Learning with Apple Technologies

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Apple Education Leadership Series
London • Jan 14, 2010
• 30,000 students
• One of Germany’s 9 Excellence Universities
• Highest research funding from DFG (the German NSF) in the nation
• Technology focus
Exzellenzinitiative
Förderentscheidungen 2006/7

prämiert für das Zukunftskonzept
(sogenannte Elite-Universitäten)
je nach Antrag ca. 7 bis 14 Mio.

Exzellenzcluster
- 6,5 Mio. €/Jahr

Graduiertenschule
- 1 Mio. €/Jahr
Media Computing Group

• Part of the Computer Science Department
• Our focus: New technologies for Human-Computer Interaction (HCI)
• Apple-based
http://hci.rwth-aachen.de/videos/i10/projects-2.m4v
Why Apple: General

- Unix-based OS
- Robust through small hardware model range
- Subtle usability advantages (consistency, user-centeredness)
  - If switching is possible
- Essentially no viruses
- No client OS software license hassles

➡ Low Total Cost of Ownership
Why Apple: Universities

• No hardware in lowest price segment
  • But higher-end hardware makes more sense for many universities due to re-selling difficulties

• Apple On Campus online store
• Helpful infrastructure: Apple dealers, Apple Education support
• Open-source base OS, open standards support
• eLearning through simple media handling
Why Apple: Computer Science

- Only OS offering both MS Office and Unix shell
- Free, modern IDE (Xcode)
  - But: Microsoft Academic Alliance Program
- Innovative OS features for academic R&D
  - Core Image,…
- Observation: Growing market share among students and faculty
“But Does It Run Windows?!”

Mac-only applications

Virtualization

Mac versions

Bootcamp
Welcome to the Apple Store

Apple On Campus

Rheinisch-Westfälische Technische Hochschule Aachen

Mac kaufen
iPod kaufen
iPhone kaufen

iPod shuffle
iPod nano
iPod classic
iPod touch

iPhone 3G
iPhone 3GS

App Store
Geschenkverkauf
iPod nano Armband

iPod Universal Dock Adapter 3er Pack für den iPod nano (5. Generation)
Mac OS X 10.6 Snow Leopard
Apple Campus Rep

- Student helping other students understand Apple technologies and make purchase decisions
- Funded through external agency
- Weekly helpdesk hours
- Runs mac.rwth-aachen.de with help for Mac users on campus
Large Project Agreements

• Support through very competitive pricing for equipping major new strategic centres
• Example: HumTec (50 researchers, €300k)
RWTH Aachen University on iTunes U

• 2001/2002: Stanford faculty
• 2006: Stanford iTunes U beta, contacted Apple
• 2008: RWTH selected for iTunes U pilot
• 1/2009: RWTH on iTunes U launch
• Over 11 million downloads (33 TB transferred)
• 10 active faculty from 5 departments
• 336 files (mostly videos) in 36 tracks
Number of Files by Department

- RWTH Public Relations: 26%
- Excellence Initiative: 3%
- Architecture: 10%
- Civil Engineering: 8%
- Computer Science: 43%
- Medicine: 9%
- Mechanical Engineering: 2%
AATCe at RWTH

- Apple Authorized Training Center for Education since 2008
- 4 Trainers from 3 departments
  - Mostly administrators
- Certified to hold introductory and advanced IT courses on Mac OS 10.6
- Builds “corporate memory”
AATCe Lab

- Space for 16 students at 8 workstations
- Mac minis, 23” Cinema Displays
- High-speed network
- Projector & speakers
AATCe Seminar Room

- Room for 50 students
- Projector, speakers
- eBeam whiteboard
- Audio/video recording technology
Lecture Video Recording

• Video
  • HD camera with tripod
  • Screen cast for the slides (iShowU)

• Audio
  • Wireless + room microphones
  • Laptop sound

• Setup
  • Test audio and video each recording session
  • Start lecture and recording in sync
Lecture Video Editing

• Hardware
  • Fast machines (Mac Pro)
  • Large screens (30”)
  • Headphones

• Software
  • Final Cut Pro

• Training
  • Apple training available
Lecture Video Editing

• Focus on the slides
  • The slides make the content, the speaker the atmosphere

• Cut out...
  • Administrative stuff
  • Long questions or student activities
  • Breaks
  • Mistakes
  • For iTunes U: copyrighted material
Lecture Video Production

• Podcast Producer 2
  • Comes with 10.6 server
  • Automatically encode video into different formats and publish

• One workflow per lecture
  • Workflow defines meta-data (i.e. where to publish, format)
  • Can be edited by hand
Apple Technology In Our Group

- 3 student labs, 1 video editing lab
- 8 Mac minis, 10 Mac Pros, 6 Power Macs
- 23”/30” Cinema Displays
- Media Space
  - 4 MacBook Pros with 40” SmartBoard Displays
- 5 Xserves, 12TB Promise Raid
- Personal MacBook Pros+30”+iPhones
- Mobile classroom
The Aachen Media Space

• 3 Main Functions:
  • Testbed for our research
  • Everyday meetings and presentations
  • Showcase for visitors

• Part of flexible floor concept for entire group
  • Electronic whiteboards
  • Disappearing computers
  • Completely reconfigurable
  • Mobile walls and furniture
Aachen Media Space
iPhone Development Class

- 11 lectures, weekly assignments, final project
- Students expected to know OO programming
- Covers 3.1
- Faster pace and additional topics compared to Stanford class (databases, networking, audio, …)
- 21 students
- hci.rwth-aachen.de/iphone
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Cocoa Heads

- Monthly informal get-togethers
- Short talks by participants on current Cocoa technologies
  - iPhone SDK programming (May’08), Apple Mail plugin development, …
- First German chapter (cocoaheads.de)
Summary: Puzzle Pieces

- Why Apple?
- Apple On Campus online store
- Apple Campus Representative
- Agreements for large projects
- iTunes U
- AATCe training center
- iPhone development classes
- Cocoa Heads