

Emerging role of ICT in medical education and healthcare

Muhammad Afzal, Maqbool Hussain, Noor UI Qayyum, Hafiz Farooq Ahmad
NUST School of Electrical Engineering and Computer Science (SEECs), Pakistan
{muhammad.afzal, Maqbool.hussain, noor.qayyum, drfarooq}@niit.edu.pk

In the age of globalization, every domain is passing through a transition period due to the emergence of modern Information and Communication Technologies (ICT). ICT provides opportunities to make new knowledge and services for the improvements in healthcare. Healthcare has always relied on technologies and is one of the few domains that have great capacity to exploit and incorporate information technology in its different sub-domains like clinical laboratory, patient administration, pharmacy and others. Most of the healthcare organizations have their propriety health information systems but the problem is: how to share data across departments or organizations locally/globally instead of serving just one department. Implicitly or explicitly, healthcare organizations have realized the need of a solution to resolve the issue of inefficiency and lack of interoperability found in the process of medical data exchange. NUST School of Electrical Engineering and Computer Science, Pakistan, is designing and developing a comprehensive, open source HL7¹ based Messaging Interface System that will bring interoperability by connecting different laboratory and hospital information systems. As a case study, we have analyzed the requirements of CITILAB² for the purpose to test the system in real environment. Our intention by this project is not only to design and implement an open source interface system but also to create awareness among the medical professionals and IT technical people to make efforts collaboratively for the better patient care. We envision that the underlined project will make strengthen the struggles towards affiliation of Pakistan with HL7 organization.

1 HL7 (Health Level Seven) is a leading standard of the world for the healthcare data exchange.

2 CITILAB is a renowned clinical laboratory in Pakistan and having different branches/collection points at different cities of Pakistan.