



Summer Institute in Nursing Informatics 2019  
Poster Presentation

## Heuristic Evaluation Of A Diabetes Management Mobile App

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**Objectives:** The goal was to test a diabetic self-management app on smartphones by using Jakob Nielsen's (1995) 10 usability heuristics. This data can then be used for providers to incorporate a diabetic self-management app into their practice as an adjunct so that patients can achieve the desired outcome.

**Methods:** Two sample groups were chosen, iPhones and Androids. The materials used consisted of, instructions, patient scenario with nine tasks, and a heuristic evaluation (HE) form that had three questions to each of the 10 heuristics principles, making a total of 30 questions. Three evaluators completed the task and all three used iPhones, 6S Plus, 5S, and 6S. The evaluators were asked to read a patient scenario and then complete nine tasks. The evaluators then answered all 30 questions by giving an answer of Yes, No, or not applicable (N/A) to each item. If the answer was a "No", the evaluators were asked to give the item a severity rating number by using the Jakob Nielsen's (1995) severity rating scale from a 0 (0= I don't agree that this is a usability problem at all) to 4 (4= Usability catastrophe: imperative to fix this before product can be released).

**Results:** Three evaluators answered a total of 30 questions independently. Fifteen (50%) out of the 30 items met heuristic usability, 13 (43%) did not meet heuristic usability, and 2 (7%) items were reported as N/A. The median severity rating number was a 3 (3= Major usability problem: important to fix, so should be given high priority). The evaluators were given the opportunity to give comments to all the items, specifically to the ones that did not meet HE. Overall sixteen comments were reviewed, seven comments were directed to the items that met heuristics, eight comments were directed to the items that failed heuristics, and one comment was directed to the N/A item.

**Conclusion:** A heuristic evaluation is a method used to find problems by using the 10 heuristics usability principles before an application can be released. Overall, the heuristics results did not correlate with the app's 4.8 star rating. Forty-three percent of the HE items failed with one item in the Error Prevention heuristic having the highest severity rating. In addition, heuristic 5-Error prevention failed all three HE items by all three iPhone users. There is a vast number of diabetes mobile apps with multiple functions available for patients to choose from. It is imperative that providers and patients have a clear communication on what the end goal is and what mobile healthcare app will be best suitable for the outcome.