

PRESENTS: **MOBILE-BASED SYMPTOM MANAGEMENT FOR PALLIATIVE CARE**



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### Speaker Bio

Dr. Md. Munirul Haque is a Postdoctoral Fellow at the Department of Computer and Information Sciences at the University of Alabama at Birmingham. He holds a Ph.D. in Computational Sciences and a M.S. in Computer Science from Marquette University, and B.Sc. in Computer Science and Engineering from Bangladesh University of Engineering and Technology. His research interest includes health care delivery, m-health, and HCI. He is especially interested in mobile-phone-based applications to improve the quality of life of people with special needs. Dr. Haque is the designer of one of the very first mobile based palliative care system for rural cancer patients deployed in Bangladesh, named e-ESAS. This work had been nominated in the first round of 'Grand Challenge Canada: Rising Stars of Global Health' award. He is a recipient of the Ross Fellowship Award for outstanding Ph.D. student and several best paper (COMPSAC 2007, CHI 2012) and poster awards.

### Presentation Abstract

The goal of palliative care is to improve the quality of life of terminally ill patients through the management of pain and other symptoms. Though the term 'palliative care' is well known in the developed world, it is relatively a new term in the developing world. In this presentation, we elaborate on the challenges faced by the rural breast cancer (BC) patients of Bangladesh and a mobile phone based solution for their palliative care treatment. Breast cancer patients need traditional treatment as well as long term monitoring through an adaptive feedback-oriented treatment mechanism. Based on detailed field studies, we have developed and deployed a mobile-based remote symptom monitoring and management system named e-ESAS. Design of e-ESAS has evolved through continuous feedback from both the patients and doctors. e-ESAS has been used by 10 breast cancer patients to submit symptom values from their home for 10 months (Nov '11- Sep '12). Our results show how e-ESAS with motivational videos not only helped the patients to have a 'dignified' life but also helped the doctors to achieve the goals of palliative care. We have also shown how 'motivation' and 'automation' have been integrated in e-ESAS and creating a unique motivation-persuasion-motivation cycle where the motivated patients become proactive change agents by persuading others. e-ESAS demonstrates the potential to positively impact the cancer care by (1) helping the doctors with graphical charts of long symptom history (automation), (2) facilitating timely interventions through alert generation (automation) and (3) improving three way communications (doctor-patient-attendant) for a better decision making process (motivation) and thereby improving the quality of life of BC patients. Also the analyzed results are shown in four categories to appropriately measure the contribution of e-ESAS in improving the QoL.