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## User profiles and personas in the design and development of consumer health technologies

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**Objectives:** The main objective of this research is to leverage User-Centered Design (UCD), specifically user profiles and personas, as design tools to facilitate the development of a highly usable smart phone based application for self-management of diabetes by an aging population in China. The adoption of user profile and persona has not received much attention in healthcare informatics research and, in particular, research involving CHT. Our work begins to fill this void in three ways. We (1) call attention to how to further enhance and complement traditional user profile and persona techniques for CHT design by integrating cognitive structures and present behavior that drive healthcare thinking, future behavior, and demand; (2) develop user profiles and personas for a Chinese elder population with a demanding healthcare need, i.e., self-management of chronic diabetes, with the hope that the resulting profiles and personas may be used as foundational material for informing the design, development, and evaluation of CHT in a similar context; (3) show how the profiles and personas are being used to influence requirements, design, and implementation decisions for a technology aimed at facilitating elderly diabetes self-management.

**Methodology:** We use an action-research methodology where user profiles and personas are created to improve the design and development of a smart phone based application for a chronically ill aging diabetic population. We collect qualitative (focus groups, interviews, and direct observation) from Chinese elderly with diabetes and their providers. The data were evaluated to classify and understand the patient population and thereby create user profiles and user personas for elderly Chinese diabetics.

**Results:** The study provides profiles and personas to tap into the conceptual models of the targeted diabetic elderly Chinese population (and associated urban and rural subgroups) reflecting their preferences, capabilities, and attitudes toward using technology in self-management care, in general and the smart phone diabetes management application, in particular. Insight into this user group is being applied to design the smart phone application prototype. The resulting user models can be used in future research by others interested in designing healthcare devices for this vulnerable population. In general, the demonstration of techniques used in this study can serve as a guide to other consumer health informatics developers to bring conceptual user modeling into the design of user interfaces targeted for specific healthcare communities.

### Biography

Sweta Sneha is an Associate Professor of Information Systems at Kennesaw State University and Director of Healthcare Management and Informatics. Her research interests include m-health/e-health, social media and healthcare, mobile commerce, ubiquitous computing, and wireless networks. She has authored over 50 publications and national/international journals and conferences and has delivered several invited speeches and tutorials/workshops. She is credited with launching many local and global engagement efforts in the realm of Health Management and Informatics at Kennesaw State University and has received several grants to support her work. She is the author of the book Revolutionizing Health Monitoring. She has served as a co-chair of Clinical Research in Georgia conference and facilitated fund raising for the conference. The conference has been successful in attracting further investment and economic development in the area. She has been the co-chair of "m-Health Scalability and Sustainability" for Americas Conference on Information Systems (AMCIS) since 2009.

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