Advance Mobile-Learning (M-Learning) Education System

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Abstract: *Mobile communications has changed the People's life style. In the modern world, with the evolution of mobile communication has a great Change in the education field also. This paper proposed the concept of m-learning so that the people and students can learn lifelong education without nearby any trainer. Most of the developing countries are processing this m-learning system. It helps to provide education to the students in remote area with low cost. M-learning used to reduce the communication between learner and trainer. The learner can get their required information from any place at any time. M-learning can provide online study Materials, online libraries, e-books to remote area students. M-learning is called the people's school of Next generation. The major benefit of m-learning is that the people can easily get the study material, and used to reduce the communication between learner and trainer worldwide on their mobile device. M-Learning is based on artificial intelligence teaching techniques.*

Keywords: M-learning, Device technology, Mobile OS, Flexible learning, Internet Technology

1. Introduction

Education and training is the process by which the wisdom, knowledge and skills of one generation are improved to the next level. Mobile technology is a great invention in the 21st century. A mobile technology gives a big turning point to our education system after m-learning launch. In worldwide most of the colleges and universities early started the m- education service and even so many internet service providers also started the m-education service with low cost. Mobile Learning person allow to access materials and information from anywhere and at any time in worldwide. The study material is also available in video format; so that those materials can be easily downloaded in their mobile device. It is give realistic feel of teaching to M-learners. Mobile device and internet technology also play main role in this learning system. Because this type of education system is based on wireless technology, so learners need more knowledge about mobile device and network technology. The designer also gives more importance to learning materials design and latest technology of mobile device. There are multiple operating system mobile devices available in the market. Currently Android Os, Windows OS are familiar operating system to people.

Mobile education trainer is known as artificial intelligent trainer. Here mobile device technology only trainer for mobile education learners. Artificial intelligence techniques are used in various field such as science research, medical, astronomy research, electronics, military, and more. Now this artificial intelligence techniques are using in M-learning also. Mobile Intelligent Teaching Except System (MITES) is providing teaching environment intelligently.

2. E-Learning System

E-learning can be used either inside or outside of the classroom. In India most of the state government also gives more importance to smart class education. E-learning helps to smart class system. It is suited to distance education. E- learning connects multiple schools through online smart class systems; example is as show in Figure-1. Also the main advantage of e-learning is used to self learning and their learning convenience. E-learning consists of multimedia features like text, graphics, animation, audio, video to enhance the learning process and online chat discussion also provide.
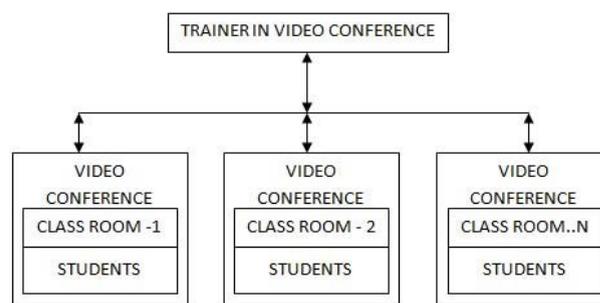

Figure 1: Smart Class Training

E-learning environment is based on internet, student to student, direct chat from student to trainer, directly download the books and other materials from internet, course content also get through e-mail. Example E-learning environment image show in Figure-2.E-learning is existing system of m-learning.
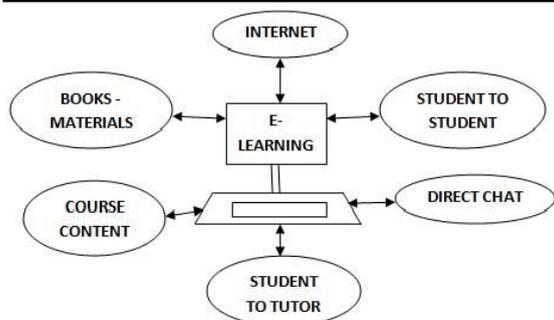
Figure 2: Environment of E-Learning

3. M-Learning System

The M-learning education is an alternate for E-learning education. M-Learning will not only use the distance education, it can be used as all type of education learners even college students, business learners. They need only one thing is, it should be an internet enable hand mobile device. Worldwide the most of governments and universities gave approval to learn the m-learning education system. Some colleges have provided tablet-pc to their students. This mobile device helps to student's education development. They download the course material from anywhere, at any time in their mobile device. There is thousands of education website available in the Worldwide Web (WWW). This type of website supports to mobile web browser also. M-Learning environment is surrounding with student to student, student to institution, student to tutor, student to internet, course / books materials download. Example, Figure-3 shows the environment of M-Learning.
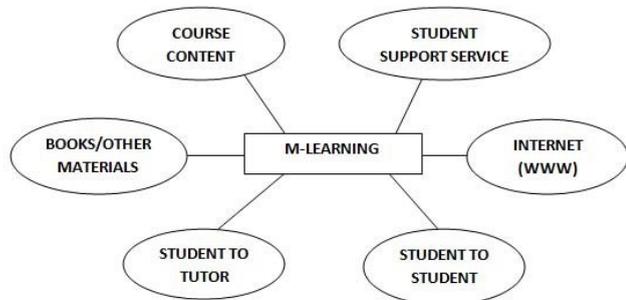

Figure 3: Environment of M-Learning

4. Device Technology

There are so many wireless devices in the mobile market. Mobile device have an operating system (OS), and can run various types of application software, known as apps. The M-learning needs internet connection on mobile device like smart phone, PDA [personal digital assistant], tablet phone, windows mobile. This type of internet device can enabled with Simcard or Wi-Fi technology. In India the most of people's using 2G and 3G Simcard mobile devices for M- learning. Tablet-PC play main role in M-Learning and cost is cheap, so only all people and student would like to buy this kind of device. In India Most of The Engineering Colleges provide and also allow tablet-PC inside of college campus for their students with Wi-Fi internet connection, its more useful to students for their

studies, collecting information, articles download, etc., In the example Figure-4 show the some device name and there technology supports.

Device Name	Operating System	Network support	Wi-Fi / Bluetooth support	Touch Screen/ virtual keypad support	USB Support
Smart Phone	Android, Palm OS ,Symbian	2G/3G	Yes	Yes	No
Tablet-PC	Android, Microsoft Windows, Linux	2G/3G/4G	Yes	Yes	Yes
PDA	Android, Palm OS ,Symbian, Microsoft Windows, Linux	2G/3G	Yes	Yes	No
Windows Mobile	Microsoft Windows 7/8	2G/3G	Yes	Yes	Yes

Figure 4: Device Name and supports

5. M-Learning Operating System

Mobile operating system (Mobile OS) is main concept in the m-learning education system, because there are number of mobile OS in the mobile market. The peoples would like to use latest mobile OS. Currently android is most familiar mobile OS in the mobile market. Android mobile platform is based on Linux operating system. It is designed for smart phones and tablet-pc touch screen mobile device. Most of the college students are using the android OS tablet-pc for their studies. Mobile OS is using to operate on mobile device such as smart phone, PDA, tablet-pc and other digital mobile device. The most common mobile software platforms are: Android, Blackberry10, IOS, S40/S60 (Symbian OS), Windows Phone, and Windows RT. The operating system is only managed the device software and hardware. The Figure-5 shows, how to mobile OS works at the middle of Application and Mobile Hardware.
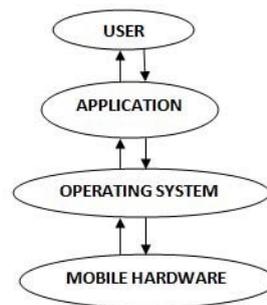

Figure-5: Function of Mobile OS

6. M- Education Service

Worldwide the developed countries and developing countries is started M-learning education service and run successfully. Even African countries also started the m-learning service to their remote area students. In India also mobile education service is launched. The Indira Gandhi national Open University started "education anywhere and anytime "M-learning education system, it gives flexible studies to learners. Mobile operators and Education Institution can also provide low cost service to M-Learners. Example Figure-6 shows the future of m-learning teaching method.
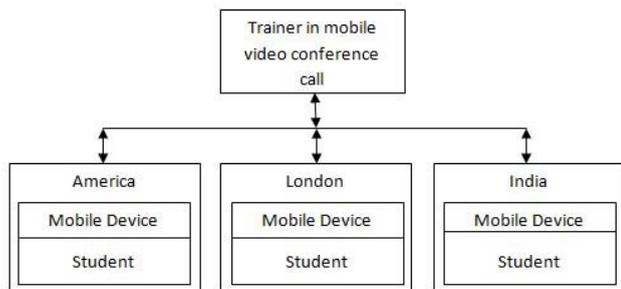
Figure 6: M-Learning Training Method

7. 5G mobile Internet Technologies

Currently M-learning training through 2G/3G/4G internet technology, But coming soon world wide 5G internet technology launch that time world wide all university start M-learning education easily. 5G is next generation wireless technology and it acceptable for all kind of technologies. 5G flat IP network helps to increase mobile broadband speed and satisfy the customer demand. 5G Nanocore is involves in some technologies for like Nanotechnology, Cloud Computing, All IP Platform. The example Figure-7, Shows the 5G-Nanocore Architecture in M-Learning.
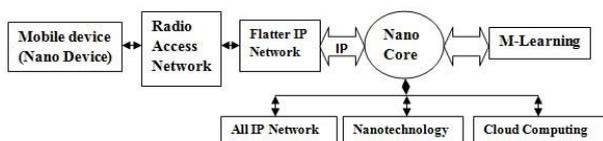

Figure 7: 5G Nanocore Architecture

8. Future of M-Learning

There is no doubt in m-learning launching soon in all universities and colleges. In the future each colleges and universities make an m-learning application and provide to their students. This application will use to download the course materials, exam result and also students collect all information from their institution database. In the future Nano devices and 5G internet technology also plays main role in M-Learning education system.

9. Conclusion

M-Learning Education service will change our education trend very soon, that time all Education institution provides M-learning Service to their institution regular and distance education students. The rural area students also get more benefit in the m-learning education service with low cost education and flexible timing. This education system soon connects the students and trainers in worldwide. M-learning is helping many students to improvise their studies and different side of learning the things.

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