# How Did We Show the IT People What We Nurses Want about the System? The Case of Self-developed Ostomy Skin Assessment Tool with VBA

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## Abstract and Objective

*The home-made Nursing Information Systems (NIS) have long been known to be done by IT people trained with using "Window-based" Interface building tools and a database-oriented thinking. However, for the healthcare professionals, we need to have an easy IT tool fitting into our workflow and thinking process. In this study, we used the VBA to design an Ostomy Skin Assessment Application to communicate to our IT people. The results support the positive value of using VBA as a communication tool for the system design.*

*Keywords:*

System development, User interface, VBA

## Introduction

It has been known that both IT people in healthcare and clinicians have very different ideas about the designs of information systems (ISs). Many clinicians have been frustrated to "learn" to use the IS tool which is supposed to assist them for releasing their service burdens and increasing their caring quality. The truth is that most of the time the tools are not so easy to learn and to use such that clinicians tend to show resistance in using any kind of new IT tools. To resolve this problem, a better way to communicate between the system developers and users is important. In this article we showed how we trained our clinician users a programming tool with basic skills of interface design principles and data management so we could design our own interface and took an active role in system design.

## Methods

One master nursing student majoring in nursing informatics, who is also an experienced nursing supervisor and charged with the development of NISs in her hospital, was trained with the VBA Programming with Excel for 3 credits and the Interface Design Principles for 2 credits. A general-purpose PC with Window XP, installed with Office 2003, was used as the platform. A simple assessment tool, which is the Ostomy Skin Assessment Tool, was used for the example. This tool was designed in association with the Coloplast Global Advisory Board.

## Results

The workflow was analyzed in details and set as the guideline and standard process for documentation. The screens were then designed based on the work flow. The representative but untypical screen shot is shown in Figure 1, which emphasize the readability of the system, fitting into nurses' workflow, touch-based interface, and a colorful (black) design style.



*Figure 1-The Screen Shots of Application.*

## Discussion and Conclusions

With the VBA and Excel, the assessment tool was successfully developed and used as a tool for training and demonstrating case to discuss with the IT people what NISs could and should look like. The results did surprise our IT people since our design looked quite professional and with a style. Our nurse members did show a great interest in using this tool. We did observe the value of training healthcare professionals in VBA programming with Excel, which has been a tool many clinicians are familiar with and the VBA language is free and very easy to learn. We did observe extra benefit of this approach because the application is actually usable.