Chapter 29
Information Services to Biomedical Science Through Mobile Technology Applications

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ABSTRACT

Biomedical science is one filed where huge amount of information is generated, distributed over the internet and a number of software tools are also developed to generate information. The quantum of biomedical data along with the proliferation of new data integration technologies have made it important to adopt smart and fast network tools to access information in bioinformatics. It is important to make researchers in biomedical science aware of systematic approaches to access these information. One avenue to implement this approach is to make the biomedical information available through mobile technology which is still missing. It is heartening to see that there are some mobile initiatives taking place in biomedical sciences which provide handy tools for bioinformatics information seekers to access information. This paper is a review of such tools which will aid the library and information professionals to create information literacy in this field in future.

INTRODUCTION

The ICT revolution, especially the advancements in the internet and communication technologies, more specifically in mobile technologies and its applications throughout the world, has brought enormous change amongst the providers of information. The world of information science has left with no option but to join to suit with the mobile users who are "connected to educational opportunities from virtually anywhere, making almost every situation a potential learning environment" (McQuiggan et. al. 2015, p.50). Mobile technology has an upper hand when it comes to accessing information as it provides a dynamic access solution because of its mobility. The rapid growth of mobile technology has greatly supported the users to enhance their research activities since it has the element of being current to the content the users get. Traditional information dissemination avenues like libraries, museums, and data-

centres have already started shifting from their traditional Online Public Access Catalogues (OPACs) to mobile specific access applications (Zhou &Ramona, 2011; Barile, 2011; Kroski, n.d.). In recent years, many academic libraries have adopted "Mobile Technologies" to meet the users' expectations (Ram, Anbu & Kataria 2011).

Gartner predicted by 2015 the smartphone and tablet usage will increase to 90% (Gartner 2012). Figure 1 illustrates the growth of mobile phones starting from 2005 onwards in millions. A closer look at the graph shows the steady growth in mobile ownership which has reached the 100% mark and has gone above the mark which suggest that multiple mobile gadgets per single user will be very common in the coming years. When it comes to providing alerts and notices, mobile based applications have augmented the traditional support system for better results (Jetty and Anbu, 2013). Mobile technology has been adopted by institutions of higher learning as a media for creating information literacy (Ram, Anbu & Kataria 2014).Wu (2004) believed the future of libraries would be mobile. Mao, Wu, and Huang (2008) introduced a concept and function of the mobile library service.

MOBILE TECHNOLOGY

Mobile technologies include laptops, netbooks, e-readers, tablets, mobile phones, smartphone MP3/MP4 players and the internet capable handheld devices. In addition, wireless networks, such as 3G, are providing the network infrastructure for users. The proliferation of mobile technology specially the 3G hype, heading towards 4G, and W-Fi innovations have triggered an unprecedented change in the tool for access to the internet. With the 4G and Wi-Fi hype the mobile technology has been used not only for communicating but for transferring enormous amount of data through the network. Specific applications and mobile specific websites have sprung to harness the power of mobile computing. The mobile application platforms started appearing as early as the 1987 by Apple's Newton Helel et. al. (2015).

Figure 1. Growth of mobile ownership in the past 10 years
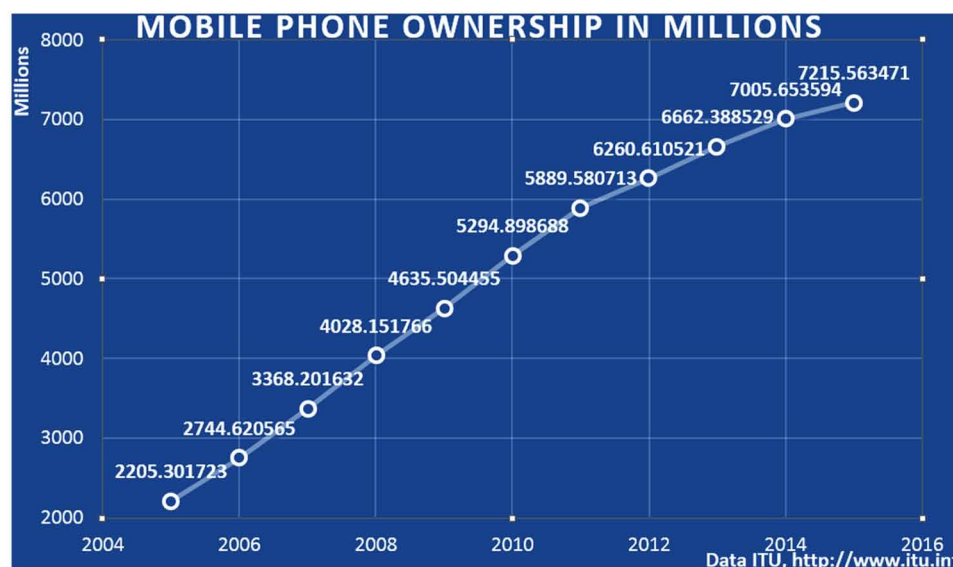
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