Proceedings of the

3rd ACM Symposium on Computing for Development

ACM DEV 2013

January 11-12, 2013
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The Third ACM Symposium on Computing for Development (DEV), held on January 11-12, 2013, at Hotel Chancery Pavilion in Bangalore, India was co-located with COMSNETS, the 5th International Conference on Communication Systems and Networks.

In its third edition, the DEV conference aspires to become the premier venue for disseminating novel research at the overlap of technology and global development. In particular, it focuses on highlighting research results in emerging contexts where conventional computing solutions are often inappropriate due to various contextual factors - including, but not limited to, cost, language, literacy, and the availability of power and bandwidth. Focusing on innovative technical solutions to these unique application, infrastructure and user challenges, the DEV conference fosters exchange between computer scientists, engineers, and other scholars and practitioners interested in the use of information and communication technologies (ICTs) for development.

This year's conference featured 15 full papers and 38 poster presentations, which were selected from a pool of 70 submissions. Each paper underwent a rigorous review process, each receiving at least 4 reviews from leading researchers in the field. The accepted papers span diverse fields such as mobile data collection, text messaging, IVR systems, medical devices, and sensing, all with usage models and/or applications inspired by problems and issues encountered in the developing world. The program also included keynote presentations by leading practitioners who work in the space of global development: Tarun Vij (Country Program Leader for PATH India) and Brij Kothari (Inventor of Same Language Subtitling and Professor at IIM Ahmedabad India). In a new addition, it also featured poster presentations by over 30 local organizations who do work in technology and development in the Indian context.

FULL PAPERS (up to 10 pages)

Session I: Mobiles Phones in the Field

1. **Making local knowledge matter: Supporting non-literate people to monitor poaching in Congo**

   Michalis Vitos, Matthias Stevens, Jerome Lewis, Muki Haklay

2. **Mobile video for patient education: The midwives' perspective**

   Brittany Fiore-Silfvast, Carl Hartung, Kirti Iyengar, Sharad Iyengar, Kiersten Israel-Ballard, Noah Perin, Richard Anderson

3. **Practical Receipt Authentication for Branchless Banking**

   Saurabh Panjwani

4. **Decentralized Human Milk Banking with ODK Sensors**

   Rohit Chaudhri, Darivanh Vlachos, Gaetano Borriello, Kiersten Israel-Ballard, Anna Coutsoudis, Penny Reimers, Noah Perin

Session II: Usability Studies of IVR Systems

5. **A Hindi Speech Recognizer for an Agricultural Video Search Application**

   Kalika Bali, Sunayana Sitaram, Sebastien Cuendet, Indrani Medhi

6. **Gurgaon Idol: A singing competition over Community Radio and IVRS**

   Zahir Koradia, Piyush Aggarwal, Gaurav Luthra, Aaditeshwar Seth

7. **Man versus Machine: Evaluating IVR versus a Live Operator for Phone Surveys in India**

   Dipanjan Chakraborty, Indrani Medhi, Edward Cutrell, William Thies

Session III: Health Monitoring

8. **The Design and Implementation of the PartoPen Maternal Health Monitoring System**

   Heather Underwood, S. Revi Sterling, John K. Bennett

9. **Mobile Tools for Point-of-Care Diagnostics in the Developing World**

   Nicola Dell, Gaetano Borriello

Session IV: Networks and Systems

10. **Deployments Made Easy: Essentials Of Managing A (Rural) Wireless Mesh Network**

    Vijay Gabale, Rupesh Mehta, Jeet Patani, Ramakrishnan Kalyanaraman, Bhaskaran Raman

11. **Experiences, Challenges and Lessons from Rolling Out a Rural WiFi Mesh Network**

    Carlos Rey-Moreno, William D. Tucker, Nicola J. Bidwell, Zukile Roro, Masbulele Jay Siya, Javier Simó-Reigadas

12. **ODK Tables: Building Easily Customizable Data Applications on Android Devices**

    Waylon Brunette, Sam Sundars, Nicholas Worden, Dylan Price, Richard Anderson, Gaetano Borriello

13. **Exploring Playback and Recording of Web-based Audios on Low-End Feature Phones**

    Akhil Mathur, Shivam Agarwal, Sharad Jaiswal

Session V: Potpourri

14. **Accurate Speed and Density Measurement for Road Traffic in India**

    Rijurekha Sen, Andrew Cross, Aditya Vashistha, Venkat N. Padmanabhan, Edward Cutrell, William Thies

15. **Forecasting Socioeconomic Trends With Cell Phone Records**

    Vanessa Frias-Martinez, Cristina Soguero-Ruiz, Malvina Josephidou, Enrique Frias-Martinez

POSTER SESSION (EXTENDED ABSTRACTS)

16. **Sustainable Employment in India by Crowdsourcing Enterprise Tasks**
    Shourya Roy, Chithralekha Balamurugan, Sujit Gujar

17. **SAMo: Experimenting a Social Accountability Web Platform**
    Aaron Ciaghi, Birhanu Eshete, Pietro Molini, Adolfo Villafiorita

18. **Characterizing Dengue Spread and Severity Using Internet Media Sources**
    Talal Ahmad, Nabeel Abdur Rehman, Fahad Pervaiz, Shankar Kalyanaraman, Maaz Bin Safeer Ahmad, Sunandan Chakraborty, Umar Saif, Lakshminarayanan Subramanian

19. **"ACTION WILL BE TAKEN": DELHI TRAFFIC POLICE@FB**
    Sidharth Chhabra, Joyojeet Pal, Dhruv G

20. **Run-time Delays in Indian Railways: is Traffic the Cause?**
    Saptarshi Ghosh, Sanket Agarwal, Himanshu Srivastava, Animesh Mukherjee

21. **Building a Crowdsourcing Community: How Online Social Learning Helps in Poverty Reduction**
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22. **Google Map Based User Interface for Network Resource Planning in Post Disaster Management**
    Sujoy Saha, Nitin Agarwal, Priyam Dhanuka, Subrata Nandi

23. **On the Challenge of Adopting Standard EHR Systems in Developing Countries**
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29. **Tracking Lung Function on any Phone**
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