



## Mobile Social Sketching

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### 1. Introduction

According to Dede [5], we live in a time when the industrial era school system is on the verge of collapse. Our society can no longer afford a labour intensive model of education that uses expensive human resources inefficiently. We observe that in order to make the educational model more efficient, both the European Union (EU) and the United States Department of Education have been investing in a twenty-first century education that builds on the adoption of modern interactive media deployed in other sectors of society, such as smartphones, and that it also aims to design new processes and structures that can help students learn throughout their lives [6][7]. Moreover, the widespread use of mobile technology, along with the availability of mobile broadband connections, offers a unique opportunity to develop innovative methods of learning as well as to develop policies aimed at participation and social inclusion, given that the use of mobile devices transcends age, social status, economic level, gender and ethnic origins.

It is therefore no coincidence that mobile learning has been considered by many researchers as the future of learning or as an integral part of any other form of educational process in the future. Nowadays, the mobile phone is a must-have item for every child of school age. It is no longer just a means of communication but has become a major tool enabling adolescents to establish and maintain social relationships. More than 71 million Europeans routinely use their mobile phones to access the Internet. This information is contained in the Mediascope Europe Study[1], one of the most comprehensive research studies on how people dedicate their time to the various media in Europe and how consumers use the Internet for content, communications and purchasing. The Mediascope European Study was conducted in 15 countries and it is a reference point for the evolution of users' media and online behaviour. The results of the study, carried out by the European Interactive Advertising Association (EIAA), also show that Web browsing on a smartphone occupies at least one hour per day, an average of 6.4 hours per week, an activity involving almost a quarter of the young people between 16 and 24 years and a fifth of those between 25 and 34 years. On the other hand, 2010 was also a watershed year with smartphones outselling PCs for the first time. In fact, in the fourth quarter of last year over 100 million smartphones were sold, compared to 92 million PCs.

This paper will introduce the use of mobile technologies in conjunction with the application of social networks in educational contexts. In fact, we are conscious that the real educational potential of mobile devices will only be realized when we fully understand their role in the management of social relationships, and define models and learning experiences firmly grounded in the underlying social theories of learning itself. A significant result in this context is presented in the study carried out by Rovai [2] that shows how students on university courses develop a sense of belonging to virtual learning communities to which they are linked. In addition, the same study shows that students who experience a greater sense of belonging to the community tend to have higher levels of cognitive learning.

Firstly, the impact of mobile technologies for learning is introduced. Then, we discuss the social networks' potential in educational settings and, while not central to this work, a Facebook module for a mobile learning platform is also presented.

### 2. Are mobile technologies another learning tool?

The introduction of mobile technologies in educational settings emerged gradually from the middle of the 1990s when very small computers came onto the market and the real era of wireless connectivity began. It is these two factors, the small size of computers and wireless connections, which are so significant in education and will allow the creation and development of mobile learning or m-learning, learning that can involve anyone, anytime, anywhere.

Mobile devices are today one of the most interesting challenges for testing innovative teaching methods, they are becoming the tangible synthesis of the evolution that the epistemological concept of "technological tool to support cognitive and metacognitive processes" has undergone in recent years [7]. This is one of the reasons why in recent years mobile technologies have become increasingly popular in schools and educational settings. However, according to Parry [8], most educators see mobile devices as distractions because often students are using them to read Facebook postings or messaging their friends during class. "Some educators have responded by banning this new technology from the learning space, demanding that students turn off their smart phones and keep their tablet computers stowed in their bags".

Many authors in literature suggest a positive impact of mobile technologies upon lifelong learning [11] [12] [13], but there has been a lack of clear evidence. As highlighted in [13], we need a model to describe the relations which link adoption of mobile technologies and enhancement of learning. "Mobile technologies seem able to promote social inclusion, mainly by increasing participation in learning, expanding learner choice, and favouring flexible or personalised learning programmes, which can take place everywhere and at any time.



Moreover, mobile technologies have been shown to be particularly effective at reaching learners who are often overlooked by traditional forms of technology-enhanced learning and so can contribute to meet lifelong learning targets. However, in order to maximize the benefits of mobile technologies for increasing and widening participation, learners, and especially adult learners, should be given adequate support when developing their use of mobile technologies". In addition, based on Michal Prensky [15], we have to consider also a generation-gap that distinguishes teachers, whom Prensky defined as "digital immigrants", from the current generation of students, for whom he used the term "digital natives". According to Siegle & Mitchell [16], digital natives have only experienced a world in which being plugged into technology was a way of life. Thus, teachers need to consider how to adopt mobile devices in their classroom, and, according to Parry [8], they have to teach students how to use mobile devices efficiently for learning. In the next section we will introduce a module for a mobile learning environment to support mobile social learning.

### **3. Convergence between mobile technology and social network**

Any discussion of new technologies, especially Web 2.0, naturally includes the Facebook phenomenon. For better or for worse it is a status symbol for the current generation of school-university students. Developed by Mark Zuckerberg in 2004 at Harvard University, it was conceived to offer the university students a communication model that had initially been developed as an environment for use only by students at that university. Nowadays, Facebook is a social network used by about one billion active users all over the world. Many students spend whole days on the world's most popular social network but may not know anything about the Internet or email. According to Cerdà & Planas [14], Facebook represents a new way of relating to others which does not discriminate on grounds of age, gender or culture. On Facebook, social relationships are created and destroyed, it is possible to study, work, engage in politics, play games and so on. Like any technology, the social network can be used according to one's interests and/or desires. So why not use it also for learning?

This was the consideration behind the decision to develop a learning module which would integrate mobile learning activities with Facebook, envisaging a platform not just for studying but also for creating a network of students. In fact, one of the key features of the Web 2.0 application is collaboration, not only between machine and user, but also among users. As introduced in [14] these social applications often work as 'intellectual partners' to promote critical thinking and facilitate cognitive processing. "Text, voice, music, graphics, photos, animation and video are combined to promote users' thinking and creativity when undertaking high-level tasks. They offer a wide range of resources that can be used for problem solving, critical thinking collaboration and so on (Dillenbourg, 1999), in both physical classrooms and virtual learning environments. In addition, Web 2.0 technologies, with their interactivity potential, foster active participation and student-centred learning."

In order to support these activities within a mobile learning platform, we have developed a social network module. As the mobile learning platform we have used the MoULe system [17] which includes a number of mobile learning tools to provide students with a formal as well as an informal learning experience. For instance, MoULe includes some tools for taking multimedia notes (text, audio and photo) and for accessing learning contents using a mobile device. Figure 1 illustrates the architecture of the system.

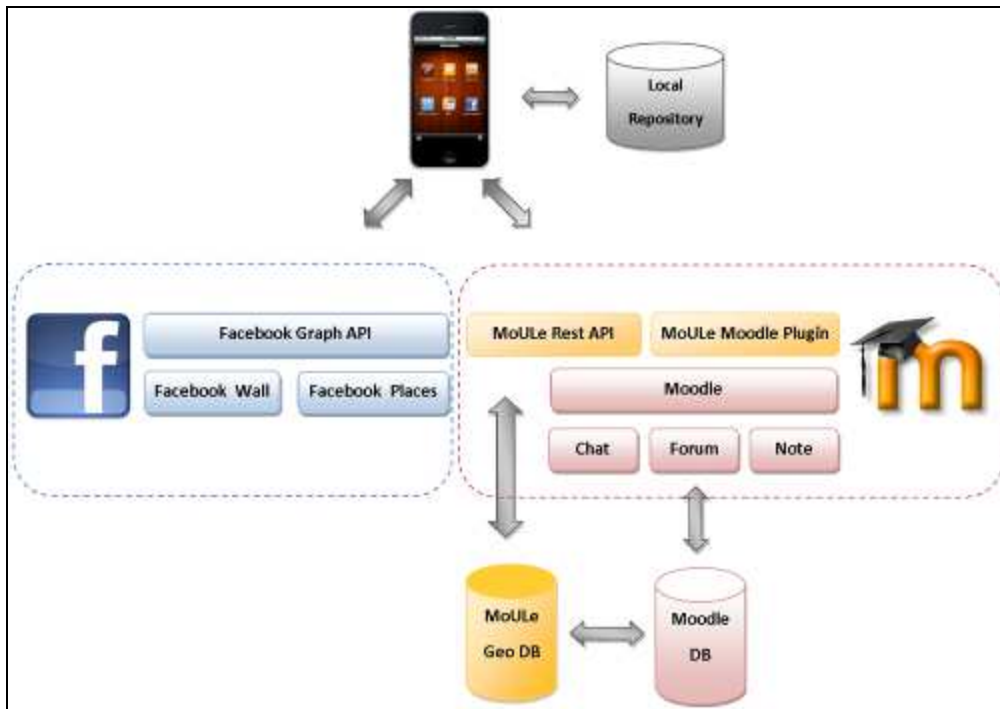


Figure 1 – System architecture

In order to integrate social network capabilities into MoULe we have developed a Facebook interface module. Using this module, students can share pictures, taken in particular locations of the city, on "Facebook Places", post their lecture notes on their "Wall", express/share their feelings when they are involved in a mobile learning activity, or simply socialize between classes. Today, students find it much easier, more natural and timely to text friends and exchange multimedia contents using social networks as well as sharing their lives through Facebook. For this to happen, the Facebook module developed (see figure 2) gives users the opportunity to build a virtual space where students share documents, participate in forum discussions, give their opinions, share ideas and proposals as well as elaborate content.



Figure 2 – Social network module

#### 4. Conclusion

While some studies suggest that students would prefer to keep their Facebook life separate from their academic life [18], other researchers highlight the fact that "when students are asked to use tools that are also found in Facebook for their classes, they prefer using them in Facebook" [19]. Bosh [20] argues that Facebook could be considered as a natural place for collaborative learning. Thus, in our opinion, it becomes an anachronism to overlook Facebook's potential in educational settings, especially if we consider that almost all students currently use this social network.

In this paper we have introduced some studies regarding mobile and social learning to underline their potentiality for "Digital Native" students. In fact, we believe that the convergence between mobile technology and social networks could benefit students in their learning activities. Students may use contents previously acquired in the



form of multimedia notes to share on their Facebook Wall or check-in on Facebook Places, or they can create ad hoc contents when necessary as well as in order to socialize mobile learning experiences, share expertise and/or create mobile student networks.

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