

Mobile Learning Systems

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Agenda

- Introduction
- E-learning
- Growing role of gadgets
- M-learning
- Our proposal
- Conclusions
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Introduction

- Growth of influence of mobile technologies
 - Smartphones, tablets
- Importance of usage of new technologies in education
- Need some extra effort from professors and teachers

E-learning

- New opportunities for a lot of people all over the world
 - Any place
 - Any time
 - Less resource consumption
- Various applications:
 - University studies
 - Training programs in commercial companies
- Drawback: Not equal efficiency in different areas of studies

Growing role of gadgets

- Consumer interest in tablets and smartphones is actively growing, and to laptops is falling.
- In Russia, the audience of mobile Internet users increases 2 times faster than the audience of regular Internet users

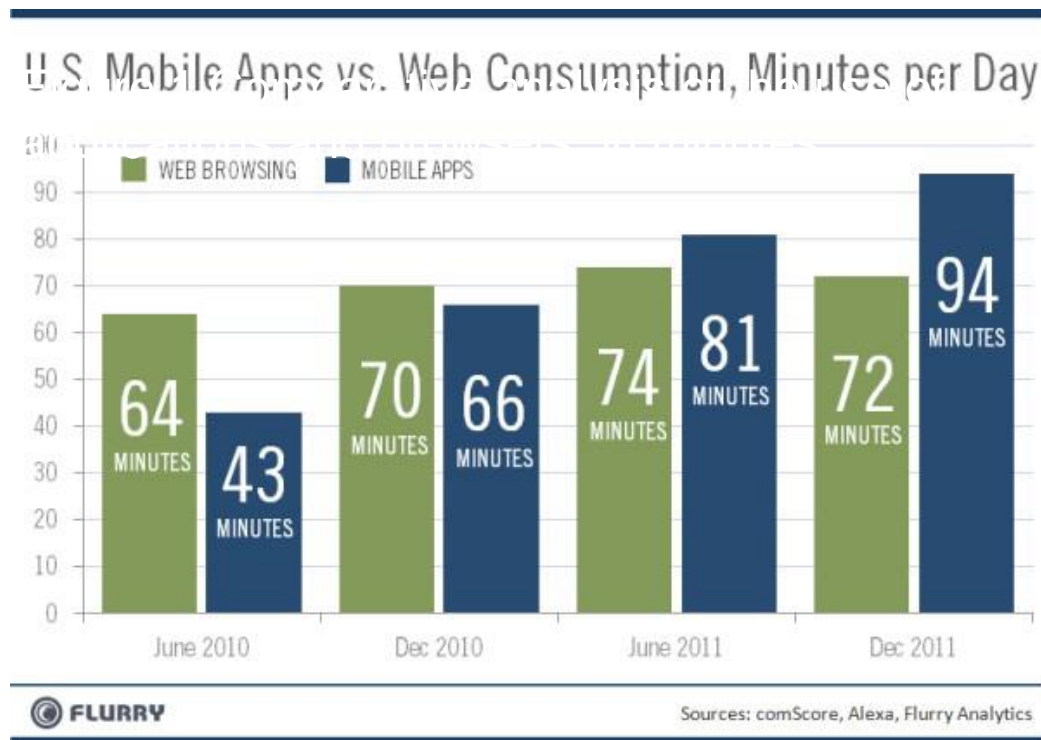


Figure 1. Comparative analysis of the use of applications and browsers, in minutes.

Growing role of gadgets (cont.)

U.S. Mobile App Consumption, Time Spent per Category

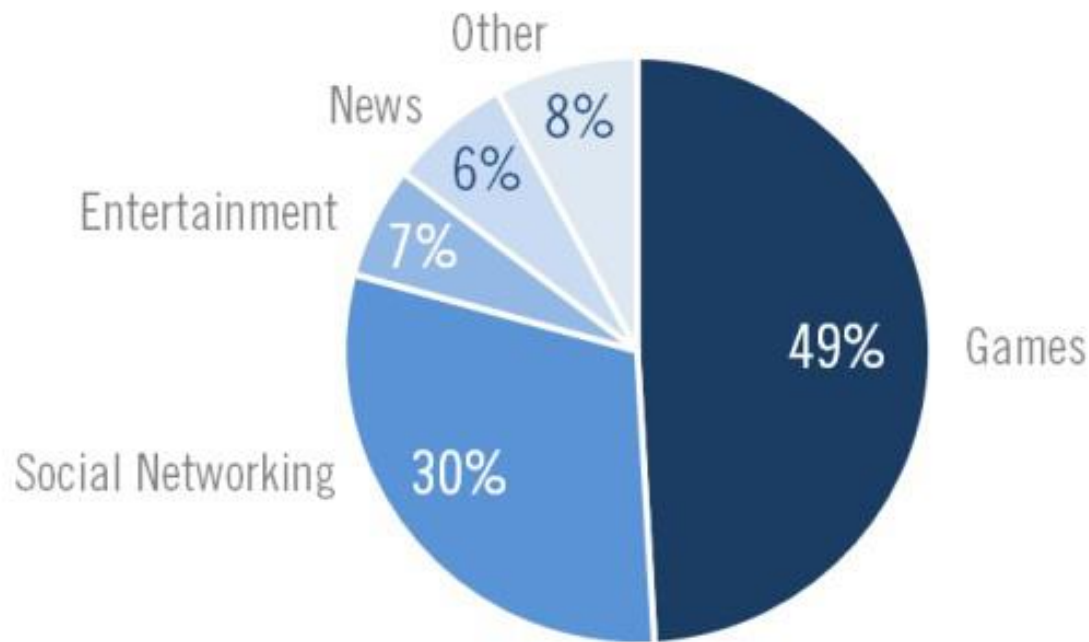


Figure 2. The most popular categories of mobile applications. USA.

M-learning

- Learning process is organized with the usage of mobile devices
- The forecasted revenue is about \$14 billion by 2014
- Why do we need it?
 - Usability and convenience
 - Interest of the audience
 - On the edge of the technical progress

M-learning (cont.)

Big Gains on Going Mobile

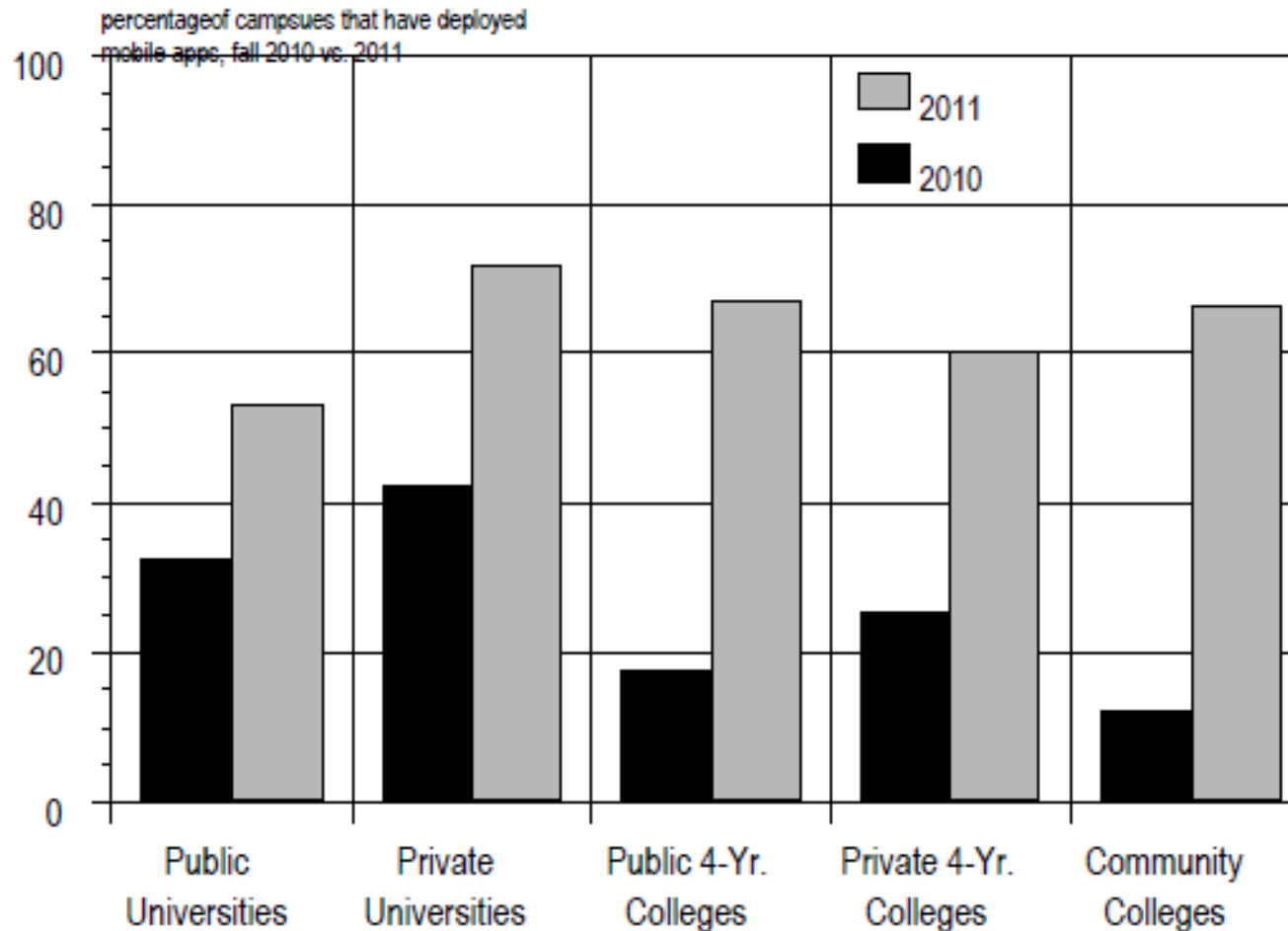


Figure 3. Big Gains on Going Mobile, percentage of campuses that have deployed mobile apps, fall 2010 vs fall 2011[2]

Our proposal

- Idea: one server — several client implementations

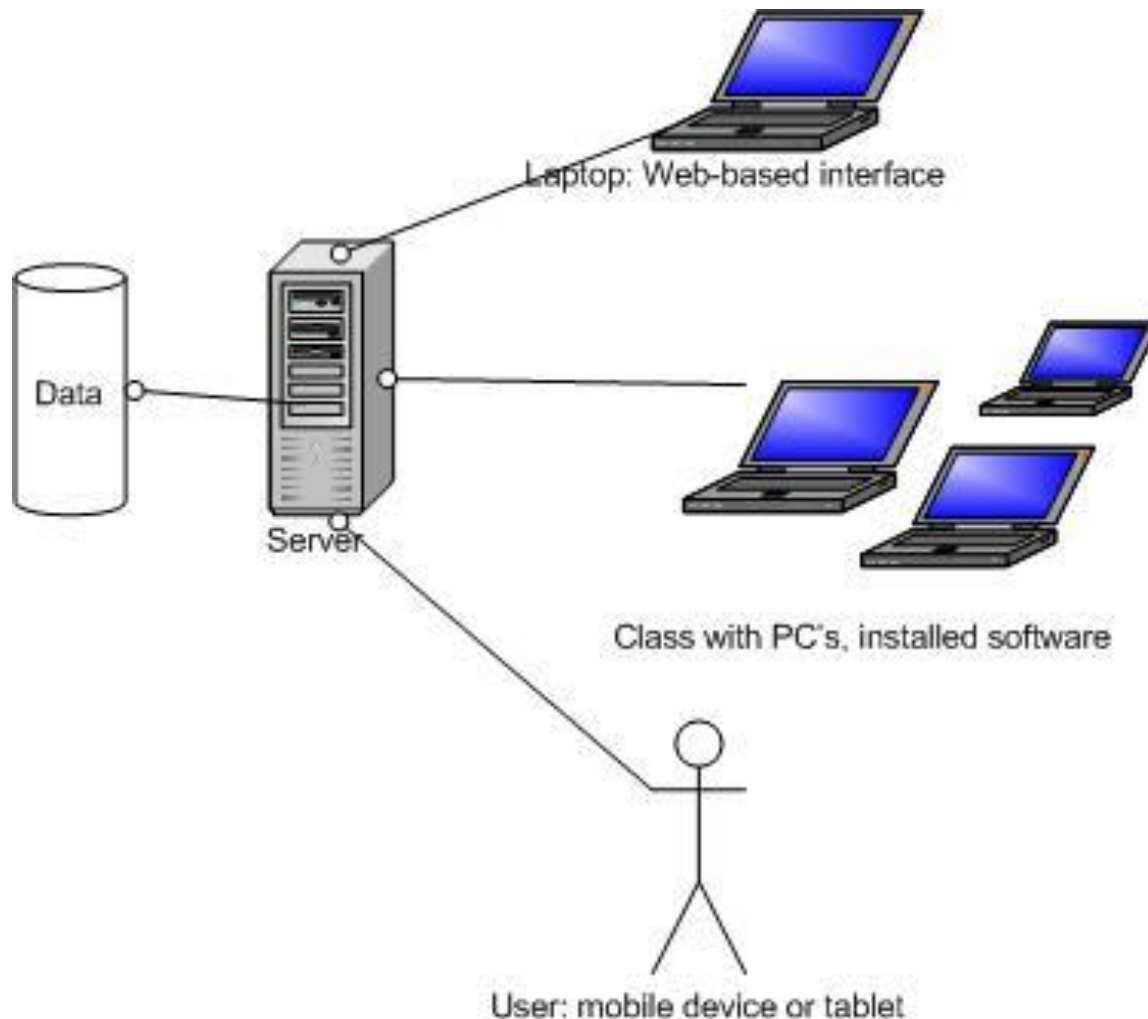


Figure 4. The organization of the system

Our proposal (cont.)

- Role-based system : students, professors, administrators

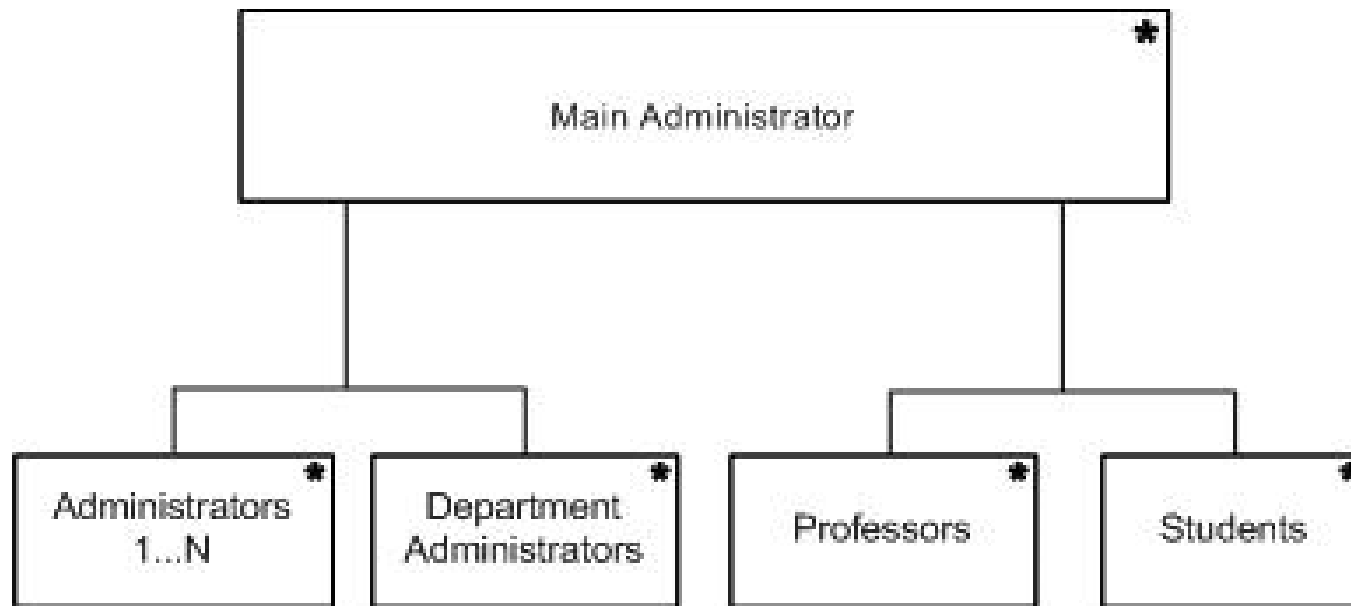


Figure 5. The hierarchy of roles in the system.

Our proposal (cont.)

Role\Application	PC Application	Mobile applicaiton
Professors, teachers	Module for creating e-learning course; Module for creating tests, including the ability to automate test scoring; Statistics module.	Statistics; Notification system.
Students	Catalog of courses; Module for studying; Module for sending homework; Module to perform control tests; Module to view the results of their performance.	Module for studying; Module to perform control tests; Module to view the results of their performance. Notification system.
Administrators	Registration; Control; Technical support.	Technical support.

New modules

- The main goal is to make the application useful for the audience
- Additional modules:
 - Monitoring, statistics, notifications
 - System of preliminary control for homeworks and assignments
 - Evaluation system (feedback)
 - Professor evaluation
 - Course evaluation

Key principles

- Divide the functionality
 - Based on the role the set of features for each client application is defined
 - New modules
- Clients:
 - Desktop application
 - Mobile application
 - Web-based application

Conclusions

- Mobile technologies became an essential part of our lives
- We will increase the effectiveness of education if we use them
- We propose an efficient approach of using different technologies in one e-learning system (PC, mobile, web)

References

- Blinov, D. (2012). Statistics of usage of mobile devices, platforms and applications. Retrieved from: <http://beamteam.ru/2012/09/mobile-platforms-share-2012/>
- A Profile of the LMS Market (page 18), CampusComputing, 2011. Retrieved from: http://www.campuscomputing.net/sites/www.campuscomputing.net/files/Green-CampusComputing2011_4.pdf
- Nicole Fougere, US Leads the Global Mobile Learning Market , 2010 <http://www.litmos.com/mobile-learning/us-leads-the-global-mobile-learning-market-mlearning/>
- Kerschenbaum, Steven (04). "LMS Selection Best Practices" (White paper). Adayana Chief Technology Officer. pp. 1–15, 13 February 2013. Retrieved from: http://www.trainingindustry.com/media/2068137/lmsselection_full.pdf
- Ellis, Ryann K. (2009), Field Guide to Learning Management Systems, ASTD Learning Circuits. Retrieved from: http://www.astd.org/~media/Files/Publications/LMS_fieldguide_20091
- Wikipedia. <http://www.wikipedia.org/>
- etc.

Thank you!
Questions?

