Practice Poster Award

Secure Messaging Application: A Heuristic Evaluation

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Abstract

Increased availability and prolific use of smartphones and other mobile devices have the potential to render communications in health care settings much more efficient. Many mobile devices, however, may pose a security risk to health care information. Providers require a secure communication solution that maintains HIPAA protections and otherwise safeguards confidential information. Vendors offer mobile application software to allow for HIPAA-compliant, secure messaging within a hospital setting, but usability issues may interfere with the cliniccal workflow. Our aim was to evaluate the usability of one secure messaging mobile application, Akario Backline, for both clinical and non-clinical communications in an inpatient health care setting. Goals for this project were to assess the basic functionality of the mobile application and identify any usability failures using Jakob Nielson's 10 usability heuristics. Three clinical analysts of the implementation team were assigned to perform a heuristic evaluation on three different smart phones: IPhone 6, IPhone 6 plus, and Samsung Galaxy S5. A thirty-question heuristic evaluation was developed and given to the three analysts. Each analyst used all three smart phones and identified whether each device met the heuristic qualifications by responding to each criterion with Yes, No, or N/A, with the ability to add additional comments. If the response was No, the analyst indicated the severity of the failure on a 5-point scale. A response of 0 indicated “I don't agree this is a usability problem.” A response of 1 indicated a cosmetic problem only. A response of 2 indicated a minor usability problem; a response of 3, a major usability problem; and a response of 4, a usability catastrophe. Each device was evaluated independently by all three analysts, and the results were reported to the implementation team for analysis. Results were summarized in a combination of table and graph formats. Results showed that twenty-one characteristics evaluated on the 30-item questionnaire met heuristic qualifications, based on two out of three evaluators answering Yes; six characteristics did not meet qualifications (two or more analysts responded No); and three were marked as N/A. Out of the six items marked No, five were rated a minor usability problem (rating = 2) and one was rated as not being a problem (rating = 0). Overall, then, the secure messaging mobile application was found to be easy to use with very minor usability issues. The implementation team could take the results and work with the vendor to continue to improve the mobile application while moving forward with large scale implementation in the hospital.