Trusted Apps - Analysis and Evaluation of Mobile Medical Applications

TREO Talk Paper

Henning Schneider, Prof. Dr. med.
Faculty of Health Sciences
University of Applied Sciences Giessen
Giessen, Germany
henning.schneider@ges.thm.de

Thomas Friedl, Prof.
Faculty of Health Sciences
University of Applied Sciences Giessen
Giessen, Germany
thomas.friedl@ges.thm.de

Miloslava Plachkinova, PhD
Department of Information and Technology Management
University of Tampa
Tampa, FL USA
mplachkinova@ut.edu

Abstract

There has been a growing number of mobile health (mHealth) applications, which leads to concerns about the limits on innovation and discovery as well as the evolving nature of both mobile health and current healthcare delivery. Thus, more balance is needed in the development of medical apps to guarantee both the patients’ safety and security and the necessary innovations in the field. The goal of this project is to focus on the development of an applicable evaluation catalog for medical trusted apps in the Google Android operating system. Such a catalog is a significant improvement in terms of safety in the care process. In addition, we offer a conceptual definition and distinction for general medical apps. The catalog is offering universally applicable guidelines which can assist users, providers, and developers of medical software applications in the healthcare sector.

The examination of the app trustworthiness is paramount in the treatment of patients in hospitals and clinics, as well as in the use of apps for well-being and self-monitoring. Electronic data requires protection from potential vulnerabilities that may arise from the use of mobile apps. Thus, it is important to observe legal principles and recommendations. We achieve cost savings and optimization of existing work structures by validating apps that are involved in the healthcare process. The presented evaluation catalog presents a positive impact on the application development, categorization, and adds utility to the end users. The overall satisfaction and improvement in clinical processes will, in long-term, change the modern structure of supply. The evaluation catalog addresses the gaps in legal compliance and safe patient care relying on new technologies. We examine weaknesses and areas for improvement and test the medical suitability of the apps. We also evaluate the technical aspects, as they present an important objective and ensure adequate validation of medical apps and attest to the best possible treatment of patients.

As apps are becoming an increasingly important part of modern healthcare, medical personnel must be trained and sensitized to the use of private and proprietary services. In many areas of a hospital or in medical practice, it is possible and even desirable to use one or more medical apps. Therefore, the observance of the specifications is essential for the respective field of use. The developed evaluation catalog focuses on these aspects and attempts to regulate the issues in the use of medical apps. References and recommendations to legal matters help to analyze the qualitative and technical implementation on a professional basis. Furthermore, the aim of this tool is to determine the trustworthiness of medical apps. Based on the evaluated security level, we provide medical personnel, patients, and manufacturers with a solution for the safe handling of medical apps.