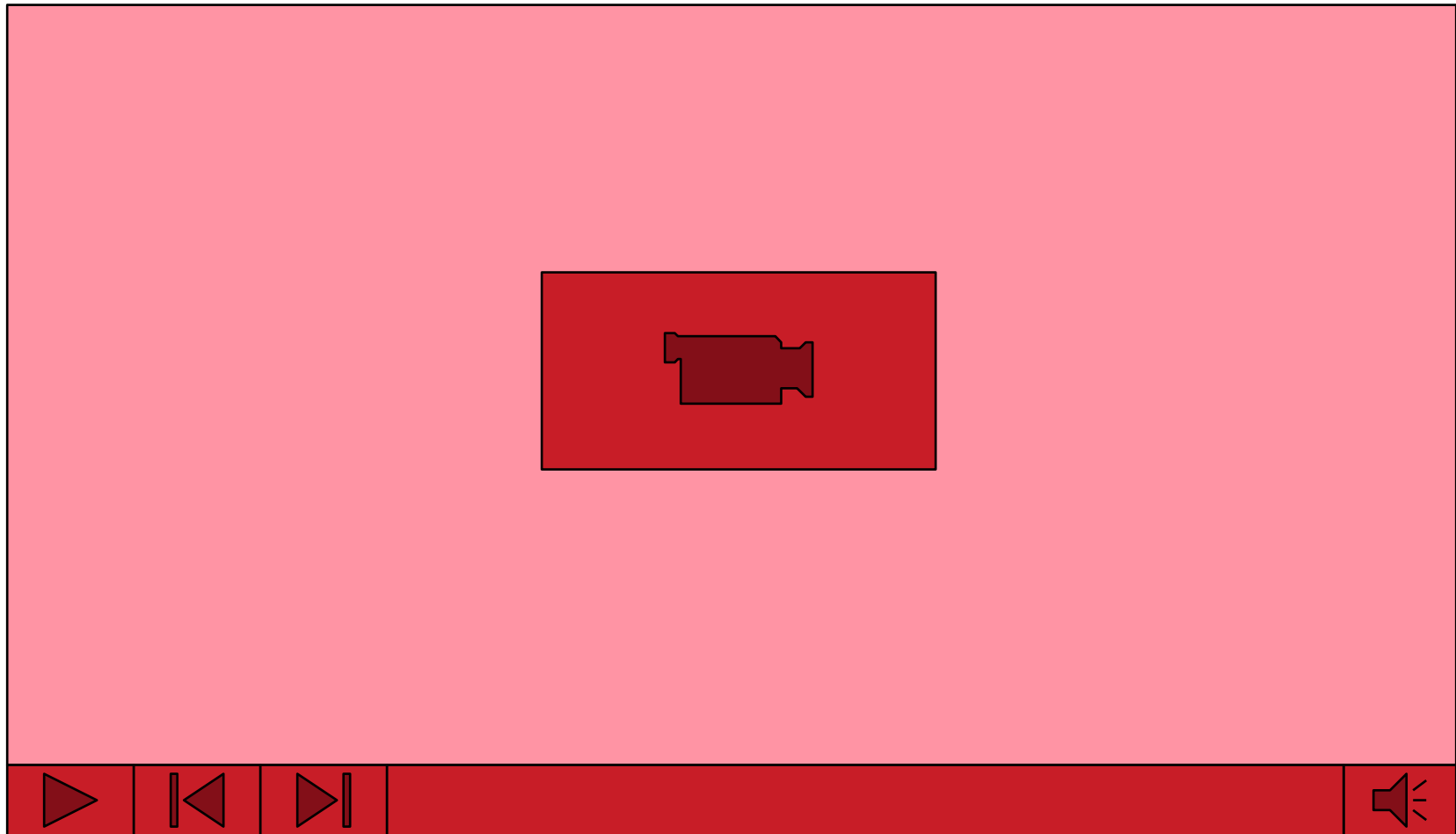
Why include file formats for GNU/Linux?

Before	After
Users with ...	Users with ...
disabilities	disabilities
	expensive Internet
	unstable Internet
	slow Internet
	various operating systems
	mobile Internet devices

Revisiting Accessibility and Diversity

- License audio/video using Creative Commons⁸
 - Many licence options to choose from
- Permits translation and subtitles to local languages
- Enables local distribution via more accessible media
 - DVD-ROMs and CD-ROMs
 - Local area networks
 - Courseware
- Applies equally to text content

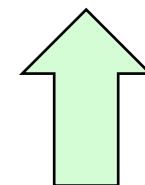
Linguistic Diversity



High Resolution: [Windows](#) [Mac](#) [Linux](#)

Low Resolution: [Windows](#) [Mac](#) [Linux](#)

[Text Transcript](#)



Creative Commons
license + link + logo

Before	After
Users with ...	Users with ...
disabilities	disabilities
	expensive Internet
	unstable Internet
	slow Internet
	various operating systems
	mobile Internet devices
	other languages

Revisiting Accessibility and Diversity



Bad Example: youtube.com

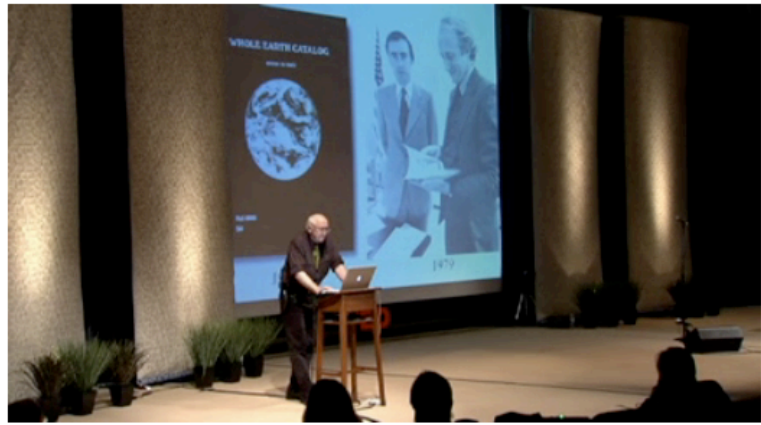
- Flash-based video player
- No direct download options
- Recently announced testing of direct download options and licensing using Creative Commons⁹

Bad Example: youtube.com

Stewart Brand proclaims 4 environmental 'heresies' | Video on TED.com

Talks Stewart Brand proclaims 4 environmental 'heresies'

Filmed Jun 2009; Posted Jul 2009



00:56 | 16:42

Share Rate

Subtitles: No languages available

DON'T SEE YOUR LANGUAGE? Display issues?

Subtitling made possible by: NOKIA

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Download this Talk

Video to desktop (Zipped MP4)
Video to iTunes (MP4)

More actions for this Talk

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Watch this talk as high-res video (MP4)

About this talk

The man who helped usher in the environmental movement in the 1960s and '70s has been rethinking his positions on cities, nuclear power, genetic modification and geo-engineering. This talk at the US State Department is a foretaste of his major new book, sure to provoke widespread debate.

About Stewart Brand

Since the counterculture Sixties, Stewart Brand has been a critical thinker and innovator who helped lay the foundations of our internet networked world. [Full bio and more links](#)

What to watch next

TED2006 Stewart Brand on squatter cities
03:05 Posted: May 2007
Rated: Unconvincing Informative Confusing...

Other talks from "The Power of Cities"

Steven Johnson on the Web as a city
16:30 Posted: Oct 2008

Robert Neuwirth on our "shadow cities"
14:03 Posted: Jan 2007

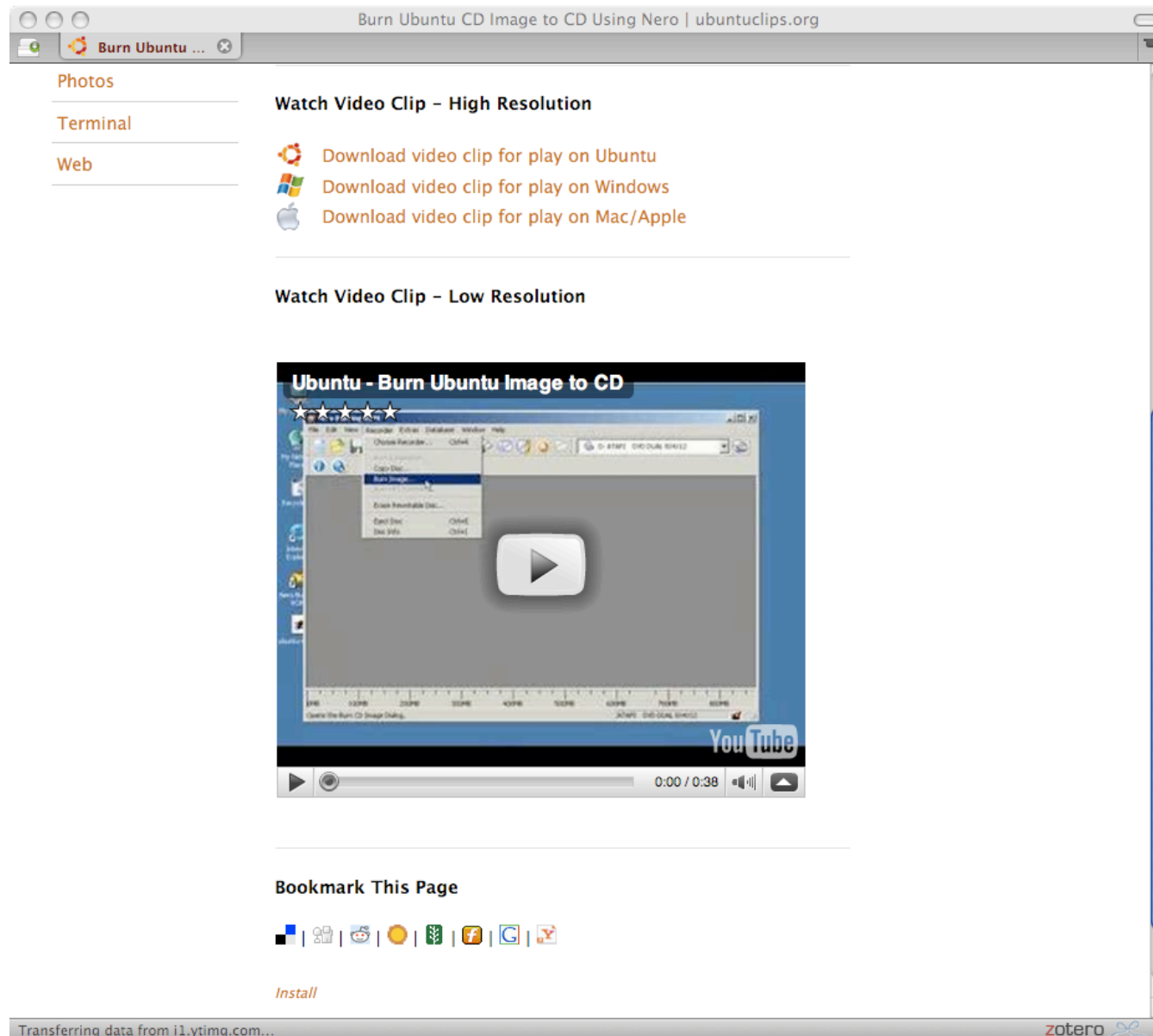
Steven Johnson tours the Ghost Map
10:03 Posted: Jan 2007

Done zotero

Better Example: ted.com

- Flash-based video player
- Direct download options:
 - High and low resolution
- Licensed using Creative Commons
- However, only one download file format used: MP4
 - Requires every Windows and Linux user to install additional software

Better Example: ted.com



Better Example: ubuntuclips.org

- Direct download options in multiple file formats
- High and low resolution options
 - high resolution via direct download
 - low resolution via Flash player
- Licensed using Creative Commons
- However, no direct download of low resolution formats

Better Example: ubuntuclips.org

1) Download and install a free file conversion tool

2) Each time audio or video is published:

- Convert file to additional file formats
- Provide direct download links for all formats

- Free file conversion tools:

- Graphical user interface for Windows and Apple tools
- Select format, resolution, and quality and press “Go”

Modified video publishing workflow

- If you use a Windows PC:
 - Simplified Universal Player Encoder & Renderer (SUPER)¹⁰
 - Converts files to Windows, Mac, and Linux formats
- If you use a Mac PC:
 - FFmpegX to convert to Windows and Mac formats¹¹
 - Simple Theora Converter to convert to Linux format¹²
- If you use a Linux PC:
 - FFmpeg to convert to Windows and Mac formats¹³
 - FFmpeg2Theora to convert to Linux format¹⁴

Free File Conversion Tools

- For users accessing your video from a Windows PC:
 - WMV container (.wmv suffix)
 - WMV video + WMA audio
- For users accessing your video from a Mac PC:
 - MP4 container (.mp4 suffix)
 - H.264 video + AAC audio
- For users accessing your video from a Linux PC:
 - OGG container (.ogv suffix)
 - Theora video + Vorbis audio

Video File Formats

- Use original file as source for each conversion
 - Try to avoid compression of already compressed content
- Some common higher and lower resolutions:
 - 640x480
 - 480x320
 - 320x240
- Similar problems and principles apply to audio
 - Audio component of video example
- Many free resources and guides available online

File Conversion Process

1. Web Accessibility Initiative. URL: <http://www.w3.org/WAI/>
2. Learning from the Woes of Third World Web Workers. URL: <http://webworkerdaily.com/2008/05/02/learning-from-the-woes-of-third-world-web-workers/>
3. Browsing Frugally Without Wasting Bandwidth. URL: <http://ask.slashdot.org/comments.pl?sid=1007537&cid=25507997>
4. A Configurable Internet Browser for Unreliable Internet Connections. URL: http://repository.gunadarma.ac.id:8000/iiWAS2007_473-481_1172.pdf
5. One Third of Dell Inspiron Mini 9s Sold Run Linux. URL: <http://blog.laptopmag.com/one-third-of-dell-inspiron-mini-9s-sold-run-linux>
6. Netbook Sales Driving Linux Adoption. URL: <http://www.v3.co.uk/vnunet/news/2233381/netbooks-sales-driving-linux>
7. Free Geek Vancouver: Earn a Computer. URL: http://freegeekvancouver.org/en/adoption_program
8. Creative Commons: About. URL: <http://creativecommons.org/about/>
9. YouTube Tests Download and Creative Commons License Options. URL: <http://creativecommons.org/weblog/entry/12757>

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11. FFmpegX. URL: <http://ffmpegx.com/index.html>
12. Simple Theora Encoder. URL: <http://v2v.cc/~j/SimpleTheoraEncoder/>
13. FFmpeg. URL: <http://ffmpeg.org/>
14. FFmpeg2Theora. URL: <http://v2v.cc/~j/ffmpeg2theora/>

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