

# Chapter 7

## Introducing Mobile Device for Health Services: The Semantics of Language Translation

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### ABSTRACT

*On one hand, healthcare has taken the centre stage of attention in recent years, due to many more activities of both natural and manmade. On another hand, the use of mobile technologies is increasingly growing across the world, particularly in developing countries. Mobile devices, including phones and computers are becoming significant ICT tools for many activities and process of healthcare service delivery in both urban and rural areas, by organisations and individuals, literates and educated. Also, both businesses (organisations) and individuals are involved in the delivering and accessibility (recipient) of healthcare services at different levels and locations. The nature of the diverse tribes and languages within some developing countries make it difficult to deliver or receive the services which are provided by some Healthcare organisations. This is so because particular language, such as English, as in the case of South Africa, is often used for communication. Even though majority of the citizens make use of Mobile devices (such as cellular phones), the media of communication exchange is English language. Due to the sensitivity, confidentiality, and private nature of healthcare information and services, a one-on-one and the use of language which the patient is comfortable with is critical. Otherwise, the services and objectives of the healthcare organisations continue to be challenged. As such, there is need to address the semantics of language through the use of electronic devices for healthcare services.*

### 1. INTRODUCTION

In 2012, the World Health Organisation noted that countries, particularly in the Africa continent, will not develop economically and socially without substantial improvements in the health of their people. The

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economic shifts of the past few years have further contracted economic growth worldwide and affected developing countries unduly, for example. If anything positive can be said about the global recession, it is that it more deeply binds the fate of nations together and provides momentum for new and systemic approaches to persistent cross-border challenges.

According to Wu & Hall (2012), it will take an unprecedented transformation to reverse the tide of failing health systems, particularly in light of shrinking resources that must now be used more efficiently. Fortunately, support is increasingly available through a set of breakthrough tools known as e-Health, commonly understood to be the innovative application of emerging information and communications technology in health systems. E-Health includes a broad range of implements, such as electronic health records, information gathering software, mobile devices, e-learning tools and horizon technologies that defy human imagination. Combined, these tools can narrow health disparities, equip health care providers and enable immense leaps in quality of care. For example, Linton (2010) argued that a nurse in a remote village can now access information through her laptop and mobile phone on the world's best treatments, previously only available to the rich and privileged, and can track and treat her patients using longitudinal electronic health records. It is argued in many quarters that the e-Health Portals makes healthcare and information more accessible with the end goal of improving patient care and the health status of all. "The use of technology to ultimately improve patient outcomes is not going away" (Bingman, 2001).

However, most of the areas that require the use of mobile devices are those that are at the rural areas where the language that is used as a media of exchange through these devices is not necessarily the same as their first language, and many of them are not fluent in the use. Therefore, this brings a gap that need to be addressed to make sure that a better healthcare service is rendered to everyone irrespective of where they stay and which language they use. This article therefore focuses its discussion on how to provide mechanism which could be used to synchronise healthcare data and services across the geographical locations of the country, and the translation of spoken language from local dialect to English through coding and decoding synchronised data, using mobile devices. Thus, the provision of healthcare services can be improved in countries, such as South Africa.

The focal question which this article discusses is, how can we address semantics of language translation on mobile devices to better the services of healthcare organisations? The article presents a prototype, which can guide the development of mobile application for the improvement of healthcare service delivery. This is to improve, by means of information, the capacity for the surveillance of, and rapid response to disease and public health emergencies for a wider coverage of citizens speaking different languages.

## **2. LITERATURE REVIEW**

The need and use of Information and Communication Technology (ICT) has increased rapidly in recent years. It is difficult to find an area of businesses, organisations included, or individual life that doesn't imbibe the service of ICT, in respective of the perspective. Rouse (2005) argued that ICT is an umbrella term that includes any communication device or application, which encompasses different technologies, such as radio, television, cellular phones, and computer network, hardware, software, satellite systems and medical technologies for healthcare services.

Healthcare focuses on diagnosis, such as treatment, and prevention of disease, illness, injury, and other physical and mental impairments in humans, which relies on technologies. Health care is delivered

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