Interactions between germline and tumor genomes

Abstract: Many use heuristics effectively and cost-efficiently to assess and improve the usability of interfaces. An emerging area of interest is how to identify when user tasks are sufficiently complex that patient safety may be compromised. For example, there may be so many drug-drug interaction pop-ups with a high false alarm rate that critical warnings may predictably be ignored. One conceptual framework relevant to characterizing the complexity in cognitive work is a set of inter-related macrocognition functions: detecting problems, sensemaking, re-planning, deciding, and coordinating. In this presentation, I will suggest how this conceptual framework of macrocognition functions can guide how to assess and reduce the complexity of cognitive work, which may in turn improve usability and usefulness of health information technology.

About the Speaker: Dr. Patterson is an Associate Professor at The Ohio State University in the College of Medicine, School of Health and Rehabilitation Sciences, and situated in the Division of Health Information Management and Systems. She received her PhD in 1999 in Industrial and Systems Engineering from The Ohio State University. Her research applies human factors engineering to improve patient safety by addressing design flaws in electronic health records. She co-authored the national standard for summative usability testing for electronic health records (NIST 7804), which the Office of the National Coordinator has cited as the only named standard which meets requirements for Safety-Enhanced Design to obtain Medicare incentives from Stage 3 Meaningful Use Certification. She has created a graduate and undergraduate certificate titled Usability and User Experience in Healthcare which educates health science students and designers about how to use the methods in these and related NIST technical reports, with the first cohort scheduled for August 2021. Her most recent line of research integrates machine learning and predictive algorithms into computerized decision support in order to target interventions at specialized patient cohorts to reduce patient mortality. Domains include postnatal care, maternal mortality during pregnancy, and infant mortality within 30 days of birth.

Emily Patterson, PhD
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