Podcasting

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cirtUOS
Center for Information Management and virtual Teaching

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virtUOS:
Center for Information Management and virtual Teaching

• eLearning Center of the university
• Founded 2002
• About 18000 students (University and University of Applied Sciences)
• number of employes: ""
Podcasting

Podcast = Broadcast to iPod
Personal broadcast over the Internet
Not restricted to iPod; can be used on different devices
Different digital audio formats (usually mp3 or AAC)

• Audioblog --> audioblogging
• Podcasting is the transmission of multimedia files over the internet.
• Podcasts are files that are sent at regular intervals
• Users can subscribe to the offerings:
  Viewers determine which podcast they want, they sign up and have them delivered automatically

History

First Podcasting ideas:
• Tristan Louis: one of RSS’ applications earliest proponents
  2000: working on initiatives for the World Wide Web Consortium
  Example: standards for embedding tv programmes in the internet
• Dave Winer: implemented the concepts behind RSS
  (Really Simple Syndication)
  1999: XML-RPC, Co-Autor + Microsoft
  1999: RSS 0.91, Co-Autor + Netscape
  2000: SOAP 1.1, Co-Autor + Microsoft + IBM
  2000: OPML 1.0, Autor
  2001: RSS 0.92, Autor
  2002: RSS 2.0, Autor

Dave Winer (2007)
Reboot Conference in Kopenhagen
History

First Podcasting ideas:

- Adam Curry (the Podfather): former MTV moderator is one of the first committed „audioblogging” content producers

- Ben Hammersley:

  He coined the term podcasting (2004), in an article for The Guardian.
  It was later the New Oxford American Dictionary word of the year for 2005.

  ADAM CURRY’S DAILY SOURCE CODE:
  http://dailysourcecode.com/

Web Feed

A web feed is a data format used for providing users with frequently updated content.

Content distributors syndicate a web feed, thereby allowing users to subscribe to it.

Typical scenario:

- a content provider publishes a feed link on their site which end users can register with an aggregator program (also called a feed reader or a news reader) running on their own machines;

- Drag the link from the webbrowser to the feed reader software
- The feed reader software checks all the servers in the feed list if they have new content
- The feed reader makes a note or just downloads the associated content

The kinds of content delivered by a web feed are typically HTML or links to webpages and other kinds of digital media.

Infos: Dave Shea (2004): What is RSS/XML/Atom/Syndication
To define it: Podcasting is the process of capturing an audio event, song, speech, or mix of sounds and then posting that digital sound object to a web site or "blog" in a data structure called an RSS 2.0 envelope (or "feed"). Meng, P. (2005)

RSS: Really Simple Syndication, Rich Site Summary or RDF Site Summary

• used to publish frequently updated content such as blog entries, news headlines and / or podcasts.

• An RSS document, which is called a "feed", "web feed", or "channel", contains either a summary of content from an associated web site or the full text.

Alternative web feed technology: Atom
http://en.wikipedia.org/wiki/Web_feed

RSS Specifications:
http://cyber.law.harvard.edu/rss/rss.html
File extensions for RSS feeds: .rss / .xml

Example of a RSS 2.0 file: http://en.wikipedia.org/wiki/RSS_(file_format)

```xml
<?xml version="1.0"?>
<rss version="2.0">
  <channel>
    <title>Liftoff News</title>
    <link>http://liftoff.msfc.nasa.gov</link>
    <description>Liftoff to Space Exploration</description>
    <language>en-us</language>
    <pubDate>Tue, 10 Jun 2003 04:00:00 GMT</pubDate>
    <lastBuildDate>Tue, 10 Jun 2003 09:41:01 GMT</lastBuildDate>
    <docs>http://blogs.law.harvard.edu/tech/rss</docs>
    <generator>Weblog Editor 2.0</generator>
    <managingEditor>editor@example.com</managingEditor>
    <webMaster>webmaster@example.com</webMaster>
    <item>
      <title>Star City</title>
      <description>How do Americans get ready to work with Russians aboard the International Space Station? They take a crash course in culture, language and protocol at Russia’s Star City</description>
      <pubDate>Tue, 10 Jun 2003 09:39:21 GMT</pubDate>
      <guid>http://liftoff.msfc.nasa.gov/2003/06/03.html#item573</guid>
    </item>
  </channel>
</rss>
**Podcast**

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*Not restricted to iPod; can be used on different devices*
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Different Podcasts variants:
**Classical Podcast:** Audio only
**Video Podcast:** Audio + Video
**Enhanced Podcast:** Audio + additional synchronized data (pictures)

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**Podcast Client**

Podcast client software lets users subscribe to and manage podcasts.

„Podcatchers“ exist for many computer platforms
Typical podcasting scenario

Publisher (Provider)  
Production

WebServer

Distribution

Download + Usage (Subscription model)

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Podcast RSS (1)

<?xml version="1.0"?>
<rss version="2.0">
  <channel>
    <title>My Episodes</title>
    <link>http://www.uos.de</link>
    <lastBuildDate>Tue, 23 Jan 2006 12:42:43 +0100</lastBuildDate>
  </channel>
</rss>
**Enhanced Podcast**

- **Enhanced Podcast**: Audio + additional data (e.g. pictures)

```xml
<chapters version="1">
  <chapterstarttime="00:00">
    <title>Introduction</title>
    <picture>pictures/firstImage.png</picture>
  </chapter>

  <chapterstarttime="00:08">
    <picture>pictures/secondImage.jpg</picture>
    <link href="http://www.myHome.com/link/">My ChapterLink</link>
  </chapter>

  ...
</chapters>
```
Videokompression

Vorgehen:
- Identifikation gleicher oder ähnlicher Teile
- Referenzierung gleicher Teile
- Absolute Reduzierung unterschiedlicher Teile

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<?xml version="1.0" encoding="UTF-8"?>
<!-- must include xmlns:itunes tag -->
<rss xmlns:itunes="http://www.itunes.com/dtds/podcast-1.0.dtd" version="2.0">
  <channel>
    <title>Audio und Videotechnik</title>
    <itunes:author>Prof. Dr. Karsten Morisse</itunes:author>
    </description>
    <language>de-de</language>
    <link>http://movii.et.fh-osnabrueck.de/~kamo/</link>
    <itunes:image href="http://fair.virtuos.uos.de/virtPresenter/EnhancedPodcast/AuV.jpg"/>
    <copyright>© 2006 Karsten Morisse</copyright>
    <itunes:owner>
      <itunes:name>Karsten Morisse</itunes:name>
      <itunes:email>kamo@fhos.de</itunes:email>
    </itunes:owner>
    <itunes:category text="Higher Education"/>
    <itunes:explicit>clean</itunes:explicit>
    <ttl>90</ttl>
  </channel>
</rss>
iTunes RSS

<item>
  <guid>http://fair.virtuos.uos.de/virtPresenter/EnhancedPodcast/podcast/140306</guid>
  <title>Vorlesung vom 14.03.06</title>
  <pubDate>Tue, 14 Mar 2006 08:15:00 GMT</pubDate>
  <itunes:author>Prof. Dr. Karsten Morisse</itunes:author>
  <itunes:summary>Videosignale</itunes:summary>
  <enclosure url="http://fair.virtuos.uos.de/virtPresenter/EnhancedPodcast/podcast/140306/av140306_EPod.m4a" length="5554000" type="audio/mp4"/>
  <itunes:duration>01:32:34</itunes:duration>
</item>

More Infos and FAQ

iTunes Traffic

University networktraffic a year
Netzverkehr im Jahr

7.5 Mbytes/sec => 632 GBytes am Tag
632 GBytes a day
Implementing mobile assignments

hard to learn complex topics with a mobile device

Question

Possible answers

Possible answers:
correct -> next question
false-> device goes back to the podcast where the user can repeat parts of the lecture

What do you need?

Software/Hardware:
(only a personal view, there are many tools available, ask google :) )

• PC (Windows, Linux, Apple)
• Micro, Camera, (Videofootage)
• Tools for video & audioconversion: audacity for audio
  http://audacity.sourceforge.net/
• TextEditor: UltraEdit, TextPad, ... !not MS Word!
• Webserver: Apache
• FTP-Programm: Filezilla
  http://www.filezilla.de/
• Podcatcher: iTunes
  http://wiki.podcast.de/Podcatcher
Tools (1)

Audio / Video conversion:

- MediaCoder
  http://mediacoder.sourceforge.net/

- ffmpeg
  http://de.wikipedia.org/wiki/FFmpeg

- GarbageBand

Windows

- different video codecs,
- formats and also resolution diversities.

Mac

Tools (2)

GarbageBand
Tools (3)

ProfCast

www.profcast.com

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virtPresenter lecture recording framework

University of Osnabrück

eLearning

advanced content provision:
Recording of the content, preparation for publishing and providing on a server

Podcasts
(Audio, Video & Enhanced Podcasts)

mLearning

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• 3 Parts
  – Recording
  – Processing
  – Distribution

• Lecturer only starts / stop the presentation

• Processes are fully automated

• Recording system is scaleable

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Situation in Osnabrück

User survey (2006) in the LMS Stud.IP  (a=777 students)

Used audio devices:
- 66% own a mp3 player
- 9% iPod
- 24% no audio player

User survey (2006) in the LMS Stud.IP  (a=777 students)

Questions:
• How do you use podcasts? Which devices do you use?
• Do you watch the whole episodes, or just parts?

82% of the students use them on a laptop or a pc
extern users: 85% use a laptop or pc

Mobile devices
(iPods, PSP, mobile phone, or simple audio players):
students: 15%, extern 18%

Students don’t want to see whole episodes (only 13% would use the whole episodes)
35% would search a special part in a lecture

84% of the extern users would see the whole episodes
16% would see special parts

intern students: n=58 // extern users: n=368
Which devices are used?

- Students:
  - PC or Laptop: 11
  - iPod: 2

- Extern Users:
  - PC or Laptop: 270
  - iPod: 57

Intern students: n=58 // Extern Users: n=368

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Is the content used mobile?

- Students:
  - At home: 6
  - On the go: 2

- Extern Users:
  - At home: 304
  - On the go: 40

Intern students: n=58 // Extern users: n=368

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Demonstration of the Flex based user web interface:
http://fair.virtuos.uos.de/public/demo

Collection of lecture recordings & lecture podcasts can be found:
http://www.lernfunk.de

Some recordings are also available at
Apples iTunes Music Store

Workshop link:
http://www.podcast-university.com

Framework is open source now!

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