

Evaluation and Improvement of Usability of mHealth Application

Background, Problem and Solution

The development of Clinical Information System (CIS) are mainly focused on performance and complete tasks but there is a lack of effort by software companies on the development of good user interfaces. This can induce errors to clinical users when they try to figure out a complete idea of one patient with information spited in different screens. Sometimes, clinical user can also input information in wrong patient record as a mistake.

Run usability evaluations on CIS can help software companies to improve the clinical users experience and helps to avoid mistakes. Exists various kind of usability evaluations, from experts' interview to surveys. In literacy are several studies that have been shown to have a low degree of usability of CIS, and there are few studies that improves base software after usability evaluation and perform a new evaluation with good results.

Usability evaluation was done using Join, an application developed by Allm (Japan). The usability method System Usability Scale (SUS) was chosen. A group of users without prior knowledge of application filled the instrument, then interface was improved and finally, same instrument was run again using high quality prototype of application.

Main variable is SUS Score, whose can be between 0 and 100 in ranges, where 50-62 is poor, 62-70 acceptable and 70-78 good. Other measurements include demographic information and time to spent performing tasks.

Hypothesis

The goal of this work is enhance Join application to improved interface and features based on users needing and first usability evaluation. Hypothesis is the improvement of instrument score on the enhanced prototype evaluation.

Objectives

1. Usability evaluation of Join Application
 - 1.1 Design of task list

- 1.2 Perform usability test to users
2. Redesign of Join Interface
3. Usability evaluation of Join Enhanced Prototype
4. Analysis of results

Results

Overall score of SUS for application was 66.75 and for prototype was 63.75, both on same SUS range score. Average time to perform task was 60 minutes on application vs 15 minutes on Prototype. Although prototype tasks are more complex than application SUS score is on the same range.

Outlook

Usability is important to improve user experience on clinical environment and patient safety. Software companies should invest on more usability studies. This should help clinicians to improve quality of care.

References

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