**Title**

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## 1. M-Learning

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**M-Learning**

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## 1.1. Theory

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**Theory**

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## 1.1.1. Basics

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# Basics

Change Mobile!

Don’t wait for utopia, be creative, learn mobile
Source: m-learning.info [Link]

Image by Giancarlo Rosso (from Flickr 2009)

M-Learning - Theory - Basics

Definition Technology Enhanced Learning

Further description of Technology Enhanced Learning:

„If we try to c***onstruct a list of learning technologies*** we will definitely need to include all those technologies that are developed and intentionally deployed for formal learning. Even this segment of the list is not short; it includes complex gaming and mobile learning platforms, interactive videos and immersive technologies, as well as rudimentary devices such as electronic blackboards and software for presenting information such as

PowerPoint. Such technologies are critical to a list of learning technologies. However, much of learning is informal. The WWW is a technology that revolutionised the way we access, share, and encode information, and clearly plays a role in learning. E-mail and mobilephones have affected how we communicate information and learn. Therefore, the ***list of learning technologies is quite long and continuously expanding*** , and it is not simple to define which technologies are learning technologies and which are not.“

Source: Dror, I. (2008) Technology Enhanced Learning: The good, the bad, and the ugly, Pramatic & Cognition 16:2, 215-213

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This paragraph states that new media and internet based technologies make TEL working but also the rudimental electronic boards do so. Nevertheless it must be assumed that the Internet is the most important part of Technology Enhanced Learning .

M-Learning - Theory - Basics

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E-Learning is not just Internet
E-Learning does not require Internet per se:

"The ***delivery of a learning, training or education program by electronic means*** . E-learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material."

Source: Stockley, D. (2003), E-learning Definition and Explanation [Link]

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E-Learning bases on Internet:
„***Web-based*** training (WBT), also known as elearning and on-line learning, is training that resides on a server or host computer that is connected to the World Wide Web"
Source: Rossett, A. & Sheldon, K. (2001). Beyond The Podium: Delivering Training and Performance to a Digital World. San Francisco: Jossey-Bass/Pfeiffer, p274.
E-Learning expands other media:
" ... "electronic learning" covering ***a wide set of applications and processes*** , such as web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via internet, intranet/extranet (LAN/WAN), audio- and videotape, satellite broadcast, interactive TV, and CD-ROM"
Source: ASTD's Learning Circuits [Link]
M-Learning - Theory - Basics

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Definition mLearning

M-Learning depends on portable devices:

"One definition of mobile learning is: Learning that happens across locations, or that takes advantage of learning opportunities offered by portable technologies. In other words, **mobile learning decreases limitation of learning location** with the mobility of general portable devices."

Source: Wikipedia [Link]

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M-Learning takes the location into didactical account:

"M-Learning enriches **reallife location with didactical aspects** connected over mobile devices to the learner"

Source: TU Ilmenau [Link]

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M-Learning is a part of the total learning environment:

"It is ***not*** about the device, but about the **connectivity, capabilities and experience**. Access through mobile devices should be a choice and a part of the total learning environment."

Source: Judy Brown [Link]

M-Learning - Theory - Basics

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Definition m-Learning II

O'Malley (O'Malley et al, 2003) defined m-Learning as:

" ... any sort of learning that happens when the learner ist not **at a fixed, predetermined location**, or learning that happens when the learner takes advantage of the **learning opportunities** offered my mobile technologies."

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Ally (Ally, 2007) mentioned the importance of m-Learning for the future:

"Because of the increasing use of mobile process technologies in society and by the younger generation, learners will demand course materials be delivered on mobile technoliges to be accessed form anywhere and at anytime. At the same time, today's and tomorrow's learners will be nomadic and continously on the move. As learners move from one location to the next, they must be able to use the infrastructure in the different locations to access learniner materials. Hene, learning materials must be designed for easy access by the nomadic learners using mobile

technology regardless of where they are located and which networks infrastructure they are using to access information."

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O'Malley, C., Vavoula, G., Glew, J.P., Taylor, J. Sharples, M., Lefrere, P. (2003): Guidelines for learning/teaching/tutoring in a mobile environment. MOBIlearn deliverable D4.1, http://www.mobilearn.org/download/results/guidelines.pdf (last visited: June 2009)

Ally, M. (2007) Mobile Learning, The International Review of Research in Open and Distance Learing, 8 (2)
M-Learning - Theory - Basics

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Why M-Learning?

1. **Advancement of mobile media competences as a key skill in the mobile age**
3. **Advancement of modern methods skills**
5. **More motivation opposite to traditional learning methods**
7. **More people invloved than just the classroom**
9. **Learning in times of less activity**
11. **Mass-teaching in classroom can be turned more interactive**
13. **Excursions and workflow experience can be enriched with more realistic information**
15. **E-Learning becomes more flexible towards time and location**

Source: TU Ilmenau [Link]

M-Learning - Theory - Basics

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From M-Information to M-Learning

| M-Information | M-Learning |
|---|---|
| | = |
| recieved mobile | recieved mobile for a certain purpose |
| | + |
| without address | always to a specific (group of) people |
| | + |
| piece of content | piece of content within a didactical context |
| | + |
| stand alone | always as a methode or tool to gain an aim |

M-Learning - Theory - Basics

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Various categories of m-Learning

Traxler identified various categories of mobile learning (Traxler, 2007):

- Technology driven mobile learning
- Miniature but portable e-Learning
- Connected classroom learning
- Informal, personalised, situatued mobile learning
- Mobile training / performance support
- Remote / rural / development mobile learning

Mobile devices can be implemented and learning settings a plurality of forms (Kukulska-Hulme & Traxler, 2005, p. 31):

- Connectivity for spontaneous communication and collaboration amongst learners
- Beaming of stored information from device to device
- Location-awareness, giving instant information about projects within sights
- Portable sound-recording and voice-recording

- Cameras for taking photos and making video clips

Traxler, J. (2007) Defining, Discussing and Evaluation Mobile Learning: the moving finger writes and having writ..., The International Review of Research in Open and Distance Learning, 8 (2)

Kukulska-Hulme, A., Traxler J. (2005) Mobile Teaching and Learning, In A. Kukulska-Hulme & Traxler J (Ed.), Mobile Learning - a handbook for educators and trainers, pp. 25-44, London NewYok: Routledge

M-Learning - Theory - Basics

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## 1.1.2. Facts and Preconditions

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### Facts and Preconditions

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[video] Evolution of mobile phones

M-Learning - Theory - Facts and Preconditions

Mobile AJAX

Mobile Ajax is the extension of Ajax principles to the Mobile environment, which includes other constrained devices such as gaming consoles or set-top boxes featuring web browsers. While technologically the same thing, Mobile Ajax is looked at as a special case of Ajax in general, as it deals with problems specific to the mobile space including theareas of constrained devices and constrained web browsers in general.

Referenz:
Mobile Ajax FAQ

Links:
Mobile Ajax Blog
Opera Mini Browser

M-Learning - Theory - Facts and Preconditions

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[infrastructure] iPhone - the revolution of the mobile market

AdMob Mobile Metrics stores and analyzes data from every ad request, impression, and click and uses this information to optimize ad matching.

**Report: February 2009**

**Top Worldwide Smartphones**

| Rank | Handset Models | | Share of Smart Phone Traffic |
|---|---|---|---|
| 1 | Apple | iPhone | 33.0% |
| 2 | Nokia | N70 | 7.1% |
| 3 | RIM | BlackBerry 8300 | 4.2% |
| 4 | Nokia | N80 | 3.5% |
| 5 | Nokia | N73 | 3.4% |
| 6 | Nokia | N95 | 3.3% |
| 7 | RIM | BlackBerry 8100 | 3.2% |
| 8 | Nokia | 6600 | 2.8% |
| 9 | Palm | Centro | 2.6% |
| 10 | Nokia | 6120c | 2.5% |

**Top US Smartphones**

| Rank | Handset Models | | Share of Smart Phone Traffic |
|---|---|---|---|
| 1 | Apple | iPhone | 49.5% |
| 2 | RIM | BlackBerry 8300 | 9.1% |
| 3 | RIM | BlackBerry 8100 | 6.9% |
| 4 | Palm | Centro | 6.0% |
| 5 | HTC | Dream (G1) | 5.2% |
| 6 | Danger | Sidekick II | 3.4% |
| 7 | RIM | BlackBerry 9530 | 1.7% |
| 8 | Samsung | BlackJack II | 1.6% |
| 9 | HTC | Touch | 1.0% |
| 10 | Motorola | Q9C | 0.8% |

**Worldwide Operating System Share**

| Rank | Manufacturer | Feb 09 | Aug 08 | 6 mon Change |
|---|---|---|---|---|
| 1 | Symbian | 43% | 64% | -21% |
| 2 | iPhone OS | 33% | 4% | 29% |
| 3 | RIM | 10% | 11% | -1% |
| 4 | Windows Mobile | 7% | 13% | -6% |
| 5 | Palm | 3% | 6% | -3% |

**US Operating System Share**

| Rank | Manufacturer | Feb 09 | Aug 08 | 6 mon Change |
|---|---|---|---|---|
| 1 | iPhone OS | 50% | 10% | 40% |
| 2 | RIM | 21% | 32% | -11% |
| 3 | Windows Mobile | 13% | 30% | -17% |
| 4 | Palm | 7% | 19% | -12% |
| 5 | Android | 5% | -- | 5% |

M-Learning - Theory - Facts and Preconditions

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[infrastructure] iPhone - the revolution of the mobile market

Report (April 2009, April 2010) Outcomes:

- Smartphones generated 33% of worldwide traffic in February 2009, up from 26% six months ago.
- The Symbian OS is still number one with 43% share and six of the top 10 handsets. Windows Mobile and Palm each lost half their worldwide share over last six months.
- The iPhone generates 33% of all smartphone traffic worldwide and 50% in the US. Although RIM lost share in the US due to the rapid growth of the iPhone, the overall number of requests from RIM devices increased 48% in the last six months.
- The Top 5 US smartphones - Apple iPhone, BlackBerry Curve, BlackBery Pearl, Palm Centro, and HTC Dream (G1) - generated 77% of traffic in February.
- Android has captured 5% of the US smartphone market just three months after launch and is now the #1 device on T-Mobile
- Traffic from Western Europe increased 132% in the last 12 months to 550 million requests in January 2009. Growth was strong across France, Germany, Italy, and Spain.
- As new publishers have entered the AdMob network, requests have become more evenly distributed throughout Western Europe. The UK is now responsible for 46% of requests, down from 64% a year ago.
- The iPhone is now the number one device by usage in Western Europe with 21% share of total requests. This strong share reflects dramatically higher mobile Web and application usage by consumers and AdMob's strength on this device.

M-Learning - Theory - Facts and Preconditions

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Digital Natives - Mobile Natives

Marc Prensky wrote in 2001

"Our students have changed radically. Today's students are no longer the people our educational system was desinged to teach"

and addressed to the increasing digital world. Furthermore he defined

"As Digital Immigrants learn - like all immigrants, some better than others - to adapt to their environment, they always retain, to some degree, their "accent", that is, their foot in the past."

Oblinger (Oblinger, 2005) are talking about some different habits of this generation:

"they search online first, only parts of them use traditional forms like libraries. Their primary communication tool is the internet via MSN or Instant Messaging. They meet each other in social networks, they are blogging, creating online content, sharing files and pictures and so on. They are online socialised: multitasking, time shifting and zapping is usual to them."

Prensky, M. (2001) Digital Natives, Digital Immigrants, On the Horizon, 9(5), p. 1-6

Oblinger, J.L. (2005) Is it age for IT: First Steps Toward Understanding the Net Generation, in D.D. Oblinger & J. L. Oblinger (Ed.), Educating the Net Generation, p. 2.1-1.5

M-Learning - Theory - Facts and Preconditions

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Digital Natvies II - Mobile Natives

According Oblinger (Oblinger, 2005) among the differences of Digital Natvies / Digital Immigrants are their:

- Ability to read visual images
- Visual-spatial skills
- Inductive discovery
- Attentional deployment
- Fast response time

Green & Hannon (Grenn & Hannon, 2007) recognized "that the use of digital technology has been completely normalised by this generation and it is now fully integrated into their daily lives. The majority of young people simple use new media as tools to make their lives eaiser, strengthening their existing friendship networks rather than widening them."

Oblinger and Oblinger (2005) constitute three crucial factors in socieites of the future:

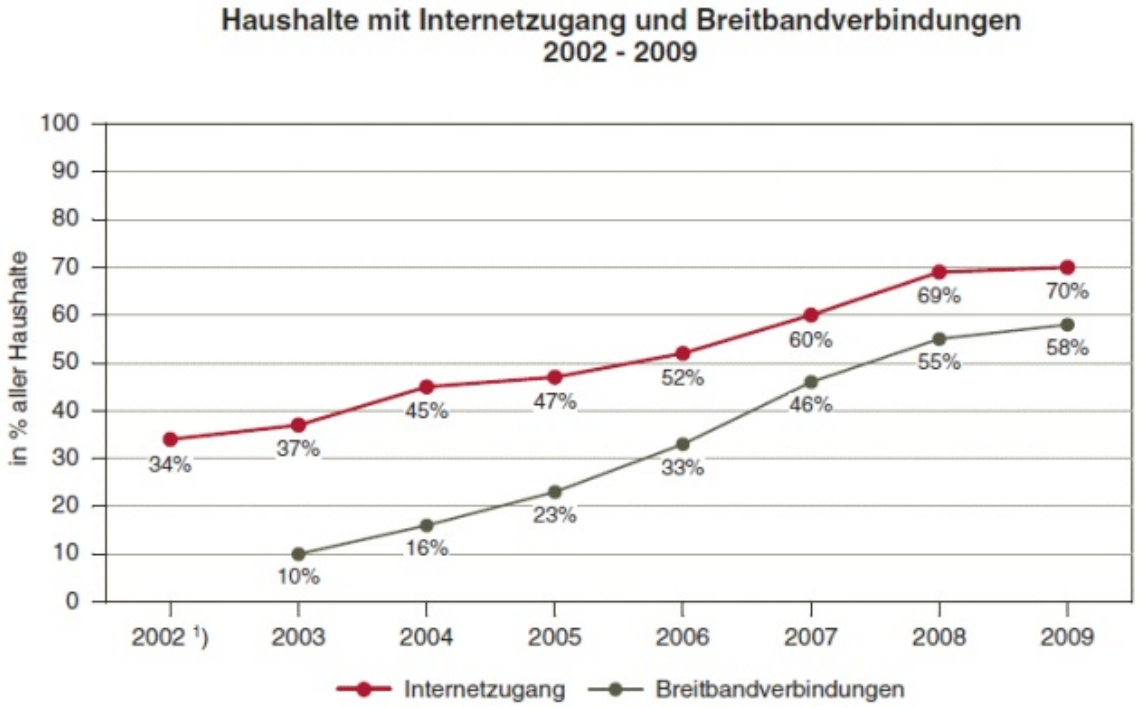
- Multimodal communcation structure
- Culture of "do-it-yourself"
- Culture of choice

Oblinger, J.L. (2005) Is it age for IT: First Steps Toward Understanding the Net Generation, in D.D. Oblinger & J. L. Oblinger (Ed.), Educating the Net Generation, p. 2.1-1.5

Green, H. & Hannon, C. (2007), Their space: Education for a digtial generation, London: DEMOS. Retrieved from: http://www.demos.co.uk/files/Their%20space%20-%20web.pdf (last visited June 2009)

M-Learning - Theory - Facts and Preconditions

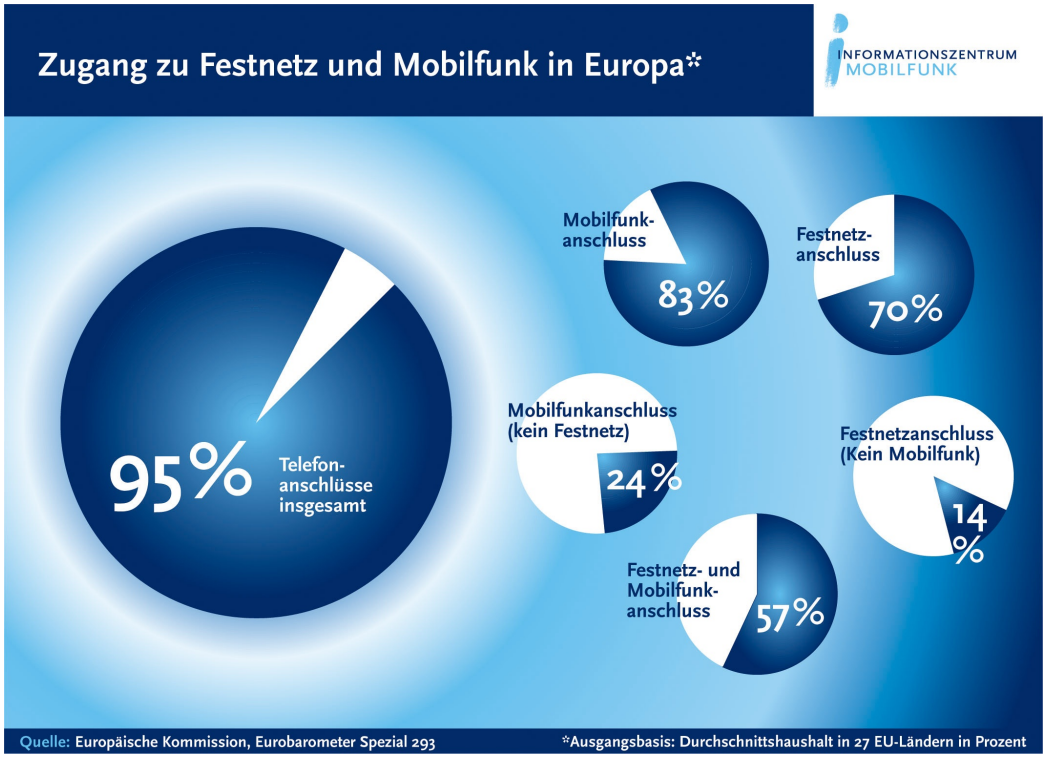
[How common is broadband yet?]




Q: STATISTIK AUSTRIA, Europäische Erhebungen über den IKT-Einsatz in Haushalten 2002-2009. - Nur Haushalte mit mindestens einem Haushaltsmitglied im Alter von 16 bis 74 Jahren. Erstellt am: 31.08.2009.
1) Angaben zu Breitbandverbindungen nicht verfügbar.

[M-Learning - Theory - Facts and Preconditions]

[Mobile or landline?]




Werte 2008 [Link]

M-Learning - Theory - Facts and Preconditions

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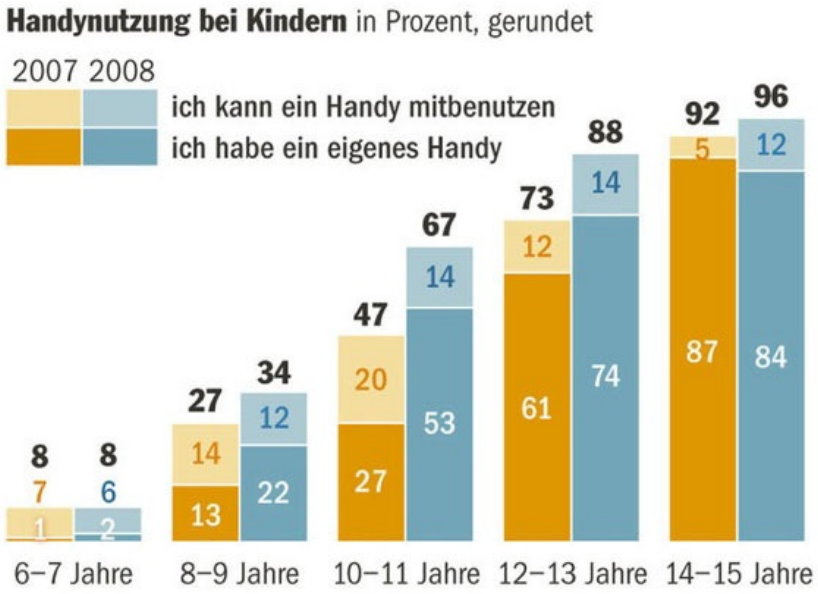
Children towards a mobile generation?

Mobile phones ownership of the youth




http://www.focus.de/digital/handy/mobilfunk-handy-in-kinderhand_aid_313166.html (last visited June 2009)

M-Learning - Theory - Facts and Preconditions

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Mobile phones at school

Survey conducted by Graz University of Technology in spring 2009 at 6 usual undergraduate schools (**n=1130**).

**Questionnaire:**

**My mobile phone:**

□ I own following mobile phone:

Producer (e.g. Nokia, Sony Ericsson, ...):_____

Model (e.g. 5320, W880i,...):_____

Mobile tariff:_____

□ I do not have a mobile phone

I use my mobile phone for:

| | never | rarely | sometimes | frequently |
|---|---|---|---|---|
| • SMS | □ | □ | □ | □ |
| • Photographing/filming | □ | □ | □ | □ |
| • Surfing the internet | □ | □ | □ | □ |
| • Checking e-mails | □ | □ | □ | □ |

M-Learning - Theory - Facts and Preconditions

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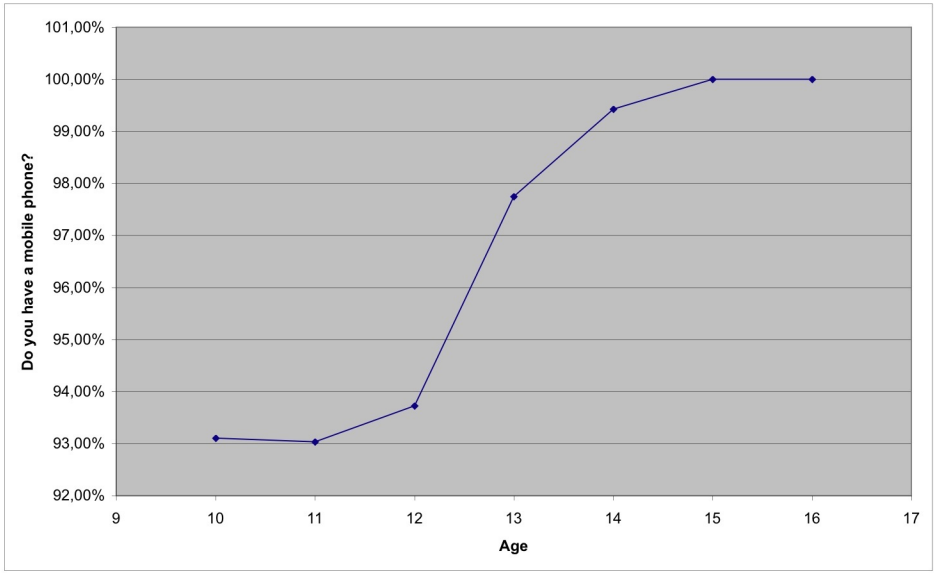
Do you own a mobile phone?




In average 95.8% of **1130** school children owned a mobile phone according to the survey of TU Graz / 2009
Compare: Media Usage of children and teenagers (Source: ORF - in german)

M-Learning - Theory - Facts and Preconditions

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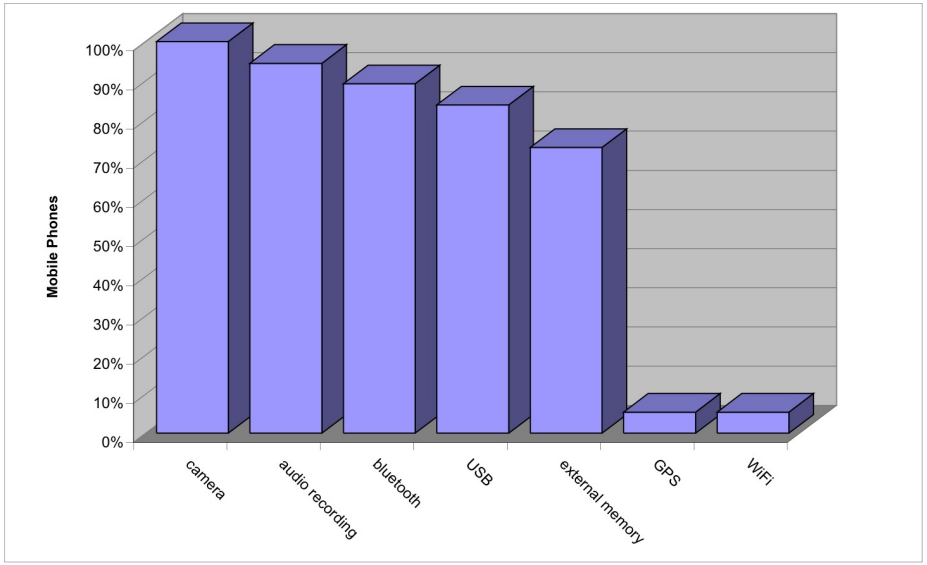
Your mobile phone allows ...




According to the survey of **TU Graz / 2009**: What would you be able to do with your mobile phone?

M-Learning - Theory - Facts and Preconditions

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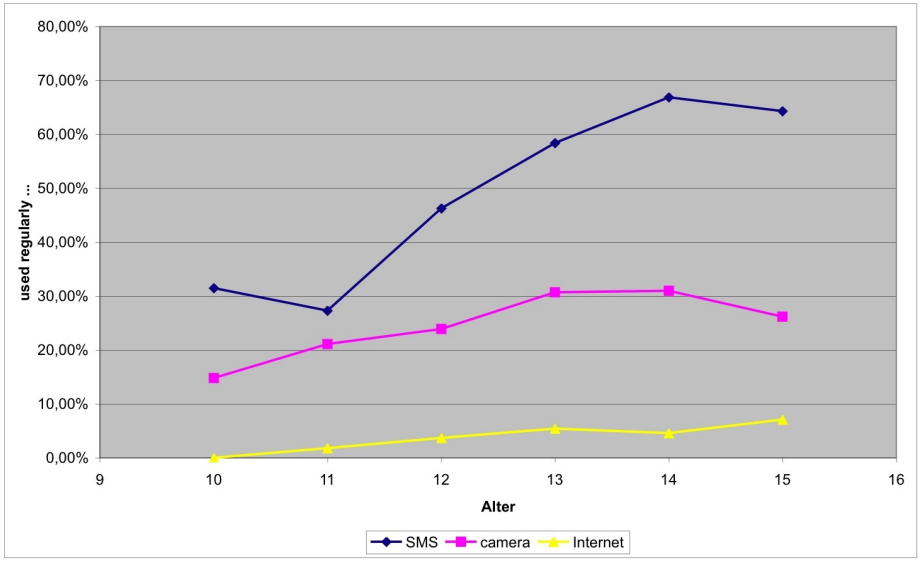
What do you use on a regular basis?




According to the survey of **TU Graz / 2009**: What do you use regularly?

M-Learning - Theory - Facts and Preconditions

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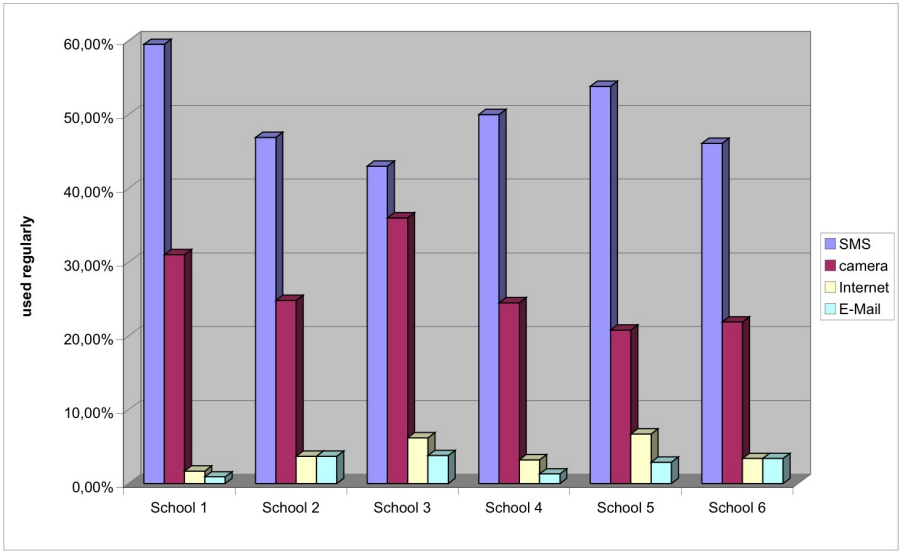
Is there a difference between schools?




According to the survey of **TU Graz / 2009**: Is there a significant difference in schools?

M-Learning - Theory - Facts and Preconditions

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The gap on m-Learning

According to the survey of TU Graz / 2009 **1130** school children were asked about their mobile phones they having in their pockets. Quite amazing was the amaount of devices and also their possibilities. One question aims to investigat how children see the future and if they would like to use the mobile phone for learning purposes.

"**81,3 %** would like to use mobile phones for learning purposes"

The same survey was given to their teachers. 100% of asked teachers (**n=20**) own a mobile phone, only 55% (n=11) were able to provide us more

details about their devices. Theses 11 lectures juged their cell phone following:

- 2 said it is simply old
- 4 have a camera on board
- 5 (25%) were comparable to the majority of the children

The use of other possibillities like sending SMS or taking pictures is moreless not part of their daily routines. Therefore of course it is also not very estonishable, that only 25% of teachers can imagine to use mobile phones for learning purposes.

"The **digital gap on m-Learning** seems to be obviously - teachers use mobile phones for phoning and cannot simply imagien how such devices can be used for teaching and learning"

M-Learning - Theory - Facts and Preconditions

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## 1.1.3. Examples

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### Examples

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[project] mExplorer

**Project name: mExplorer**

**Location:** University campus

**Participants:** About **300** students

**Devices:** Personal Digital Assitant (**PDA**)

**Technology:** Client-server based Application

**Short Descritpion:** This application was developed to assist newbies at the Campus. By using a PDA students have to perform different tasks on site. The project aims that students can explore important locations at University by guiding them through so called Points of Interest (PoI). The study took place from 2003-2006.

**Outcomes:** Evaluation afterewards pointed out that students remembered only about 2 PoI out of 18. The authors concluded that passive consumption of information in an active seeting is not suitable. Furhtermore it was pointed out the many problems occured because of the soft- and hardware limitations. Also communication channels like chats were used rarely.

**Furhter Information / Literature:**

Frohberg, D., Göth C. (2007) mExplorer, University Zurich, Institute for Informatics, Working Group Information management, Research Study

Frohberg, D. , Göth, C., Schwabe, G. (2006), The Focus Problem in Mobile Learning,4th IEEE International Workshop on Wireless and Mobile Technologies in Education (WMTE 2006), http://www.ifi.uzh.ch/pax/uploads/pdf/publication/120/The_Focus_Problem_in_Mobile_Learning.pdf (last visited june 2009)

M-Learning - Theory - Examples

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[project] Active Campus

**Project name: Active Campus**

**Location:** University campus

**Participants:** About **30** students

**Devices:** Personal Digital Assitant (**PDA**)

**Technology:** Client-server based Application, WLAN

**Short Descritpion:** This application was developed to allow students to locate each other on the campus and to communicate via WiFi. The project aimed to improve communication among students. Additionally to the current locations of other participants main campus buildings were shown on the PDAs

**Outcomes:** Communication between students occurs moreless in a disctance of not more than 15 metres between sender and receiver. The application was mainly used when students were forced to it.

**Furhter Information / Literature:**

Grisworld, W., Schanahan, P., Brown, S.W., Boyer, R., Ratto, M., Shapiro, R.b., Truong, T.M., (2004), Active Campus. Experiments in Community-Orientied Ubiquitous Computing, http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1350730 (last visited June 2009)

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[project] MOOP

## Project name:MOOP

**Location:** Primary school, City of Oulu

**Participants:** About **80** school children

**Devices:** mobile phones

**Technology:** software for mobile phone (pictures, video, audio, text and geo-coordinates)

**Short Descritpion:** The application was developed for 10-12 years old school children, who were able to take pictures, record audio or video or write some text messages with their mobile phones. Furhtermore communication was established by providing a Push-To-Talk functionality. All collected data was uploaded to a web based environment.

**Outcomes:** The project report points out a general usage and a hughe amount of transferred date (2 GB per year). The role of teachers turned into a moderator one.

**Furhter Information / Literature:**

Mattila, P., Fordell, T. (2005) MOOP - Using M-Learning environment in primary schools, http://www.mlearn.org.za/CD/papers/Mattila.pdf (Last visited June 2009)

M-Learning - Theory - Examples

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[project] Active Class

## Project name: Active Campus

**Location:** Two programming lectures

**Participants:** About **100** students each lecture

**Devices:** Personal Digital Assitant (**PDA**)

**Technology:** Client-server based Application, WLAN

**Short Descritpion:** This application was developed to improve communication and interaction between students and lecturers. Learnes were able by using their PDAs to ask questions during the lecture. Questions can be answered by students or by lecturers. Furthermore teachers carried out short live polls to see if the audience understands the content or not.

**Outcomes:** More Questions occured than in other compareable lectures. The lectureres also reported that the questions were detailled and in more in depth. Furhtermore two major problems were reported: technical issues and the problem of distraction because of using such a device.

**Furhter Information / Literature:**

Grisworld, W. Truong, T.M., Ratto, M., Star, S.L. (2004), The ActiveClass Project: Experiments in Encouraging Classroom Participations, http://www.cs.ucsd.edu/users/wgg/Abstracts/aclass.pdf (last visited June 2009)

M-Learning - Theory - Examples

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[project] WILD

## Project name: WILD

**Location:** Higher Education lecuteres

**Participants:** About **70 - 200** students each lecture

**Devices:** Personal Digital Assitant (**PDA**), Laptops

**Technology:** Client (PDA, Laptop): Java programm / Server

**Short Descritpion:** This application was developed to improve communication and interaction between students and lecturers in the lecture room. Similar to the Active Class project students can ask questions or answer polls carried out by lecturers.

**Outcomes:** The study took place between 2002 and 2004 by using a experimental control-group design. As a result it was pointed out that the "interactive lecture" was highly accepted. Technical problems and distractions seem to be the major criticism. Due to the fact of perodic observations by using the polls an increasing learning effect can be shown.

**Furhter Information / Literature:**

Effelsberg, W., Scheele, N., Wessels, A. (2004): Die interaktive Vorlesung in der Praxis, http://www.informatik.uni-mannheim.de/pi4/publications/Scheele2004b.pdf (last visited June 2009)

M-Learning - Theory - Examples

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[project] Beard-Watching Learning System (BWL)

**Project name: Beard-Watching Learning System (BWL)**

**Location:** countryside

**Participants:** used on three different schools

**Devices:** Personal Digital Assitant (**PDA**), Laptops

**Technology:** WLAN (ad-hoc network)

**Short Descritpion:** With the help of an ad-hoc network all PDAs were connected to a Laptop and get access to a big database, where learners were able to get information as well as can save their own photos or other entries.The project aims to get necessary information just in time.

**Outcomes:** The project reports technical issues concerning successful implementation. Evaluations afterwards stated that learners with PDAs performed a better result than learners without.

**Furhter Information / Literature:**

Chen, Y., Kao, T., Sheu J., Chiang C. (2003), A Mobile ScaffoldingAidBased BirdWatching Learning System, http://ieeexplore.ieee.org/iel5/8056/22273/01039216.pdf (last visited June 2009)

Chen, Y., Kao, T., Sheu J., Chiang C. (2003), A Mobile Butterf ly Watching Learning System for Supporting Independent Learning, National Chung Cheng University, http://www.cs.ccu.edu.tw/~yschen/mypapers/WMTE031040.pdf (last visited June 2009)

M-Learning - Theory - Examples

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[project] Microblogging

**Project name: Microblogging**

**Location:** online

**Participants:** used by different elearning experts

**Devices:** Web browser, mobile phones

**Technology:** Microblogging platform Jaiku

**Short Descritpion:** After creating a group on the microblogging platform 23 elearning experts exhanged data, links and experimented with this new possibilities, also by using their mobile phones.

**Outcomes:** The paper pointed out that microblogging helped quickly to create a community about a specific topic. Microblogging was described as a fast and easy way to collaborate and share thoughts as well as links. In context of m-Learning it was shown that the benefit of microblogging increase arbitrarly through the use of mobile devices.

**Furhter Information / Literature:**

Ebner, M., Schiefner M. (2008), Microblogging – More than fun?,
http://lamp.tu-graz.ac.at/~i203/ebner/publication/08_mobillearn.pdf (last visited June 2009)
M-Learning - Theory - Examples

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[project] Livenotes

## Project name: Livenotes

**Location:** online

**Participants:** no information about it

**Devices:** PDAs, Laptops

**Technology:** Client/Server-architecture

**Short Descritpion:** Livenotes is dealing with the possibililty to edit online documents by a group. Due to the fact that simultaneously working is possible each particpant get his/her own color.

**Outcomes:** Beside technical issues social ones became important in the first time. It is pointed out that it was possible to improve communication and discussions between the participants

**Furhter Information / Literature:**

Iles, A.; Glaser, D.; Kam, M.; Canny, J. (2002): Learning Via Distributed Dialogue: Livenotes and Handheld Wireless Technology. In: Proceedings of Conference on Computer Support for Collaborative Learning. http://www.cs.berkeley.edu/~mattkam/publications/CSCL2002.pdf (last visited June 2009)
M-Learning - Theory - Examples

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[project] Mobile Moodle

## Mobile Moodle Project


The MOMO (Mobile Moodle) project is an Add-On to the popular Moodle Learning Management System. It brings the ability to implement mobile learning scenarios with Moodle as a backend.

Mobile users install the MOMO client, a JAVA based application, on their mobile phones (or any other JAVA and Internet capable device). Through this client they can access courses wherever they are, which allows completely new scenarios.
Administrators install the necessary MOMO extension on their Moodle server which makes the compatible contents available for mobile usage. They can configure and maintain the system through the integrated administration interface all within Moodle.
Teachers can design courses with either several mobile elements or complete mobile learning scenarios using the tools and methodologies they know from within Moodle.

Holzinger, A., Nischelwitzer, A., Meisenberger, M.: Mobile Phones as a Challenge for m-Learning: Examples of Mobile Interactive Learning Objects (MILOs). In: Tavangarian, D. (Ed.): Third Annual IEEE International Conference on Pervasive Computing and Communications IEEE (2005) 307-311
M-Learning - Theory - Examples

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MobileClassRoom (MCR) (in german)

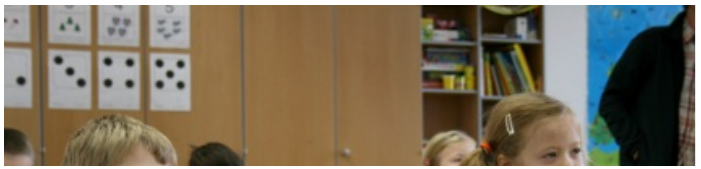
# MobileClassRoom (MCR)(german)

## 1.1.4. Devices

### Devices

OLPC project

**First European project in classroom:**



The use of laptops in educational settings is discussed by lots of e-Learning researchers for years now. Since 2002 the One Laptop Per Child project (OLPC-project) tries to bring digital devices to developing countries avoiding the increase of the digital gap. Austria has been one

of the first countries in the European Union (EU) to start an OLPC-project on its own. The focus was on the  use of digital devices in education at a very early stage. Accompanied by a solid research team, bringing teachers, e-learning experts as well as software developer together, a first attempt was established.

Our ongoing project aims to carry out the description of the prework, the first real life setting and concludes with the experiences of the whole research group. Because there are comparatively less problems concerning hardware issues as well as software and internet availabilities, the research work has to concentrate on the use of digital devices on a very early stage of education.

M-Learning - Theory - Devices

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[video] Overview about OLPC

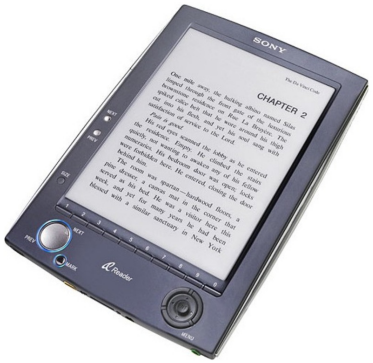
**One Laptop Per Child**

[video] A little essay

# A little essay

www.seriouslygeek.com

http://www.ebookreader-vergleich.de




http://theguybrarian.wordpress.com

http://scr3.golem.de

M-Learning - Theory - Devices

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[video] Nokia Morph Concept

# Nokia Morph Concept

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[video] Could You Do Without?

# No Email, no Internet, no Mobile?

[video] Nokia Mixed Reality

# Nokia Mixed Reality

M-Learning - Theory - Devices

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Augmented Reality - The Future of Education

YouTube: Augmented Reality - The Future of Education

M-Learning - Theory - Devices

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[video] Microsoft Surface

# Microsoft Surface

M-Learning - Theory - Devices

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[video] The Future of Mobile

# The Future Of Mobile

M-Learning - Theory - Devices

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[video] Microsoft - A future Vision

# Microsoft - A Future Vision

M-Learning - Theory - Devices

## 1.2. Hands On

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**Hands On**

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### 1.2.1. MicroBlogging

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**MicroBlogging**

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# How Twitter & Co changes the World

M-Learning - Hands On - MicroBlogging

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Microbloggigng - more than fun?

**Title**: Microblogging more than fun?

**Abstract**: For the support of learners of tomorrow a mobile workforce is essential in our connected society. More and more social network sites are growing up. Google launches software for mobile devices; the market is growing. But the question, which rises is: is mobile learning just a future term, or does it become reality? Can these tools be useful in teaching and learning processes? And what does mobile learning means for networks and communities of practice? Some of these questions we try to answer. We set up a microblogging community channel about our work and research topic e-learning.
In shortest time we reach 23 participants. We tested our microblogging community locally in our offices and mobile from our mobile devices. In this

article we discuss advantages and disadvantages from microblogging from our point of view.

**Reference**: Ebner, M; Schiefner, M.; (2008): Microblogging - more than fun?; in Proceedings of IADIS Mobile Learning Conference 2008, Inmaculada Arnedillo Sánchez and Pedro Isaías ed., Portugal, 2008, p. 155-159, ISBN 978-972-8924-54-6

[Link]

M-Learning - Hands On - MicroBlogging

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Can Microblogs and Weblogs change traditional scientific writing?

**Title**: Can Microblogs and Weblogs change traditional scientific writing?

**Abstract**: This paper describes a follow-up Web 2.0 approach to a technology enhanced master course for students of Graz University of Technology. The lecture “Social Aspects of Information Technology” has a long tradition for using new didactical scenarios as well as modern e-Learning technologies. After using a blogosphere one year ago, this year microblog channels helped to expand the traditional lecture. Students choose (on a voluntary basis) whether they want to participate in a blogging/microblogging group instead of using conventional methods called Scientific Writer/Scientific Reviewer. This study addresses the question whether this method can change the learning outcome into a more reflective one. Furthermore, peer-reviewing groups judge the quality of essays and blog contributions. In this paper we examine if microblogging can be an appropriate technology for assisting the process.
This publication comes to the conclusion that an amazing potential and a new way to work with information is opened when using microblogging. Students seem to be more engaged, reflective and critical in as much as they presented much more personal statements and opinions than years before.

**Reference**: Ebner, M., Maurer, H. (2008) Can Microblogs and Weblogs change traditional scientific writing?, Proceedings of E-Learn 2008, Las Vegas, p. 768-776, 2008

[Link]

M-Learning - Hands On - MicroBlogging

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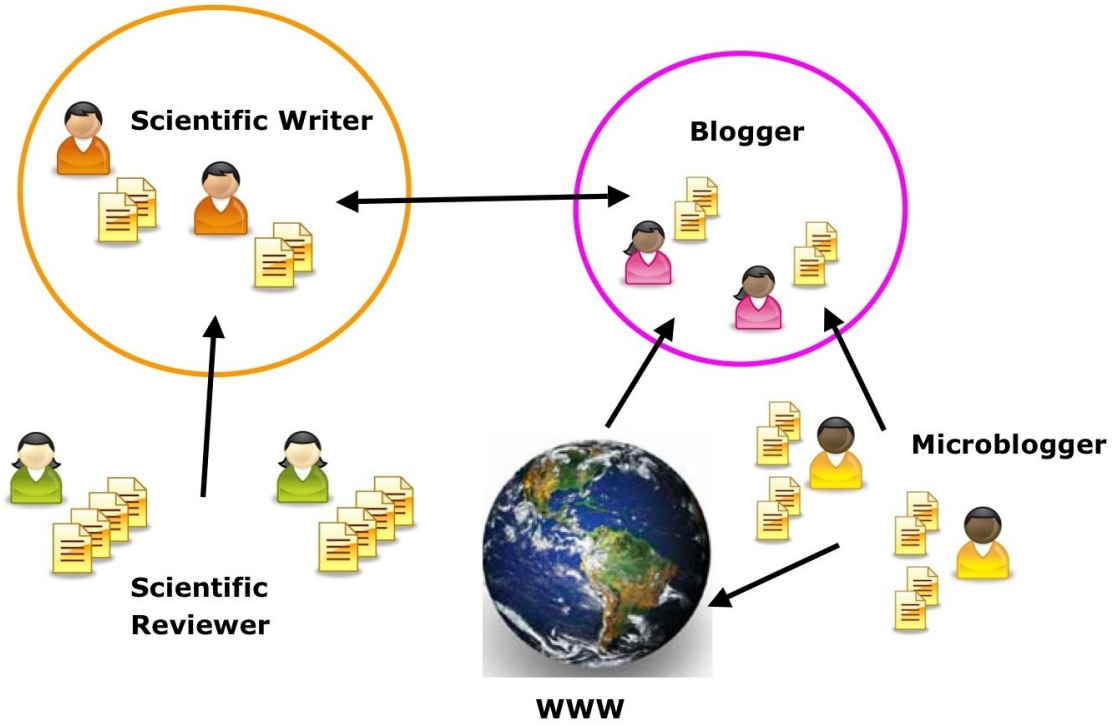
Kopie von Can Microblogs and Weblogs change traditional scientific writing?

**Title**: Concept of the didactical scenario




M-Learning - Hands On - MicroBlogging

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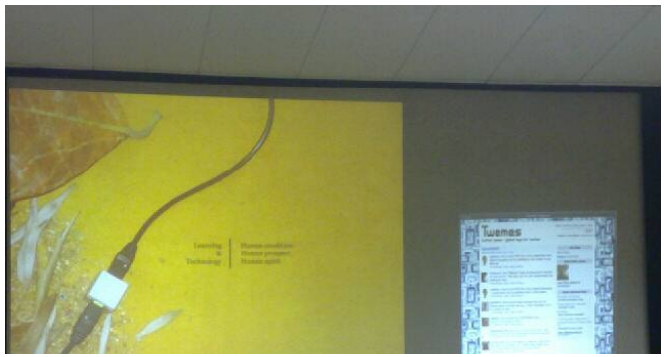
Introducing Live Microblogging

**Title**: Introducing Live Microblogging

**Abstract**: Web 2.0 technologies pervade our daily life as well as educational settings. A fairly new approach is communication through so called microblogging channels. Mobile devices with Internet access can be used to send short messages from a microblog. Combined with social network environments, applications such as Twitter, Jaiku, Pownce, and Plurk enrich our ways of communication. At Graz University of Technology (TU Graz) some research work has been done to investigate using microblogging tools to improve face-to-face lectures. The study described in this paper took place at a large international conference on e-learning, where a Twitter channel was established for discussion among the participants of the conference and those from outside. This stream was also used to “tweet” (post on Twitter) statements during the keynote presentations. By viewing the tweet-channel via an additional projector, the audience was able to



follow the live-blogging session synchronously to the ongoing speech.

**Reference**: Ebner, M. (2009), Introducing Live Microblogging: How Single Presentations Can Be Enhanced by the Mass, Journal of Research in Innovative Teaching, 2(1), p. 108-111

[Link]

M-Learning - Hands On - MicroBlogging

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How People are Using Twitter during Conferences

**Title**: How People are Using Twitter during Conferences

**Abstract**: The popularity of microblogging, with special emphasis on twitter, the most famous application of the kind, is growing rapidly. This kind of tools for micro-exchange of information and communication is changing the daily life of knowledgeable worker as well as Internet savvy people. From this perspective this paper aims to show how Twitter can be used during conferences, and furthermore how different people are using it. With the help of a survey and analysis of the collected data, benefits regarding the use of a microblogging tool such as Twitter can be presented. The publication shows evidence on how Twitter can enhance the knowledge of a given group or community by miStatistical data was also used to support this research.

**Reference**: Reinhardt, W., Ebner, M., Beham, G., Costa, C. (2009) How People are Using Twitter during Conferences, Hornung-Prähauser, V., Luckmann, M. (Ed.), 5th EduMedia conference, Salzburg, p. 145-156

[Link]

M-Learning - Hands On - MicroBlogging

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Twitter in Classroom

Kesmit-ing: The Twitter Experiment - Bringing Twitter to the Classroom at UT Dallas - Watch more Videos at Vodpod.
M-Learning - Hands On - MicroBlogging

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Interactive Lecturing

Interactive Lecture at Graz University of Technology 2008

M-Learning - Hands On - MicroBlogging

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Interactive Lecturing II

**Title**:Interactive Lecturing by Integrating Mobile Devices and Micro-blogging in Higher Education

**Abstract**: Following the recent advances in both technology and social interaction, implementation of interactivity to large lecture rooms presents itself as a promising new methodology to improve the learning and teaching process in academia. Namely, based on the underlying ideas of Web 2.0, learners should be able to collect and share online resources during a lecture, additional communication channels such as discussion forums, chat and micro-blogging helping to achieve interactivity on traditional face-to-face teaching. Building on such premises, first experiences have been acquired by the use of mobile devices and instant messaging in enhancing the learning and teaching behavior, with the help of a university wide available Learning Management System (LMS), which has accordingly been adapted and extended to the specific needs of supporting interactivity through mobile devices. The LMS is intended to use common and existing software and hardware (devices of the learners). The goal of the above research is to find out the potentials of interactivity in order to enhance students' engagement in traditional face-to-face teaching in

Higher Education.
The paper describes the outcomes of the first experiments in implementing interactivity in Higher Education in such a framework within the Graz University of Technology (TU Graz) and comments on the methodology applied. The experiments, which have been performed during lecturing within the course "Social Aspects of Information Technology" at the BSc level, attended by about 200 students, have shown that such kind of interactivity has a positive effect on the learners' engagement.

**Reference**: Ebner, M.: Interactive Lecturing by Integrating Mobile Devices and Micro-blogging in Higher Education, CIT - journal of computing and information technology. Volume 17, Number 4 (December, 2009), Pages 371-381

[Link]

M-Learning - Hands On - MicroBlogging

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### 1.2.2. Mobile LMS

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## Mobile LMS

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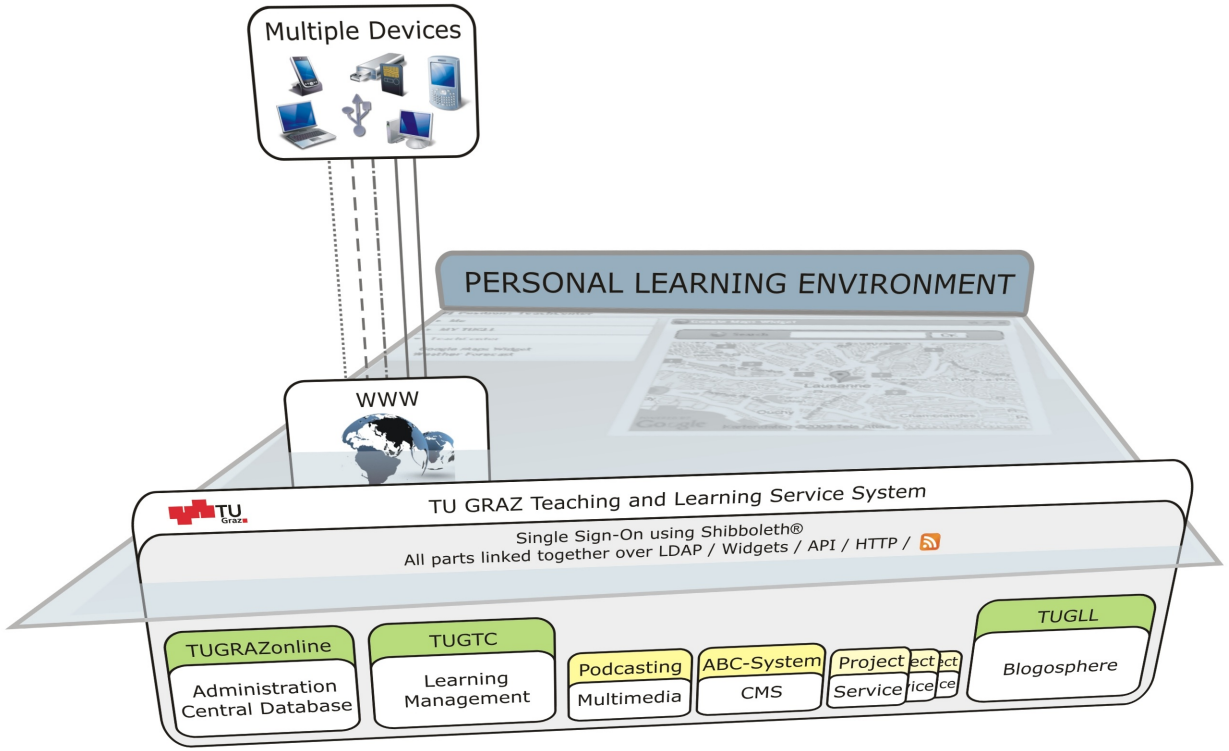
Concept TU Graz




M-Learning - Hands On - Mobile LMS

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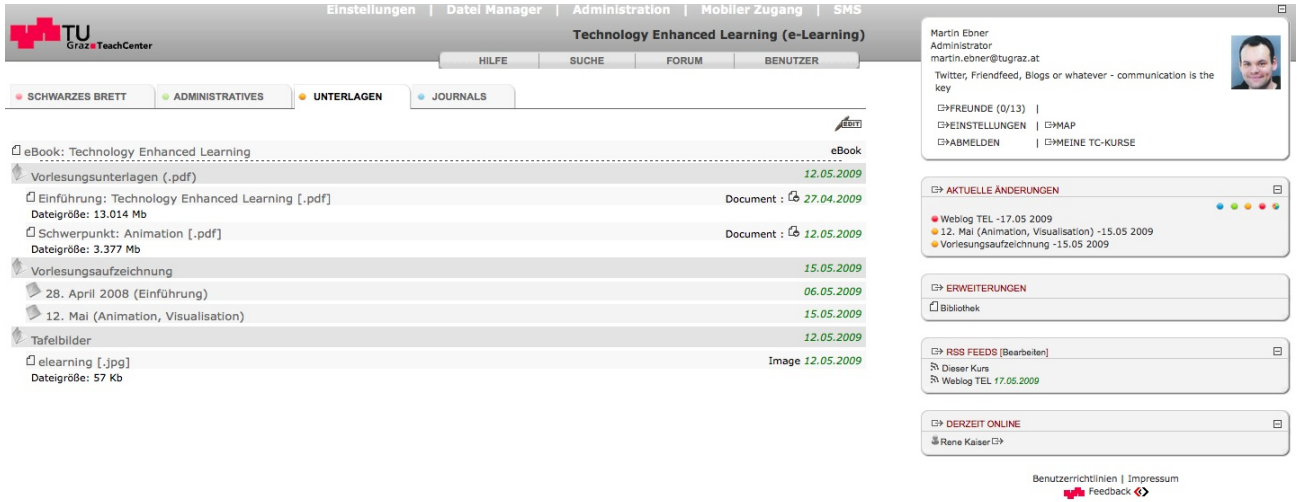
TU Graz TeachCenter - Lectures Online




Lernplattform TU Graz TeachCenter - Online Kurs

M-Learning - Hands On - Mobile LMS

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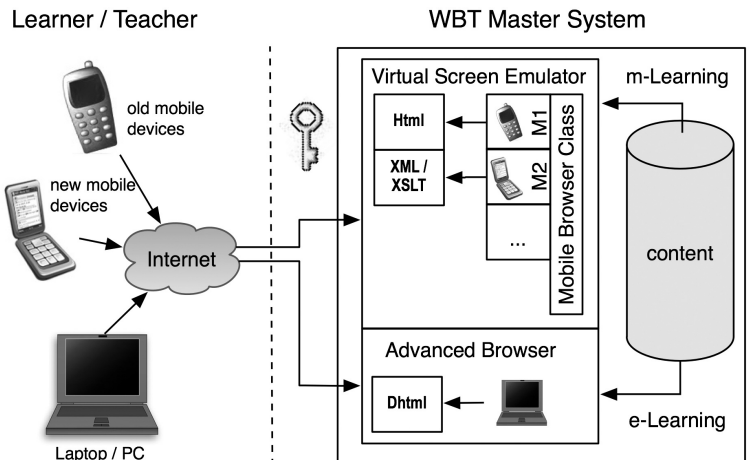
Mobile Information Access in Higher Education

**Title**: Mobile Information Access in Higher Education

**Abstract**: This paper describes the implementation and integration of a m-Learning interface into the existing University-wide e-Learning System. Thereby existing content and information from the e-learning environment is automatically styled and provided in a way, which is accessible for most mobile devices. Incompatible content is filtered out. The system has been developed at the Institute of Information Systems and Computer Media (IICM) of Graz University of Technology with a special focus on the needs of engineering students. The approach integrates the possibilities of current mobile and wireless computing technology with the efficient delivery of information,
content and interaction. This paper will describe the system as well as encourage discussion, although far from m-Learning scenarios - how this kind of mobile access to information and content can be used to support students in higher education.



**Reference**: Ebner, M., Scerbakov, N., Stickel, C., Maurer, H. (2008) Mobile Information Access in Higher Education, Proceedings of E-Learn 2008, Las Vegas, p. 777-782, 2008

[Link]

M-Learning - Hands On - Mobile LMS

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Mobile Access TeachCenter via iPhone


Mobile Access with iPhone at TU Graz TeachCenter.

M-Learning - Hands On - Mobile LMS

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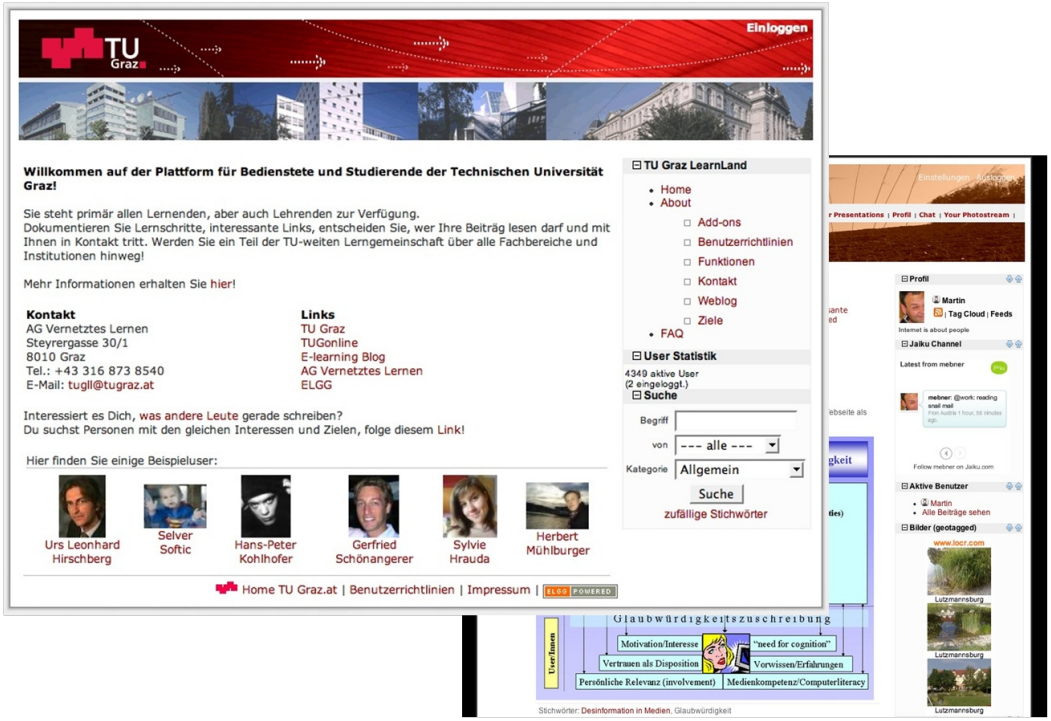
LearnLand (based on ELGG)




http://tugll.tugraz.at

[M-Learning - Hands On - Mobile LMS]

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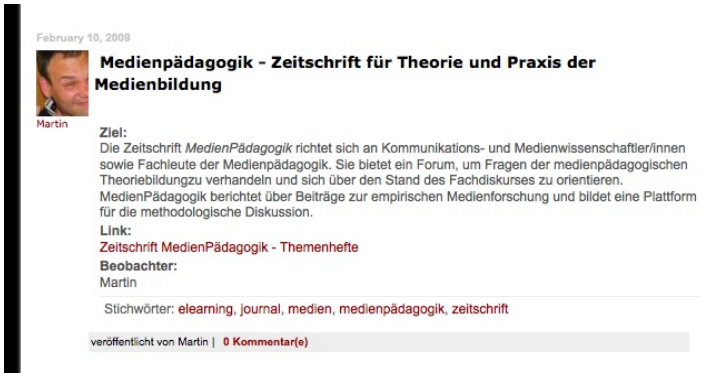
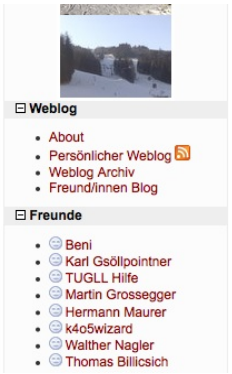
[LearnLand mobile]

[Mobile Version of TU Graz LearnLand:]




[The pictures show the original blog contribution and the mobile view, using the Opera Mini Emulator.]

[M-Learning - Hands On - Mobile LMS]

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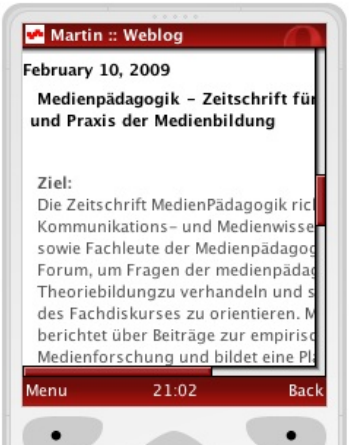
## 1.2.3. Geotagging



# Geotagging


m-Learning in the Field

**Title**: m-Learning in the Field: A Mobile Geospatial Wiki
as an example for Geo-Tagging in Civil Engineering Education

**Abstract**: In subjects such as Civil Engineering, Architecture, Geology etc., education is mostly based on visual information. For example, in Civil Engineering every building can be seen as a unique object at a certain location. During the education of Civil Engineers many field based studies and excursions take place, however, not only the images but also geographical coordinates are essential. Wikis have been in use for collaborative learning for more than ten years. Mobile phones provide access to them from nearly everywhere. The availability of those technologies has led to rapid advances in the area of m-Learning and the possibility to apply challenging constructive educational concepts. Consequently, in this paper we describe the user centered design, development and evaluation of a combination of these technologies to support collaborative learning in the field: A Wiki-based mobile geospatial information system, the so-called TUGeoWiki. The primary objective of this geowiki is to provide a user-friendly tool for mobile collaborative learning for all areas where geo-tagged information could be useful. Moreover, TUGeoWiki was developed in order to provide the integration of external map material via map APIs including information such as that delivered by Google maps. Subsequently, it is possible to provide both highly detailed maps and satellite images without having the need to license such material. Furthermore, the user interfaces used by such tools is well established, due to the increasing number of mapping related mashups. The evaluation during an extensive field test within a large civil engineering excursion to various large-scale construction sites in Austria demonstrated that collaborative learning can be successfully supported by the application of a geowiki.

**Reference**: Safran, C, Ebner, M., Kappe, F., Holzinger, A. (2009) m-Learning in the Field: A Mobile Geospatial Wiki
as an example for Geo-Tagging in Civil Engineering Education, IGI Global. 2009

[Link]

M-Learning - Hands On - Geotagging

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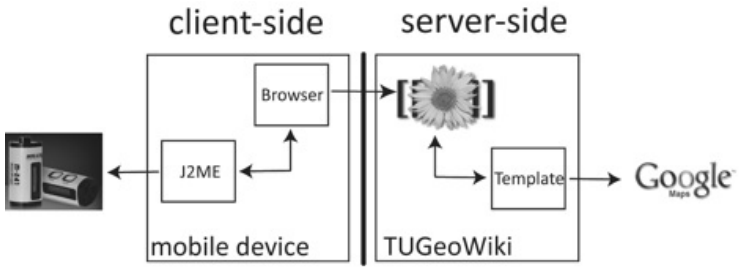
m-Learning in the field II

Mobile scenario:




Screenshots of mobile phones:

M-Learning - Hands On - Geotagging

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GeoWiki

Geowiki creates one Wikipage for a specific, defined location - put all geotagged pictures to this site, shows current position and let students collaborate on it:


[M-Learning - Hands On - Geotagging]

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[Do you use Locr? I]


[M-Learning - Hands On - Geotagging]

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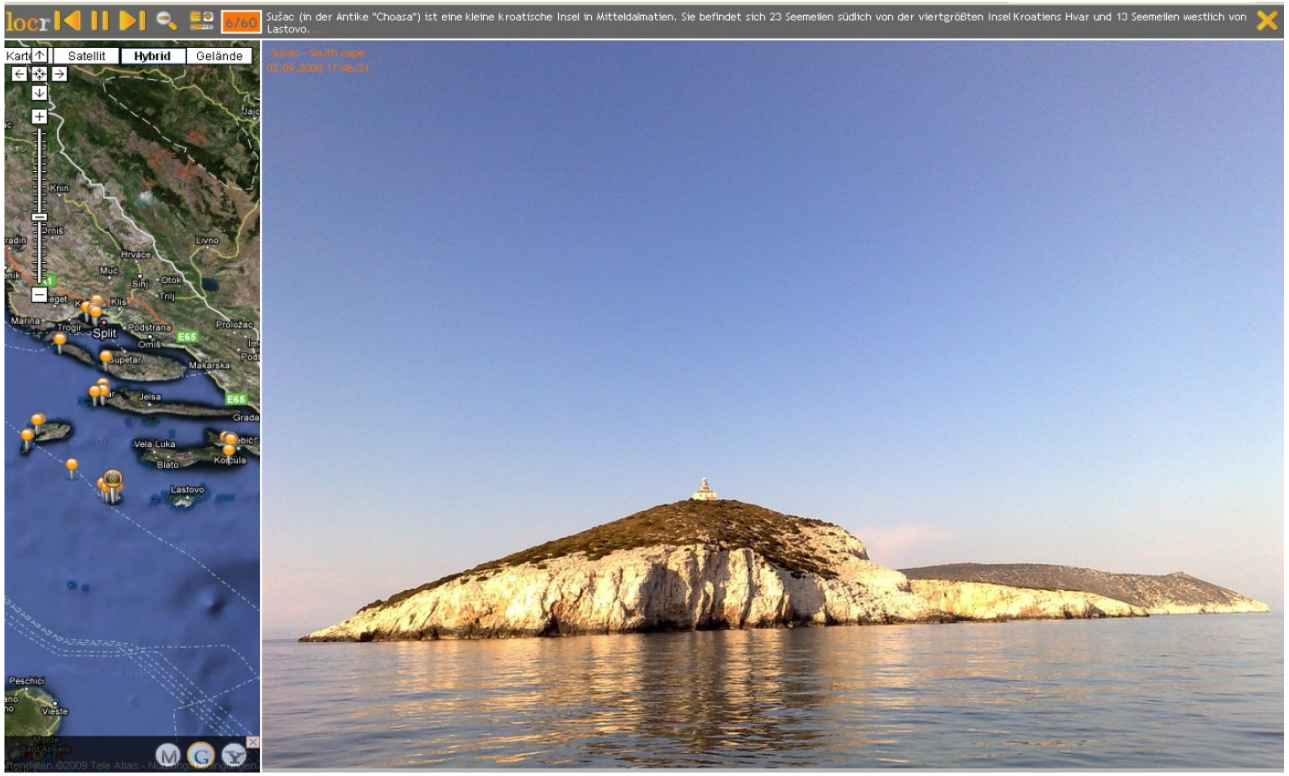
[Do you use Locr? II]




M-Learning - Hands On - Geotagging

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Can your mobile use Locr?

Locr is an online platform for managing pictures just like Flickr, but with the difference that you don´t need to geotag your pictures afterwards by hand over the platform.

All you need is a mobile with GPS and the proper software offered by Locr:

- locr GPS Photo for Windows Mobile 1.0.1
- locr GPS Photo for Symbian 1.22.1
- locr for iPhone
- locr for iPhone Explorer

After installing the software on your mobil you take a photo, use the software to geotag and upload to your locr account. The image automatically is displayed with the geo-coordinates at the locr-platform. You can even set the direction of taking the picture - a service the new iPhone 3G-s has

inside.

---

Locr works with an GPS datalogger as well.
For desktop usage, if needed, locr offers additionally software for Windows and Apple.

There are a huge further applications offered by locr.

- Communities and Friends functions
- Blog and Forum
- Groups and albums
- Slideshows and tag clouds
- Different maps to change the view
- You can even generate at cost a print version of selected images comes to you as a nice afterglow of your last holiday

M-Learning - Hands On - Geotagging

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## 1.2.4. QR-Codes

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### QR-Codes

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QR Code - the Business Card of Tomorrow?

**Title**:QR Code - the Business Card of Tomorrow?

**Abstract**: We are getting familiar with mobile devices; they begin to pervade our daily life in a way that we won't notice them anymore as something remarkable. The amazing fact that there are more registered mobile phones than inhabitants in Germany and Austria makes it easy to claim that mobile phones have already reached the state of a ubiquitous device. One often unsatisfying user experience in dealing with the mobile device addresses the entry of data. Instead of typing data key-by-key one of the most promising technologies towards mobile technologies are

Barcodes. 2D Barcodes or “mobile tags” can be used to exchange information very easily and quickly. By scanning a data matrix access to additional materials can be simply provided. Such codes are able to combine and connect two different media: Print and Internet.
Graz University of Technology (TU Graz) has been started about half a year ago a master thesis and research work with the aim to gather experiences about the practicability of two-dimensional barcodes in general as well as for teaching purposes. By using QR-Codes (Quick Response-Codes) it should be pointed out how and why mobile tagging becomes valuable for the society. This paper gives an overview about the use QR Codes and discusses methods and possibilities.
It can be summarized that by using two-dimensional barcodes the print and online media will get closer and enhance our mobile lives

**Reference**: Ebner, M. (2008), QR Code - The Business Card of Tomorrow, Proceedings of FH Science Day, Linz, Shaker Verlag, Aachen, p. 431-453, ISBN 978-3-8322-7643-0

[Link]

M-Learning - Hands On - QR-Codes

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[presentation] QR Codes

# QR Codes

M-Learning - Hands On - QR-Codes

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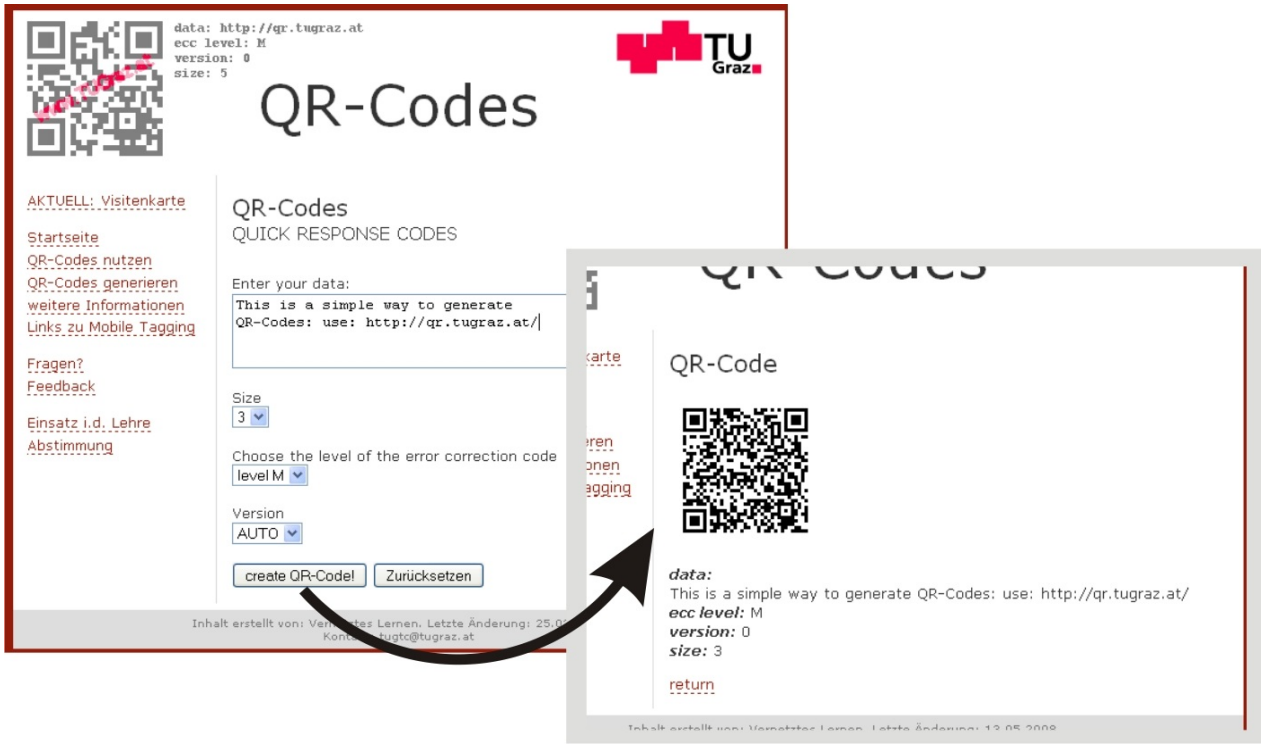
Generate your own QR-code

Since more than a year you can simple generate your own QR-code using this link:
http://qr.tugraz.at/




M-Learning - Hands On - QR-Codes

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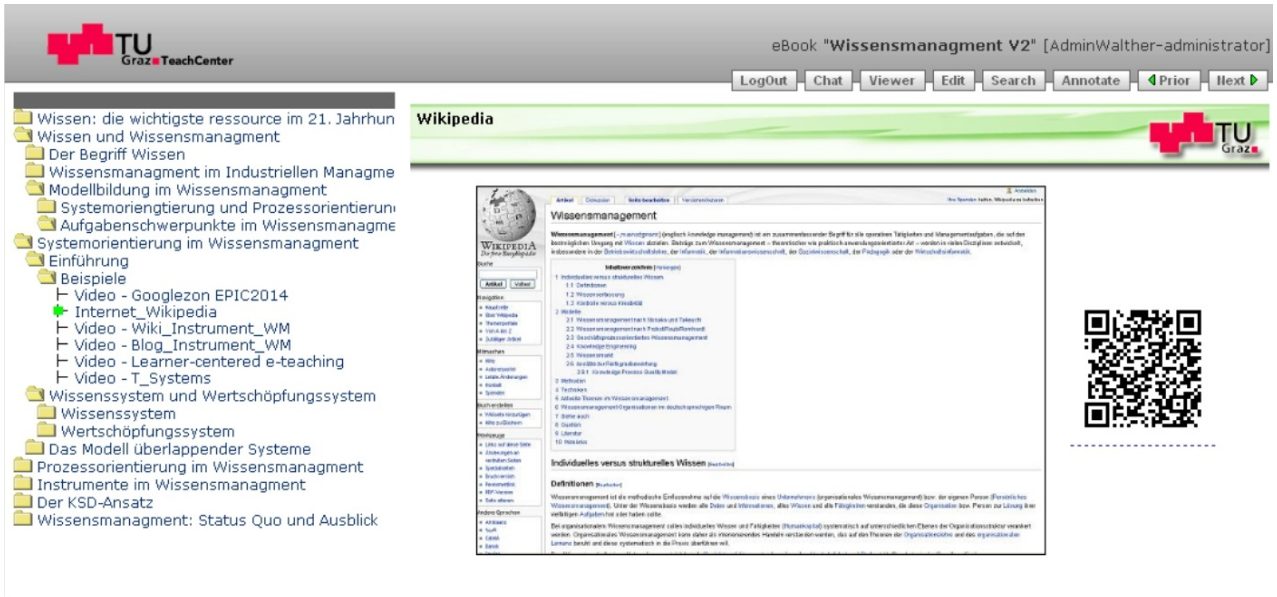
QR-codes for university lectures

... well if you haven´t recognized yet during presentation :)

At TU Graz we run first experiences with using QR-codes within a normal lecture. The content of the lecture is worked out as an e-Book. In cases of videos, internet links or similar media QR-codes are added to these media content. So students easily get mobile access to such kind of media content.




[M-Learning - Hands On - QR-Codes]

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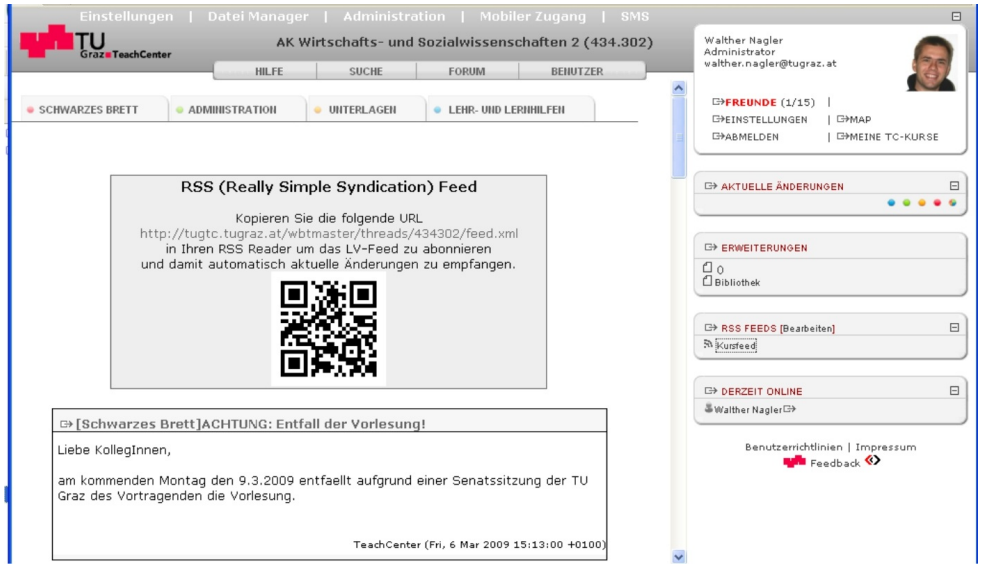
[QR-codes for RSS service]

[At TU Graz the e-Learning platform called "TeachCenter" is used for teaching and learning purposes. The platform covers individual courses each representing the online version of a lecture. The platform offers a lot of different services which can be used by the teacher but there is no must to do so. That means that each course differes from another one in regard to its content and communication possibilities offered for the students.]

[Most of the courses are very dynamically driven; forum posts, new learning objects or simple new content data provided daily. For to stay tuned to these news of a course for each course a RSS-feed is accessible. To use the RSS feed on your mobile or PDA the corresponding QR-code is displayed.]




M-Learning - Hands On - QR-Codes

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## 1.2.5. Podcasting

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### Podcasting

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What is a Podcast?

“A podcast is a multimedia file that is distributed by subscription (paid or unpaid) over the Internet using syndication feeds, for playback on mobile devices and personal computers " (Source)

The term Podcast is a combination of the term iPod, the popular audio player of Apple, and the term for radio broadcasting. The term was first used by Adam Curry in 2002 when promoting the music-management platformiTunes.

Podcasting describes the process of distributing media files via RSS-Internet technology. Very often the podcast is an audio file (.mp3) more seldom it is a video. The producer publishes the media file on a webserver that uses RSS. The consumer just plugs in the mobile device (e.g. iPod) to a PC connected to the internet or logs in to Internet itself. The RSS reader (e.g. PodCatcher) within the device automatically downloads new feeds from the adresses subscribed.

Links:
Adam Curry - der iPod King
Van Aken, Diploma: Ich bin der Sender

M-Learning - Hands On - Podcasting

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How does a Podcast work?


(Source: www.podcast.de)

The process of podcasting: The producer publishes the media file on a webserver that uses RSS. The consumer just plugs in the mobile device (e.g. iPod) to a PC connected to the internet or logs in to Internet itself. The RSS reader (e.g. PodCatcher) within the device automatically downloads new feeds from the adresses subscribed.

Podcasts nowadays are offered and downloaded by a many private users because it has become very simple to do so.

Examples:
Podcasts of TU Graz
How can I produce my own Podcast?
The big german Podcast Portal
Podster.de
Introduction to Podcasting
Introduction to Podcasting Dummies
How to subscribe a Podcast?

M-Learning - Hands On - Podcasting

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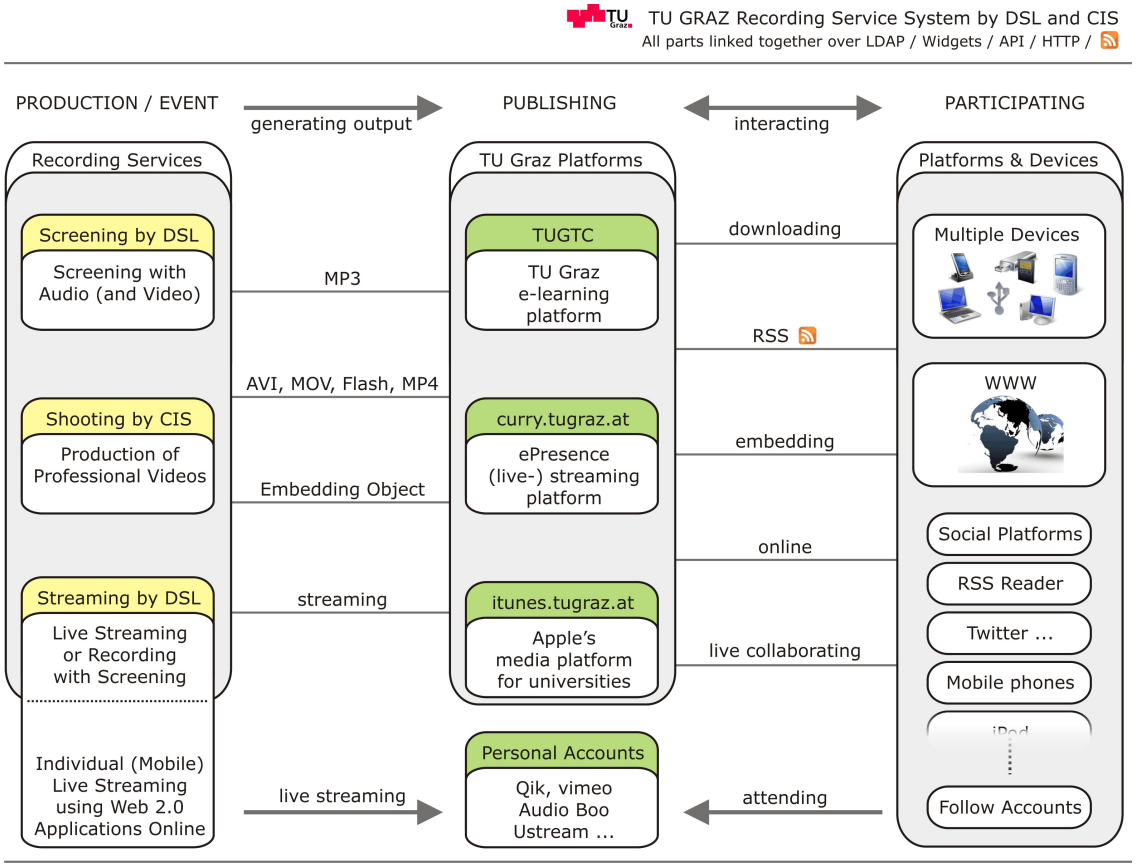
TU Graz Podcast




[M-Learning - Hands On - Podcasting]

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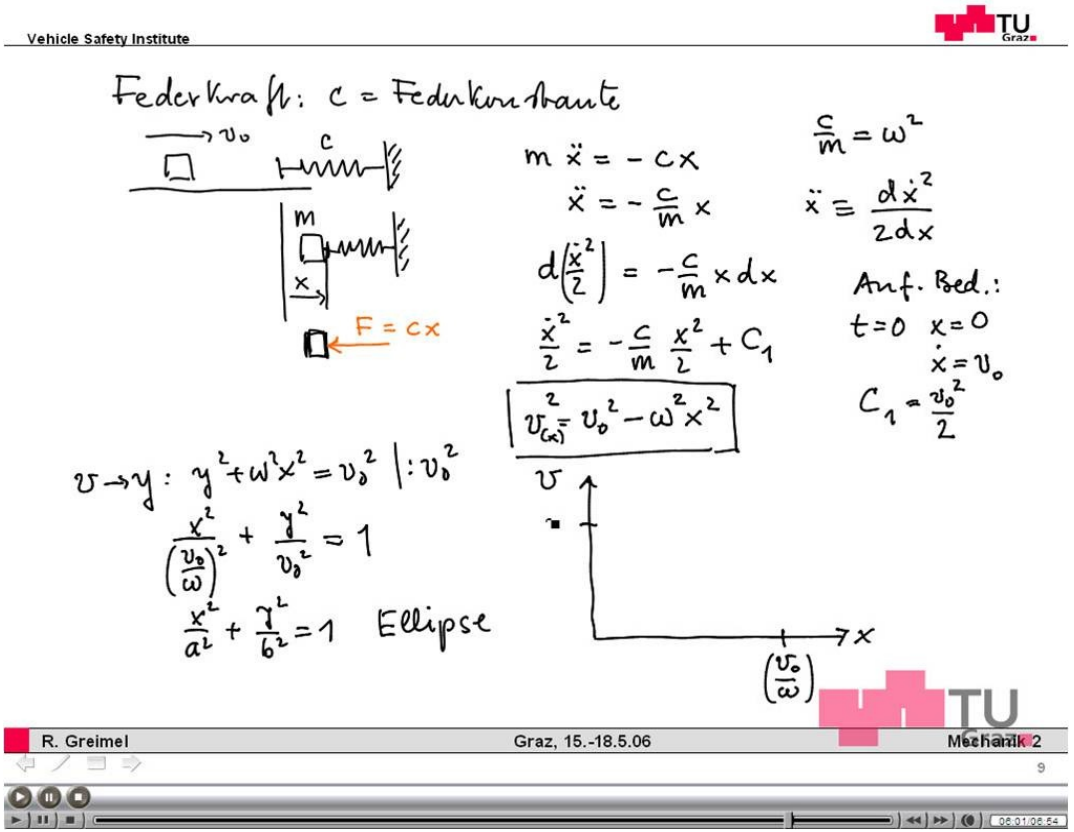
[Podcast Sample]




[M-Learning - Hands On - Podcasting]

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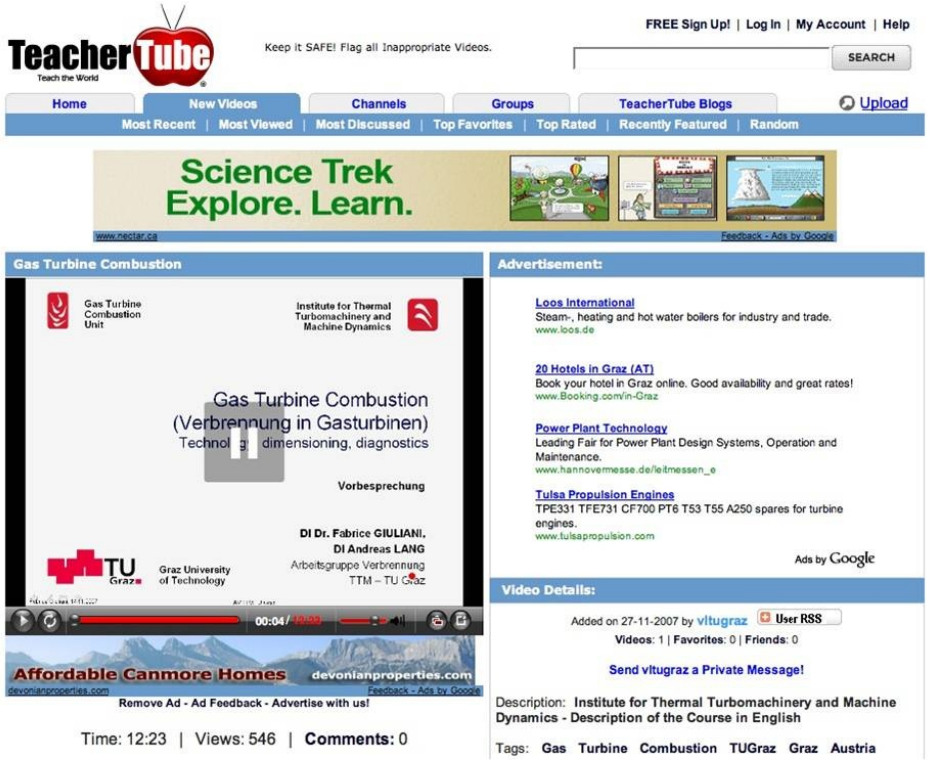
[TeacherTube: Video sharing]




http://www.teachertube.com

M-Learning - Hands On - Podcasting

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Podcast for universities

Since autumn 2006 selected lectures get podcasted at TU Graz by the Dept. for Social Learning. Since then a lot of experiences results in a high quality recording and fast service for podcasting lectures and presentations:

- Over 1000 hours of podcasting
- Over 500 recordings
- Over 50 lectures fully recorded throughout the semester
- Recordings offered in different formats and codecs - AVI (H.264, TSCC, XVid), MP3, MOV and M4V

The full service includes everything from consultant to the final online publishing; preparation on site, recording itself with own equipment, postprocessing to optimize quality and publishing on TU Graz TeachCenter. Here are some didactically scenarios how podcsats can be used at universities:

- Audio recording (headset, wireless microphone, …)

- Video recording
- Screen capturing
- Recording of a whole lecture
  - Record it live
  - Record it as live streaming
  - Record it "offline" in the office before or afterwards
- Recording of short sequences - microcontent
  - for tutorial purposes
  - for instructions of any kind
  - for definitions
  - for summaries
  - for self-preparation of courses or practices or even excursions
- Recording for strictly archival scopes
- Recording as a part of students (collaborative) work and marking

For further information, see paper: "Podcasting at TU Graz How to implement podcasting as a didactical method for teaching and learning purposes at a university of technology"
M-Learning - Hands On - Podcasting

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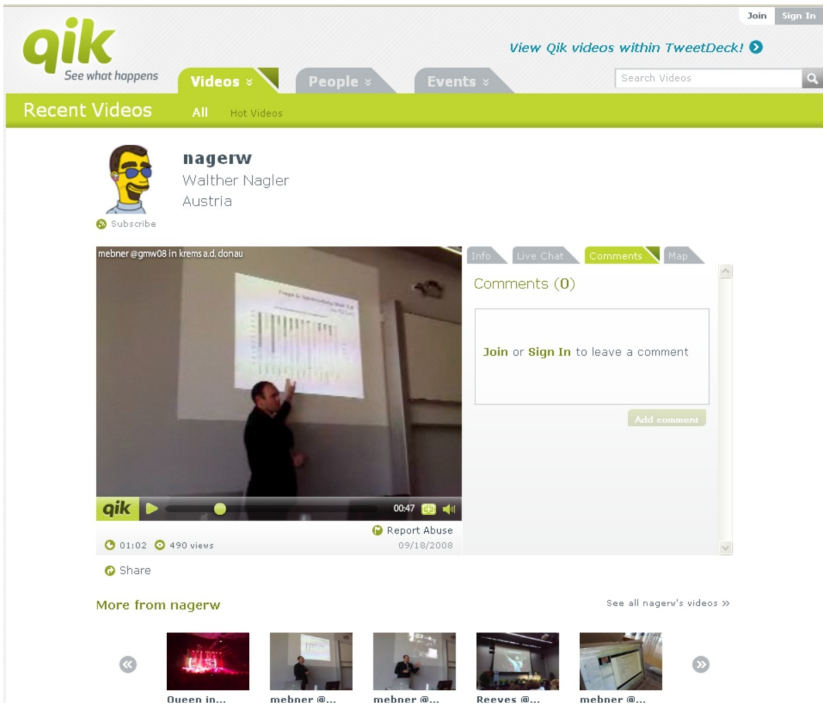
Do you Qik?




Qik is a platform for live streaming on internet with your mobile

Qik can be connected to your Twitter account

[M-Learning - Hands On - Podcasting]

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## 1.2.6. iPhone/iPad

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### iPhone/iPad

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World of Apps

One of the most interesting m-learnning future scenarios is to learn with apps - this can lead to a complete personalized learning environment on the learner's device:

***"For each existing learning issue, you will need just need one appropriate app"***


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iPhone Development TU Graz I


TU Graz started ***iPhone Development*** to teach students programming Apps for different purposes, but also to address to learning purposes. Here you will find some interesting material:

- Lecture Hand Outs [iPhone Development]
- Lecture Recordings [TU Graz (german)] [Stanford on iTunesU (english)]

- iPhone Apps developed by TU Graz [iTunes] [App Store TU Graz]
- WebApp of TU Graz [WebApp]

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[presentation] iPhone Human Computer Interface Guidlines

**iPhone - Human Interface Guidelines**

View more presentations from Martin Ebner.

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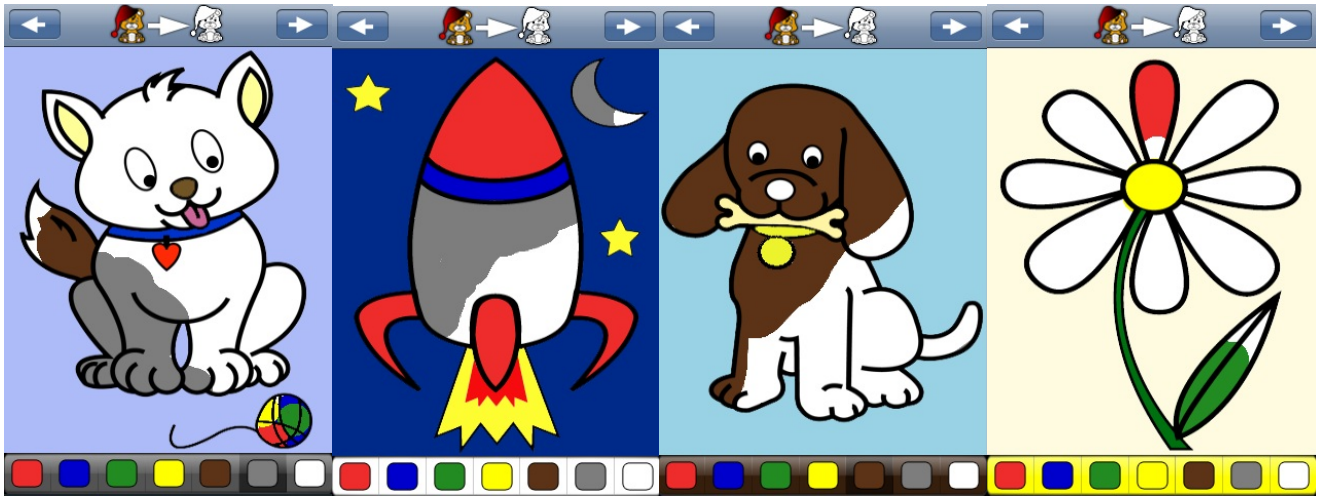
iPhone Development TU Graz - Example I

**App:** Kiddypaint

**Description:** surprise - suspense - fun; exciting motives, suitable for children; fun animations; easy to use; intuitive icons; specifically designed for kids

**Screenshots:**



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iPhone Development TU Graz - Example II

**App:** iBubbleMath

**Description:** iBubbles is a Math-Trainer especially developed and designed for kids from about 6 to 10. Simple multiplication (all tables up to ten) can be exercised in a playful way. Kids can choose between a trainingsmode and a quizmode. During the training there is no time pressure. To enhance the learning effect the player can guess several times until the right answer was chosen. In the quizmode the tasks should be solved as fast as possible to gain maximal points and to show up in the highscore. iBubbles is suitable for beginners as well as for advanced players as there are different difficulty levels selectable.

**Screenshots:**


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iPhone Development TU Graz - Example III

**App:** GeoAustria

**Description:** GeoAustria is a learning game for children. This game should give them a playful and easy access to geography. With the playful character of this game the children do not loose the desire of learing austrian geography. In the game it is possible to take a joker, which give you tips to the wanted place. This tips will help the children to find the different places and they also will give them additional information to this places.

**Screenshots:**


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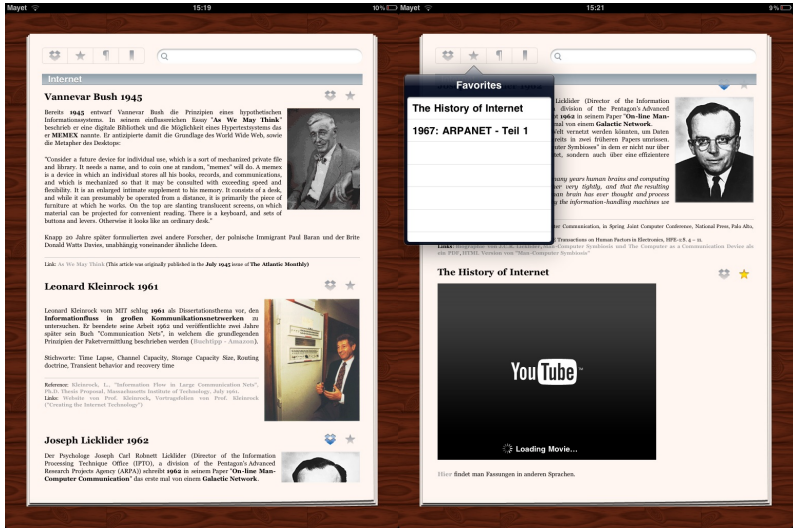
iPad Development TU Graz - Example I

**App:** Paragraph

**Description:** Paragraph is an iPad application for reading course material. It allows the user to mark paragraphs of text, including videos and images, as favourites. These articles can then be accessed from the toolbar. Additionally the user can personalize his course material by putting content in a collection. The interface flips to show the personal collection of content. The content can also be searched with a textfield on top of the interface and the user can bookmark the item he/she is currently reading so he can snap back to it with one tap.

**Screenshots:**

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[video] Alice on iPad

# Alice on iPad

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[video] iPod in Education

Video about the Use of iPods in Education
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100 Best iPhone Apps for Serious Self-Learners

"Those who constantly strive to learn more from the world around them, who can't pass up an opportunity to pour over a book or dictionary, or who take classes just to learn a bit more are a special breed.

For those with an iPhone, the chances for learning just got a lot greater.

No matter if you love literature, science, nature, arts, foreign languages and travel, medicine, or Christian studies, there are apps that will enhance your ability to expand your knowledge base."

100 Best iPhone Apps for Serious Self-Learners at Learn-gasm

Learn-gasm EDUCATING & EXCITING



## 1.2.7. More Tools

### More Tools

More Web 2.0 apps

There are a lot of efforts to sum up the most common web2.0 applications. A kind of web2.0 directory is given by Go2Web20.net. But it is easy ro guess that all these directories are only a possibility to start but never claim to offer a complete list. The Web is growing in a rate we would never have expected years ago.


PopURLS (the last URLS of the social web)
Connecting Blogs and News (Sphere)
Blogsearch (Bloggdigger)
The biggest Weblogs (originalsignal)
AudioBoo the iPhone audio blogging app
Live Audiance Polling

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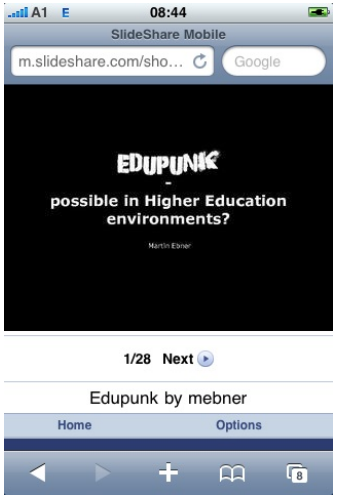
Slideshare mobile

Edupunk presentation on slidshare

Edupunk presentation
on iPhone:




M-Learning - Hands On - More Tools

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[video] The Evolution of Google

# Evolution of Google

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AJAX tools

SpeedMeter: http://www.speedmeter.de
DSL Speedtest and scoring Speedmeter is a Speedtester for Internet access working wiht AJAX. It checks your personal Internet connection and compares, scores it with other users online including subjective rating as well.

mind42: http://mind42.com
Is a collaborative Mindmapping-Tool. The mindmaps can be integrated into any blog.

iTodo: http://www.itodo.de
Dates and projects management site with iTodo on base of AJAX. It helps users to coordinate tasks, projects and todo-lists online with other users linked over RSS, eMail or similar.

VibeAgent: http://www.vibeagent.com
Search, rate and share Hotels with VibeAgent

AjaxPlay: http://ajaxplay.com

Online chess game. You get informed about the activities of your counterpart by eMail.

SpellJax: http://www.spelljax.com
Online spelling check SpellJax of the text input.

...and many more.

Source:
web2null - Das deutschsprachige Web 2.0 Sammelalbum

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Do you Wikitude?

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First Aid from your mobile

The Rotes Kreuz Youth Organisation offers a mobile version of the most important things to do in case of first aid.


The instruction is very clear and easy to use and includes the following:

- Chain of help
- Emergency numbers
- Immediate life-saving measures with detailed pictured information
- Videos
- Quiz
- Further Info

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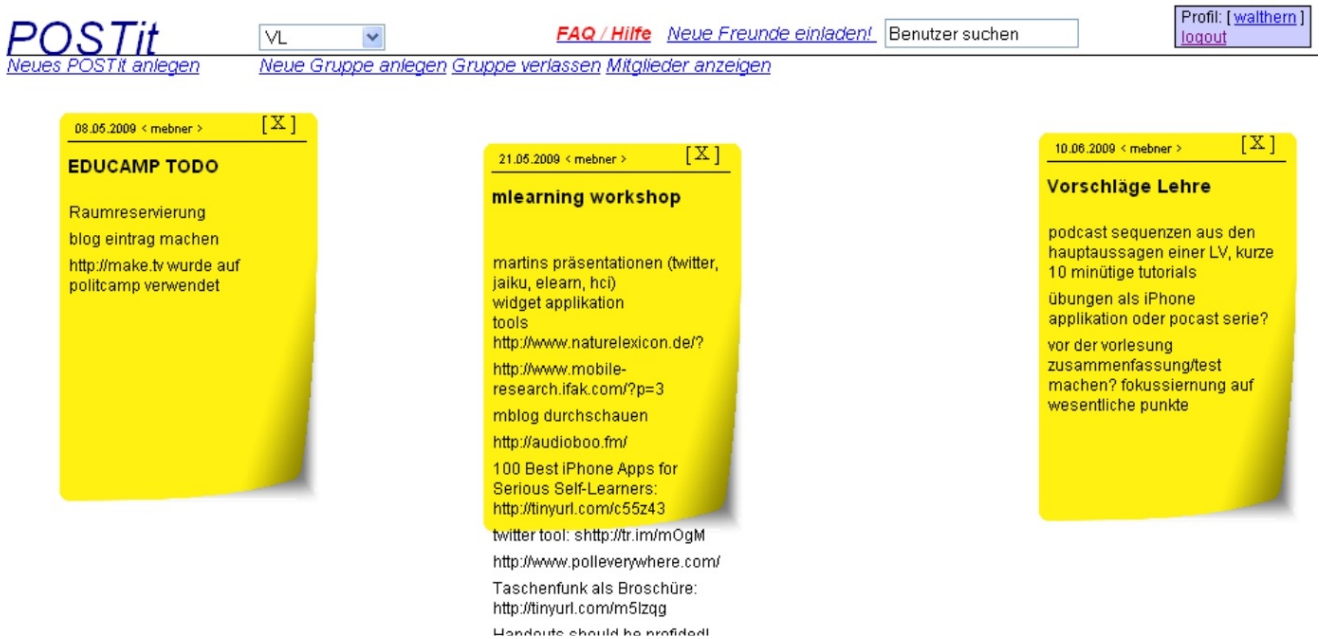
PostIt

Write your ToDos on **digital Post-its** and use it on your **desktop** as well as on or **mobile** - all linked together

Share these Post-its with your collegues and friends - have a **collective writing community**

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Do you Poken?

The Poken Website says:

*"We're not another social network. You've already got that. We've thought bigger to let you instantly bridge the gap between the people you meet in the real world and those you stay connected to online."*

So .. do you Poken?

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What was this tweet?

Check out tweet of birds with your iPhone :

Get the bird tweet trainer here (german)

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All over Twitter

No day without a headline about. Not only blogs dealing with e-Learning post about Twitter each day more than once. Twitter has indeed become a hard booming blockbuster these days! So here are some of the endless Twitter Links you might use:

- Tweet mobile with Twibble or Fring or for iPhone only use Tweetie, TwitterFon, Twitterific or Twinkle
- Follow official EdMedia on Twitter: http://twitter.com/edmedia
- Follow tweets concerning #edmedia on Twazzup

- 2001 Twitter tools
- 100 Leaders You can Learn From on Twitter
- Twitter Handbook for Teachers
- TweetPsych to check the psych pf Twitter users
- Manage Your Followers with My Tweeple
- Manage Your Folowers and Following with Twitter Karma

- Rerduce the Noise with Mixero (for iPhone as well)
- File Sharing with FileTwt
- Music/Video tipps on Twitter via Blip
- Upload and Share pictures for Twitter with Twitpic or Twitxr
- Meet your local Twitter friends arange a Twittagessen (Twunch)
- Take a look at your Twitter History with Twistory (for Thunderbird and Google calender as well)
- Manage your Twitter activities, replies and statistics with Twitoaster
- Get Twitter Plugins for your social communities and blogs or for your WordpressBlog using Tweetback
- Search Twitterhastags: http://search.twitter.com/
- All about Twitter posted by Martin Ebner on his e-Learning Blog
- Talkexplorer for Twitter: Visualisation of the communication activities on Twitter

Your favorite Twitter apps?

- ...

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Grabeeter - Search and Save Your Tweets


- How often do you search a link microblogged on Twitter you remember?
- What was your statement half a year ago according to a specific topic?
- Have you never wished to knkow what your first tweet was?

Due to the fact that Twitter API allows to contact the last 3200 tweets of a Twitter user this results in the requirement for an several tweet-saving

application.

The main aim of Grabeeter application is to search all tweets of a Twitter user. In order to fullfill that all tweets must be saved before. Grabeeter has been developed by the Office for Social Learning, Graz University of Technology since 2009.

With the Grabeeter client the user can easily search, download and save all own or foreign Twitter user tweets even locally. The Grabeeter client offers an open API for further development.

Have a look, try Grabeeter

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