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Upbringing M-Learning for the Schooling and Higher Education - an overview with a Prototype Model

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Abstract:- **Mobile learning (m-learning) environments open a wide range of new and exciting learning opportunities, and envision students who are continually on the move, learn across space and time, and move from topic to topic and in and out of interaction with technology. Smartphone's and tablet computers, as well as other ultraportable devices, have already gained enough critical mass to be considered mainstream devices, being present in the daily lives of millions of higher education students. The study of such technologies and their possible uses for higher education, as well as the impacts they can have on stimulating more active participation and engagement with the course subjects and research in higher education. A common interface that would help the school students to get all the need elements that would help them to increases their knowledge about the subject and other general information's.**

I. INTRODUCTION

It is widely believed that innovative applications of Information Communication Technologies (ICTs) can be employed to increase the quality of education by facilitating information sharing and supporting administrative processes. Learning management systems (LMS) are one such innovation that has been developed to help achieve the goal of increasing quality of education.
Mobile devices have become ubiquitous and cheaper. The popularity of mobile devices has made people eager to find a way to apply these portable and personal handhelds for educational purposes. It specifies investigates the usage of LMSs in Institutions of Higher Education and how mobile devices are being used with LMS.

II. LEARNING MANAGEMENT SYSTEMS

Learning Management System (LMS) is a broad term used for systems that organize and provide access to online learning materials to students, educators, organizations and administrators. These systems typically support access control, information sharing, communication tools, and administration of user groups.

III. WHAT IS MOBILE LEARNING?

The definition of mobile learning is still evolving and so there are multiple definitions in existence. Mobile learning is defined as:
"Handheld technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning".

IV. WHY MOBILE LEARNING?

The interest in mobile learning has come from a number of places:

• Advances in technology and high levels of mobile phone penetration have made mobile devices the ideal targets for mobile learning applications;
• As well as these advances in technology reshaping learning, the characteristics and behaviors of Generation , and the environment they have grown up in mean that Generation are driving changes in learning design for all generations;
• It is as important to have behavioral change as well as technological change: social norms are rapidly evolving and for most people the benefits of the mobile phone now outweigh its disadvantages – educators need to tap into the newbehaviors and technologies rather than trying to change or resist them.

V. WHY IS MOBILE LEARNING IMPORTANT FOR EXECUTIVE EDUCATION?

"Whether we like it or not, whether we are ready for it or not, mobile learning represents the next step in a long tradition of technology-mediated learning. It will feature new strategies, practices, tools, applications, and resources to realize the promise of ubiquitous, pervasive, personal, and connected learning. It responds to the on-demand learning interests of connected citizens in an information-centric world. It also connects formal educational experience….with informal, situated learning experience".

VI. INTERFACE

An interface is a shared boundary across which two separate components of computer system exchange information. The exchange can be between software, computer hardware, peripheral devices, humans and combinations of these. Some computer hardware devices such as a touchscreen can send and receive data through the interface, while others such as a mouse, microphone or joystick are one way only.

VII. TECHNOLOGIES IN M-LEARNING

Mobile devices and personal technologies that can support mobile learning, include:

- Smartphone, an aggregator of most of the following technologies
- E-book
- Handheld audio and multimedia guides, in museums and galleries
- Handheld game console, modern gaming consoles such as Sony PSP or Nintendo DS
- Personal audio player, e.g. for listening to audio recordings of lectures (podcasting)
- Personal Digital Assistant, in the classroom and outdoors
- Tablet computer
- UMPC, mobile phone, camera phone and Smartphone

Technical and delivery support for mobile learning include:

- 3GP For compression and delivery method of audiovisual content associated with Mobile Learning
- GPRS mobile data service, provides high speed connection and data transfer rate
- Wi-Fi gives access to instructors and resources via internet
- Cloud computing for storing and sharing files

Mobile web and Mobile Appsfor the dominant content formats for Smartphones

VIII. TYPES OF M-LEARNING

Type	Description
Classroom	Use of handheld computers, PDAs, smartphones or handheld voting systems with traditional resources. They use to enhance group collaboration among students through communication applications, interactive displays, and video features.
Blended Learning	Combines brick-and-mortar schooling with online delivery of content and instruction. Mobile devices provide support that enhances teaching and learning in a virtual classroom environment.
Podcasting	Listening to audio recordings of lectures. It can be used to review live lectures and to provide opportunities for students to rehearse oral presentations.
Outdoors	Learning in museums or galleries with handheld or wearable technologies Learning outdoors (e.g. On field trips).Continuous learning and portable tools for military personnel.
Lifelong Learning &Self Learning	use of personal technology to support informal or lifelong learning, such as using handheld dictionaries and other devices for language learning, is an approach that is not to be overlooked.
Other	Improving levels of literacy, numeracy, and participation in education amongst young adults. Using the communication features of a mobile phone as part of a larger learning activity, e.g.: sending media or texts into a central portfolio, or exporting audio files from a learning platform to your phone. Developing workforce skills and readiness among youth and young adults.

IX. FOCUS OF THE STUDY: CREATING THE MOBILE APPLICATIONS

i. Scoping and scheduling your mobile learning project
ii. Producing the overall design of your mobile learning module
iii. Prototyping your mobile learning module
iv. Scripting your mobile learning module
v. Building your mobile learning module
vi. Testing your mobile learning module
vii. Delivering your mobile learning module

i. Scoping and scheduling your mobile learning project

So what are the outputs at this stage?

- A needs analysis with SMART learning outcomes/objectives
- Technical requirements for the programmer with agreed delivery devices and software technologies
- Key messages and content to be included in the module
- Agreement on module structure and length (in screens or minutes)
- Agreement on budget and schedule

ii. Producing the overall design of your mobile learning module

Producing at this stage are:

- Design document with section structure and design ideas with a high-level scoping potentially down to the level of individual screens
- Design mock-ups ready for any prototyping and informing the script templates that you will be using

iii. Prototyping your mobile learning module

Developing a prototype is actually the process of taking your idea and turning it into an application with some basic functionality. A prototype makes it quite easier to sell your idea to potential buyers who can actually view the tangible benefits instead of just visualizing or reading product description. It is quite helpful in attracting investors and working with manufacturers and finding licensees.

iv. Scripting your mobile learning module

The script is your blueprint for the whole of the learning module. It has to detail:

- Screen names and numbers (so all your images and screen elements are efficiently named themselves)
- All the onscreen text, audio and text (and video)
- The types of interactions

v. Building your mobile learning module

There are two main activities that go on in parallel during this stage: visuals/media production and building the app.

vi. Testing your mobile learning module

There are two main aspects to the test process: Content and Function.

Content checkingis all about ensuring the content is clear, easy to understand and the final modules match scripts and don't have any typos that may have been introduced along the way (for example on graphics).

Functional testingfor mobile learning may be across a wide range of devices and operating systems (in line with the agreed technical specification). Testing ensures that the course works as expected on each platform and discovers quirks that may have not been anticipated in the initial technical discussions.

vii. Delivering your mobile learning module

Private interface that contains and does the following:

- iOS apps
- Android apps
- BlackBerry apps
- Some types of content (video, docs, pdf)

- Device configuration info
- Links to web apps
- Links to apps in the public app stores you recommend/require student use
- Apps you've bought from the app store for the student

X. Applications related to School Students

Classification	Students app for note taking
Mobile supported	Apple, Samsung, Blackberry, Motorola
Mobile OS	iOS apps, Android apps, BlackBerry apps
Name of APP	**Objective of the APP**
Class Cards	Boosting student engagement during lessons and discussions(Notes taking)
Evernote and EverStudent	Taking notes and as a remainder for the student's
MySchoolNotebook	Taking Notes
Memonic	Recording of actions
SimpleNote	Simple hint taking.
SpringPad	Take notes, clip web sites, create task lists, and more, just like in Evernote, but you can also import data from a bar code, search by location, and add photos.
Classification	App for image processing
Mobile supported	Apple, Samsung, Blackberry, Motorola

Mobile OS	iOS apps, Android apps
Name of APP	**Objective of the APP**
Skitch	create sketches and annotate, edit and save photos and your sketches
Skrambler X	Sketching of the image.
Sketch-book pro	Drawing of the image.
Classification	Notifications apps for the students
Mobile supported	Apple, Samsung, Blackberry, Motorola
Mobile OS	iOS apps, Android apps
Name of APP	**Objective of the APP**
TrackClass	Allows students to track their classes and assignments, and even will send reminders (email or SMS).
Soshiku	Has a calendar, notes, task list, and reminder system like Trackclass.
Babylon	online translator for more than 75 languages
Classification	Dictionary apps for the students
Mobile supported	Apple, Samsung, Blackberry, Motorola
Mobile OS	iOS apps, Android apps
Name of APP	**Objective of the APP**
The Oxford Dictionary	Mini oxford dictionary for the students.
Dictionary.com	Simple dictionary with all words.
Classification	Most common
Mobile supported	Apple, Samsung, Blackberry, Motorola
Mobile OS	iOS apps, Android apps
Name of APP	**Objective of the APP**
SelfControl	Create a mind map to organize your ideas.
Maths Alarm Clock	Mathematical alarm as a remainder
Sleep Cycle Alarm Clock	Basic alarm regulator
Classification	
Mobile supported	Apple, Samsung, Blackberry, Motorola

Mobile OS	iOS apps, Android apps, BlackBerry apps
Name of APP	**Objective of the APP**
RealCalc Scientific Calculator	Scientific calculator for calculating mathematical calculations.
Free Graphing calculator	For calculating the graphics.
Sworkit	create training plans in 5 minutes.
ExamTime	Create online Mind Maps, Flashcards, Online Notes and Quizzes.
Flash My Brain	Conducting of Quizee.
Quick Office	Used to view the office documents.
Math Formulas	Contains all the mathematical formula.
World Atlas Hd	Map app.

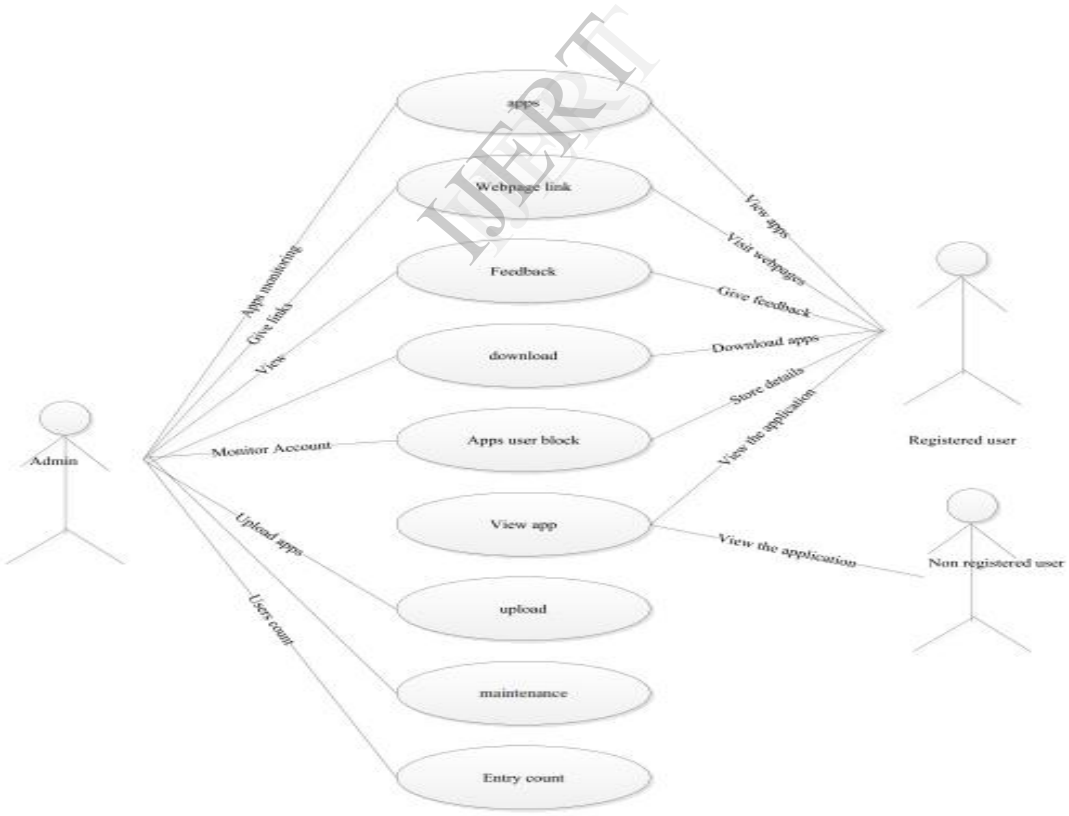

Fig 1. Usecase Diagram: User Interaction in Mobile Applications.

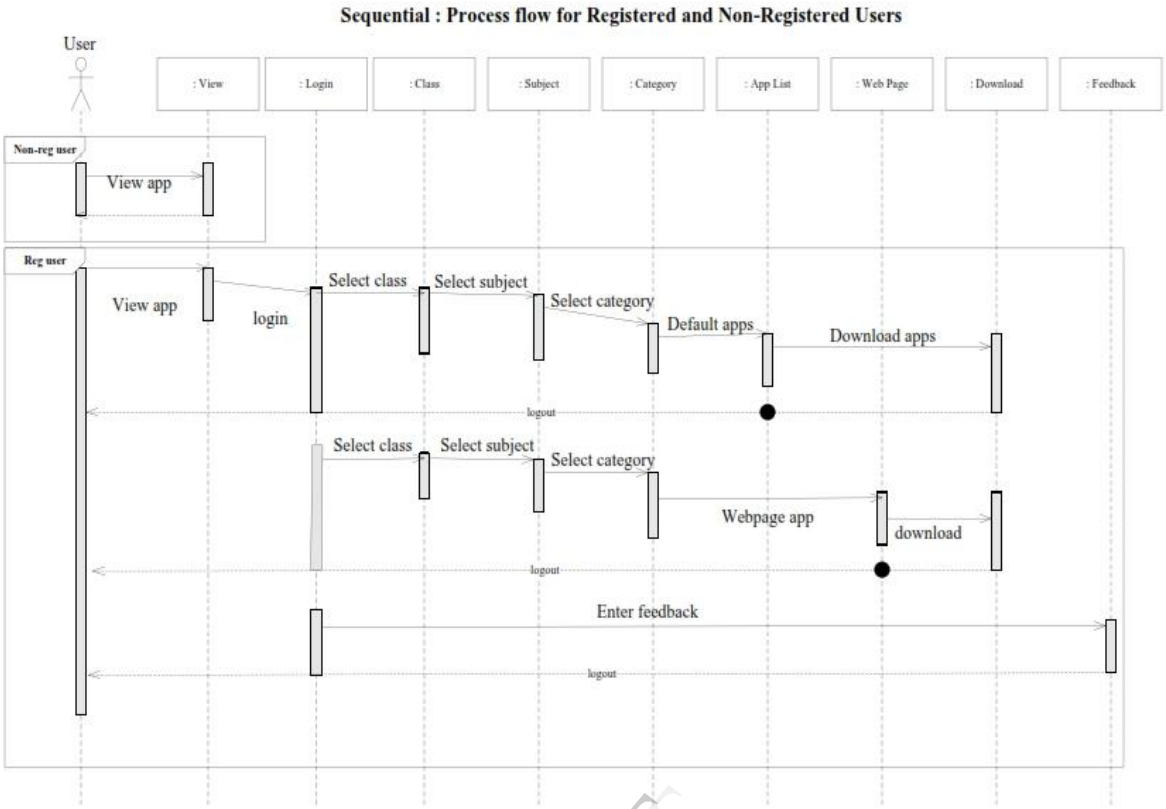

Fig 2. Sequential Diagram: Process flow for Registered and Non-Registered Users

Web Links related to the Mobile Learning:
http://webtrends.about.com/od/prof4/tp/Back-To-School-Apps-Students.htm
http://education.yahoo.net/articles/best_mobile_apps_for_students.htm
http://mashable.com/2012/08/27/apps-for-high-school-students/
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http://collegeapps.about.com/od/theartofgettingaccepted/a/app-mistakes.htm
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http://www.eschoolnews.com/2011/01/07/10-of-the-best-apps-for-education/

CONCLUSION

There is a trend for the prominent LMS providers to provide a means of allowing mobile access. It is difficult to have a single universal mobile interface as different Institutions require different functions to reach their educational goals. As a result of this it was noted that most of the implementations of a mobile LMS in Institutions were undertaken by the Institutions concerned allowing them to offer the kind of functionality they wanted to have supported. So Institutions continue to try to use them to support institutional learning.

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ix. Combining E-Learning and M-Learning: New Applications of Blended Educational ResourcesBy David Parsons.