

An Educational Electronic Health Record with a Configurable User Interface

Authors : Floriane Shala, Evangeline Wagner, Yichun Zhao

Abstract : Background: Proper educational training and support are proven to be major components of EHR (Electronic Health Record) implementation and use. However, the majority of health providers are not sufficiently trained in EHR use, leading to adverse events, errors, and decreased quality of care. In response to this, students studying Health Information Science, Public Health, Nursing, and Medicine should all gain a thorough understanding of EHR use at different levels for different purposes. The design of a usable and safe EHR system that accommodates the needs and workflows of different users, user groups, and disciplines is required for EHR learning to be efficient and effective. Objectives: This project builds several artifacts which seek to address both the educational and usability aspects of an educational EHR. The artifacts proposed are models for and examples of such an EHR with a configurable UI to be learned by students who need a background in EHR use during their degrees. Methods: Review literature and gather professional opinions from domain experts on usability, the use of workflow patterns, UI configurability and design, and the educational aspect of EHR use. Conduct interviews in a semi-casual virtual setting with open discussion in order to gain a deeper understanding of the principal aspects of EHR use in educational settings. Select a specific task and user group to illustrate how the proposed solution will function based on the current research. Develop three artifacts based on the available research, professional opinions, and prior knowledge of the topic. The artifacts capture the user task and user's interactions with the EHR for learning. The first generic model provides a general understanding of the EHR system process. The second model is a specific example of performing the task of MRI ordering with a configurable UI. The third artifact includes UI mock-ups showcasing the models in a practical and visual way. Significance: Due to the lack of educational EHRs, medical professionals do not receive sufficient EHR training. Implementing an educational EHR with a usable and configurable interface to suit the needs of different user groups and disciplines will help facilitate EHR learning and training and ultimately improve the quality of patient care.

Keywords : education, EHR, usability, configurable

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