PDA for health professionals: can you deal with that?

Thiago M. da Costa¹, Vladimir C. Pinto¹, Rogério F. Mauad¹, Daniel L.A. Afonso¹, Fabricio A.B. da Silva, PhD², Domingos Alves, PhD¹, Paulo Schor, PhD MD³, Ivan T. Pisa, PhD¹

¹Health Informatics Department, Federal University of São Paulo (UNIFESP), Brazil; ²Santos University (UNISANTOS), Brazil; ³Ophthalmology Department, UNIFESP, Brazil

Abstract

Personal digital assistants (PDAs) are being increasingly used on the health field, however, there are not many papers guiding a PDA-software development process aimed at this field. We show that if simple – yet extremely important – points are observed, PDA usability can be greatly improved.

Introduction

Personal digital assistants (PDAs) have captivated users for its portability and versatility, displaying features such as a touch screen, mobile connectivity, synchronisation with personal computers (PCs), and a high customization level. In the last decade, PDAs have been widely used in the health field.

Nonetheless, problems do exist concerning PDAs, the most serious being usability difficulties.

Method

This research was based on general usability criteria and on our experience in developing PDA-software for health professionals. We also used some elements of Heuristic Evaluation to assess usability.

Results

We point out nine major points that should be considered when developing PDA-applications for health professionals (some points are also of more general interest and may apply to other areas):

1. Are we talking the same language? Words, phrases, and concepts should be familiar to the user. Thus, if users are physicians, texts should conform to the medical vocabulary, for example.

2. Where is the exit button, please? Developers have (an almost) complete freedom to create user interfaces, but once created, they have to be consistent. An overpopulation of graphical elements is also not recommended – unless one wants to make users wonder if there are functions assigned to every button and link that clutters his PDA screen.

3. What is going on? If it does not work properly, do not give users that impression! Health professionals’ time is meant to be spent taking care of patients, not trying to guess what the system is doing.

4. Who’s the boss?! System has to “support undo and redo” functionalities because the health care user should not have fear of the system.

5. How this thing works? Health professionals have others worries in their minds and PDAs are supposed to help them, not give them more trouble. They should be able to readily use an application, easily identifying its utilization and main features.

6. Less is more! Every extra bit of information diminishes the relative visibility of the information that is really needed, especially on PDAs.

7. Where do I click now? Visual elements that are related to each other should be put together and aligned. Users should be able to directly recognize functionalities.

8. Pot of gold at the end of the rainbow? Generally, two or three colors are enough. It should be noted that yellow is not a good color to be used as foreground on a hospital environment. Also, screen brightness is a feature that has to be carefully observed: developers might want to consider embedding an easy-to-access brightness control in their software.

9. Can your grandmother read it? Ideally, font size should be adjustable in order to accommodate to users’ different reading needs. Moreover, long texts and capital letters can significantly reduce readability – avoid them.

References

