



New trends in e-learning platforms and content management for learning in graphics engineering

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Abstract

Internet and the evolution of new mobile networks offer the possibility to connect from virtually anywhere. Technological advancements made in the environment of networking systems in recent years have gotten Internet connections are high bandwidth, plus it prices for connection have lately decreased. The emergence of new forms of communication such as social networks, cloud computing, high definition video conferencing and network gaming, among others, have enabled e-learning platforms evolve into a much closer education, with obtaining better results. All thanks to the increased motivation of students taking advantage of these new forms of communication and dissemination of the contents.

1 Introduction

From that came the first e-learning platforms have been adapted to new possibilities and tools emerging on the Internet. This continuous process of evolution is taking to implement the new trends in Internet use, such as social networks, cloud computing and the use of smartphones and tablets to surf the net, which are currently in the process of growth. Other platforms to be under development are content management, especially those aimed at multimedia. In fact, large companies such as Ericsson [1], Google, Apple, or Discovery [2], among others, have management platforms in audiovisual content that are able to distribute data to different platforms automatically. So a user can enter the video of a news story on this platform and be distributed immediately to IPTV platforms in different qualities and formats, from broadcast quality video, FullHD, smartphones, e-learning platform, media library, to in some cases, the automatic transcription of audio video containing text, embedded subtitles in the video for the hearing impaired, so text in Braille for the visually impaired, etc ...80/20 rule (how to use foot note, references and sub-titles)

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A high percentage of effects in any large system are caused by a low percentage of variables¹.

1.1 Social Networking

Social networks have become a phenomenon of communication between people. Networks like Facebook, with over 500 million users, have become a tool for communication and relationships between people that is already being used as a tool within e-learning platforms. An example of this can be "QuickLessons" [3], which allows the creation of courses within Facebook [4],[5] and offers both courses share these contacts specific to the platform and share them with everyone.

Teaching online requires these collaborative social environments for students to interact among themselves and with the teacher to share concerns [6], doubts, in the same manner to which they are accustomed to interact normally in these networks. Also keep in mind that social networks have a viral component that causes students to be inviting and adding friends and their environment, specifically in the case of teaching, their workgroup or classmates, with to share activities and answer questions in groups and even raise them to the teacher.

Concerning to social networks include the case of Twitter, a social tool in which users should not use more than 160 characters to generate messages, but can also include photos or videos. There is no doubt in the success of this network and its usefulness for teaching online as a direct communication tool, which users are already accustomed to using and have since adopted as one element of their daily communication.

Social networks, no doubt, are allowing to open a new trend that is being implemented on all platforms of e-

learning and is making learning to be increasingly collaborative, and less centralized.

1.2 Video Learning

One way of teaching that is evolving faster and more successfully is Video Learning. Learning by video is in high demand and acceptance by users of e-learning platforms largely because we live in a society in which we are accustomed to eating lots of audiovisual content. Not only consume many hours of television, but also spends much time surfing the Internet, either through the computer and mobile phones last generation, known as Smartphones and Tablets.

The video allows greater closeness with the user. It gives the possibility to visually verified that there is a person who is helping us to understand a particular concept or demonstration of any scientific basis. We generate more confidence in learning and, above all, a greater sense teacher-student proximity. Keep in mind that there must be a rational use of such video-based learning, as it has been found that a person begins to lose focus when viewing a video from the third minute. For this reason, this type of learning should be planned in a very measured, generating short videos that allow users to keep the attention span to convey concepts or demonstrations that want to teach and it is intended that the user purchase.

Also noteworthy has been shown that video-based learning allows greater acquisition of concepts by students over the teaching of e-learning through electronic text documents [7].

Google, which acquired YouTube in 2006, a company based on the dissemination of videos on the internet and according to research firm Hitwise, has 46% market share of Internet video publishing. YouTube has created a specific channel of education. That channel was devised by a group of employees of the company they wanted to bring together all the material that academics were putting on YouTube. They put the name of Education and it is specific for university use. In fact, several universities including Harvard, Stanford, MIT, Oxford, UC Berkeley, among others, have posted videos of lectures and conferences for teachers of renown.

One of the universities that have chosen this type of spread of education has been the Massachusetts Institute of Technology [8],[9], which has a YouTube [10], channel on Education. It currently has on the channel 2,202 videos available to all users who wish to consult. They have 156,973 subscribers who are regularly informed of the news and new videos are uploaded to the channel. The number of times they have played these videos reaches 37,879,553 times. These data are one example of the YouTube channel that offers Educational and allow us to assess the growing importance of e-learning videos. Universities are implementing this methodology of teaching that allows sharing their knowledge globally.

Also, it is noteworthy that the last channel of education that YouTube has been published is called Teachers. This new channel allows a search for videos by grade level and subject area, which has been developed by YouTube and a group of teachers. Moreover, in 2011

YouTube [10] launched a new YouTube channel called Schools, with the intent that they did not publish

inappropriate content for students and for teachers themselves could manage the content they wanted their students to see. This channel allows them to generate their own distribution lists. YouTube Schools arose because some schools did not allow students access to YouTube to prevent from accessing age-inappropriate content or content that were not focused on the level of learning that is required at all times.

YouTube is not the only platform to distribute video content Learning. Another great company like Apple has opted for education based on audiovisual content and integrated it into their platform i-Tunes [11]. In this case it has create a specific channel for college called i-Tunes U, which includes course content taught by prestigious universities as Stanford, Yale, Oxford, and UC Berkeley. The contents of the courses that have included these universities are both electronically and also in video format and can be purchased through its payment platform. The universities that are adhering to this platform are able to distribute their content for free or for payment by each of the courses that the user downloads.

Note that this way of consuming teaching is a form that users of this platform are already used to eating in the same way they download music or video software applications. So also highlight this new way of using training as an application through e-commerce. Apple currently has a channel called the Open University in i-Tunes U [11] in which can be performed about 600 courses.

1.3 Synchronous Video

The evolution of communication networks with the progressive increase of the bandwidth and the lower price of the costs associated with connections are high bandwidth allowing training platforms include the possibility of transmission of events and training direct[12]. Platforms such as Adobe has developed, called Adobe Connect, allowing direct training with the transmission of streaming video along with the timing of presentation elements such as PowerPoint or PDF, among others. It also offers the possibility to share the teacher's desk for the student to take control of the teacher's computer and can buy that role and teach a certain subject or concept. There is also the option to take over the teacher's computer to teach students a task or display any settings directly on your screen.

1.4 Cloud computing

One of the trends that have become more important the last two years is cloud computing. Cloud computing enables management of content synchronously in all the devices you are using. For example, a document we have created in a desktop computer and synchronize with the cloud computing the document is deposited in a virtual folder on the internet and instantly distributed to all the devices you have connected, such as a tablet, a Smartphone, or laptop [13]. This way of distributing content enables e-learning platforms, to deliver content instantaneously to all users who are linked and synchronized.

The immediacy that allows content distribution of cloud computing, as well as the possibility offered by distribution platform, allows users to be in direct connection with any content of a course being taught. It also allows

collaborative work, making it easier for users to be working on a project to have all project files updated by all users synchronously. This possibility creates synergies between the different users of the working groups and allows greater interaction with each other without the need to be located in the same physical workspace.

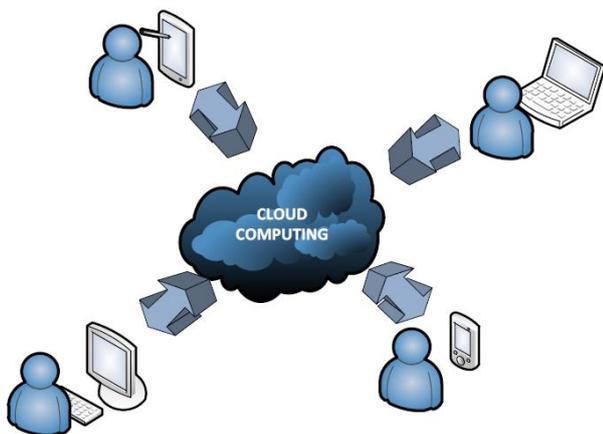


Fig. 1. Cloud computing scheme

Companies like Apple with its platform iCloud [14], HP Cloud Computing Solutions, Microsoft or IBM cloud computing Cloud Computing Enterprise, give an indication that all large companies have chosen this type of content management in the cloud and, beyond doubt, will be emerging new applications. The e-learning platforms are adapted to this new approach and in a short space of time we will fully synchronous and distributed platforms mode Cloud Computing.

1.5 Tablets and Smartphones

Until very recently, the standard way of connecting to e-learning platforms have been using a desktop or laptop. But more and more is being implemented access to e-learning platforms using the Tablet and Smartphone [15]. The Tablet allows carrying the device in a comfortable way, with a size similar to a book. This ease of transport associated with its light weight and a reasonable screen size allows display of text in a comfortable and playback of videos and images to a size suitable for learning. These features make these devices in one of the tools for increasing the spread and use of e-learning. In fact the increase in sales of these devices and their increasing demand has allowed companies like Apple, Samsung, Asus, HP among others, have on the market Tablets with better features and built-in Internet access, improving largely portability and fully integrated with social applications and cloud computing.

With regard to the Smartphones, also allow access to e-learning platforms and of course they are fully integrated with social networking applications and cloud computing. Specific applications for Smartphone and wassup allow instant messaging, a direct and fully

integrated communication for e-learning. The Smartphone has a great portability due largely to their small size. This size makes for certain characteristics of e-learning is somewhat limited, for example, for reading longer texts that the user wants to consult independently. Also, while these devices allow us to play high quality videos, it should be noted that the small size of the video display makes certain learning are wholly inadequate, since they cannot be read or see what you want show in the video.

We must also bear in mind that there are applications for Smartphone, allowing the device to read documents. These applications allow the user to e-learning platforms for downloadable documentation is subsequently read by the device, for example, going to work in an underground movement. These applications also allow visually impaired users to use these devices for e-learning, which facilitates access to education of persons with disabilities.

A smartphone also can serve as a tool for video streaming. In exceptional situations may allow us to perform a synchronous connection with a student or expert who currently does not have other means of transmission. Next-generation devices allow video conferencing for use in e-learning quality. The Smartphones are also an essential tool for any teacher who undoubtedly needs to be in constant communication with students and e-learning platforms.

1.6 Games Learning

A recent trend that is increasingly implanted in e-learning is videogames [2]. It has been shown how the integration in education online of small games allows increase motivation for learning certain skills. The games are based on passing a series of phases in which the user will acquire knowledge and put into practice. The game itself can be overcoming each of the phases. This improvement phase to phase provides users of e-learning platforms using this tool, which until now had been used with limited success due to poor guidance that had games on platforms that had been implanted. In fact, the games which were implanted to date aimed at overcoming some tests and the achievement of a certain medals. Users today are used to play with devices that are only dedicated to game, such as Sony PSP or the Xbox from Microsoft, among others. They develop high quality games. Have also been designed for these platforms some learning objects that users are already accustomed to playing. Therefore, games or rather, mini games, should be designed with well defined learning objects, in order to increase student motivation, drawing on the synergies that are gained from gaming devices.

1.7 Informal learning

Another trend that are being implemented recently is informal learning [16],[17], based on a non structured content of the course, but what arises is a content-based learning on a particular topic, videos, texts, articles, etc. ... and are those students who are learning with these learning objects. Students can bring their expertise or

resources to form together with other students and tutor collaborative learning. This informal learning should not be the basis of a well structured learning, but can be very useful when integrating a particular subject. This allows students to an enormous degree of freedom for his own self learning and promotes one of the most important aspects in the environment of e-learning, a collaborative with other students and the teacher himself when introducing new content and challenge others which can be found by the student available at the course itself.

2 Conclusion

The evolution of social networking and content management are revolutionizing the way people communicate and work with the Internet. The platforms that use the network are adapting to new changes. This evolution of the Internet is very beneficial for e-learning platform that can leverage the synergies offered by social networking and cloud computing. We also noticed that the new Internet devices like smartphones and, especially, the Tablet, which allow the connection and use of e-learning platforms carrying only the device, which is but a thin screen of dimensions of a book. These new trends are already being very favorable for the evolutions of e-learning, as evidenced by the most prestigious universities in the world have opted for these trends..

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