

A Young Researcher's Thoughts on ICTD Research

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1 Introduction

Despite having lived abroad most of my life, my childhood memories of Ghana instilled a sense of responsibility for those whom I witnessed struggling with poverty, education, and health. For me, ICTD is a way to bring the transformative power of technology to bear on these problems.

2 Research Experience

My ICTD research began during a six month stay in rural Rwanda deploying OpenMRS[1], an open source, electronic medical record system. I was responsible for implementing features, managing data entry, and upgrading infrastructure. The deployed system serves a catchment area of 425k people and is a model for a national medical record system. Offshoots of this work include SMS-based tools for checking the accuracy of dosing data, research on how to optimize high latency links using off the shelf hardware [3], and work on how virtual machines can simplify deployment of complex systems.

I am now working on a mobile data collection called UReport[2]. The most recent deployment of UReport gathered 600+ surveys from Ugandan farmers about a number of SMS-based services. UReport is built entirely on Google infrastructure as an exploration of the future of scalable data collection systems. The client runs on an Android G1 phone and submits text, image and location data to an Google App Engine server.

3 Research Challenges

To do great research, one must spend much more than a quarter, a semester or a summer in the field. This time is needed to understand the context of the problem, and academia does not support (financially and

otherwise) such long timescales. If context gained through time really is necessary, we need to discover which models of research can be mirrored to accomplish these goals.

Once a problem is identified, solving it is often more than building technology. The skills needed in ICTD can range from training the illiterate to negotiating with governments. In computer science, we are generally only rewarded for a small subset of those skills – while we may spend 10% of our time doing ‘real’ computer science, 100% of our reward is based on that 10%. Is this balance fair, and if not, how do we realign those rewards?

Finally, the evaluation metrics for the projects we work on vary across various stakeholders. What then is ICTD research success? Is it a transferable conclusion? Is it a proof of concept? Is it a sustainable product? More importantly, how do we really know we are making a difference?

4 Conclusion

As an ICTD researcher, my goals are to better understand what tradeoffs developing societies must make when presented with a technology. While the challenges described above are often difficult to resolve, the assumption I operate under is that technology, when used thoughtfully, can help.

References

- [1] Y. Anokwa et al., *Deploying a Medical Record System in Rural Rwanda*, HCI4CID, 2008
- [2] Y. Anokwa et al., *A New Generation of Open Source Data Collection Tools*, ICTD, 2009
- [3] Y. Anokwa et al., *Optimizing Links in the Developing World*, WINS-DR, 2008