Mobile computing in medical and healthcare industry

Linhoff M

`Michael.Linhoff@Crealogix.com`

Switzerland

Abstract: We believe the specific development of applications for mobile devices is the most important issue for ensuring the integration of mobile computing within the medical industry. This must reflect the individual device design and the individual user groups.

Keywords: User focused application design, mobile and wireless computing

1 Introduction & Retrospective

The medical industry – in terms of IT and computing – never was part of the front runners

in regards to patient care or clinical trials. This is partly true in both Europe and the United States. Mobile computing is no exception. The medical environment has been slow to adapt to technical progress in the IT field. In strong contrast to the overall medical

improvement which in many fields are advancing with great speed – the IT usage is not regarded as a priority. The industry in general is quite fragmented and this is probably one

of the main reasons. Early research institutes, Pharmacos R&D, Pharma Reps, Doctors and other medical staff and the patients – are not working in one process chain as seen in many other industries. Industries which have realized monetary benefits from using the internet and mobile computing obviously are the ones who have been setting industry standards. The automotive manufacturing and logistics are examples.

_ Most efficient when orchestrated and conducted as a global overall process. Process costs may not at first glance bring tangible results for a patient, but ultimately it will.

_ The big incentive for using mobile computing is the relative low costs of both hardware as well as the application development itself.

_ Big Incentive =)Question: what about workflow improvement, reduction of multiple data entry and data capture, accessibility of data independent of personal location

Figure 1: Mobility vs. Functionality

2 "Tec is here – application is where?"

The technical issues should no longer be in the centre of attention. The applications are what is still missing. We have some very good examples for Mobile & Wireless applications

which are already being used in the medical industry. The problem is that those

applications are still rare and not integrated in the overall business process in most cases. We will now assume that the technical infrastructure, the devices and the places of usage can host mobile computing. From here on we will focus on the functionality and display, i.e. the applications running on the devices and the user interface.

Applications are the key drivers when the technological framework is set and is working properly. Our focus group are human beings – be that patients or medical staff. As it is the
case with any software, it must reflect the need of the user, be part of a business process and should be easy to use by a broad audience. Internet applications have specific guidelines
and frameworks because they must reflect needs and wants of various profiles (user groups). They are used in an online environment and in many cases requires the participation
of the user (interactivity). The requirements for mobile applications are somewhat different but not more complicated. It simply demands that certain interface issues of design and workflow are taken into consideration.

If you can succeed in taking the question of Mobile computing from being a technical question into being a question of communication, and focus on the possible applications, chances are that medical staff and patients alike will accept and use mobile computing. In the same manner as we perceive a television set where we put relatively little emphasis on
the hardware and much more on the numbers of stations and programs that can be seen. A similar approach is when you discuss Mobile computing – you must focus on the audience.