mHealth Technologies in India:
Explorations in maternal health interventions

Ed Cutrell
Microsoft Research India

Microsoft Research India

Photo: Natalie Linnell

Microsoft Research India

Technology for Emerging Markets
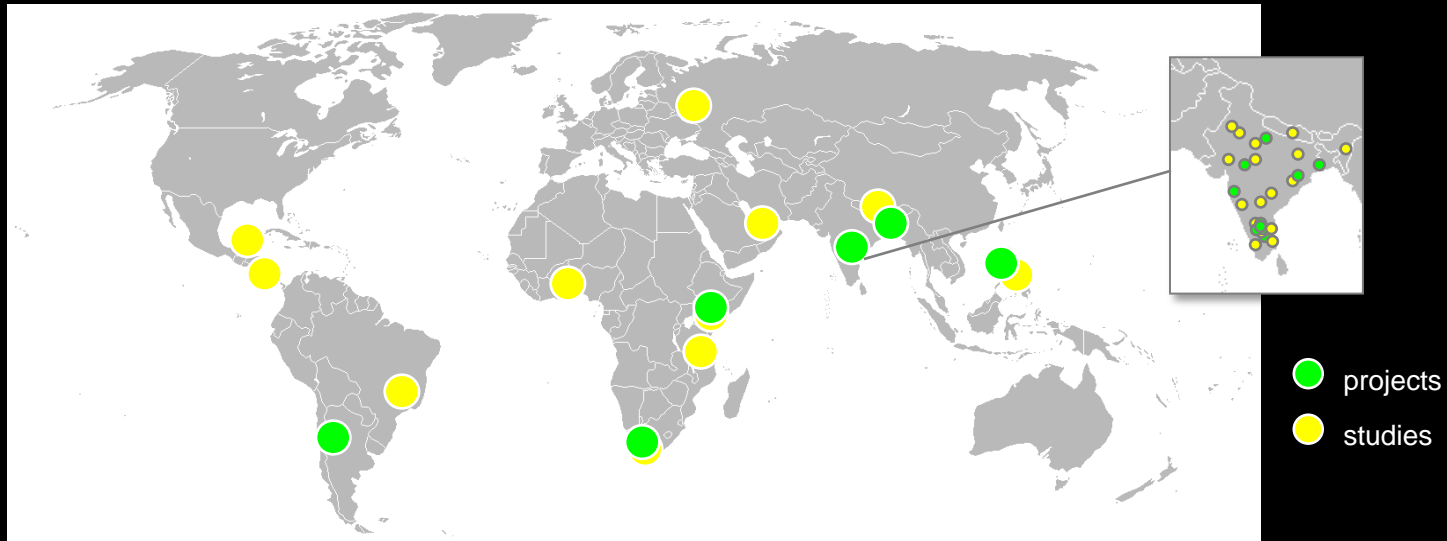
At Microsoft Research India

Understand existing and potential technology users in developing communities
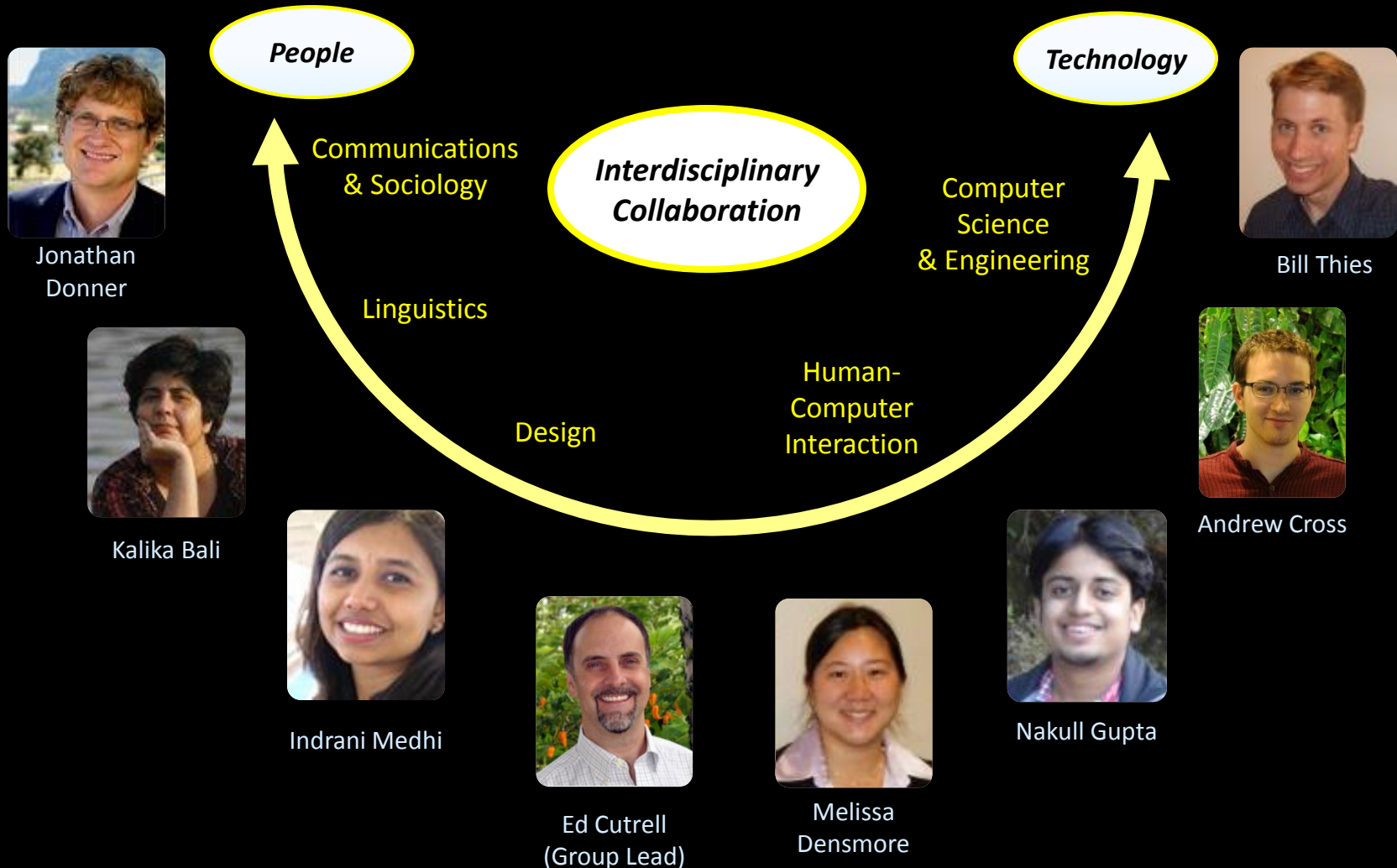
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Design and evaluate technology and systems that contribute to socio-economic development
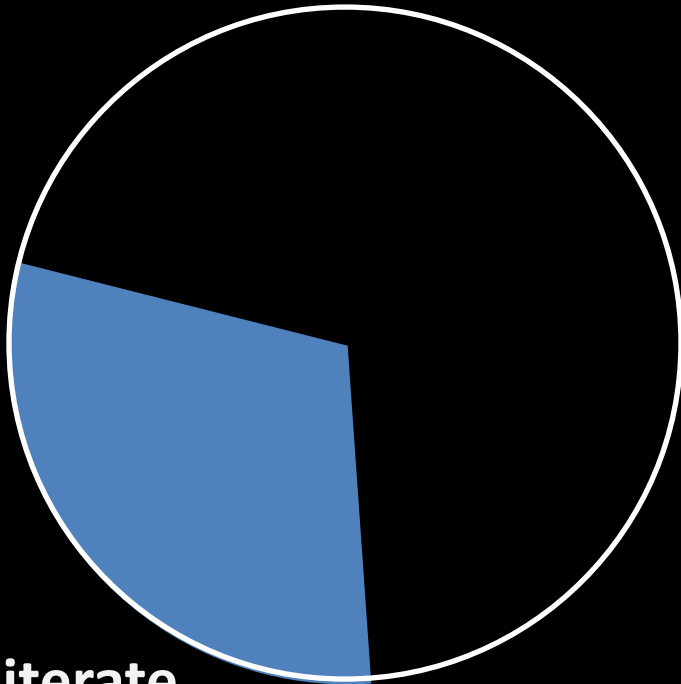
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Collaborate with development organizations, governments, academics & industry

● projects

● studies

Technologies for Emerging Markets

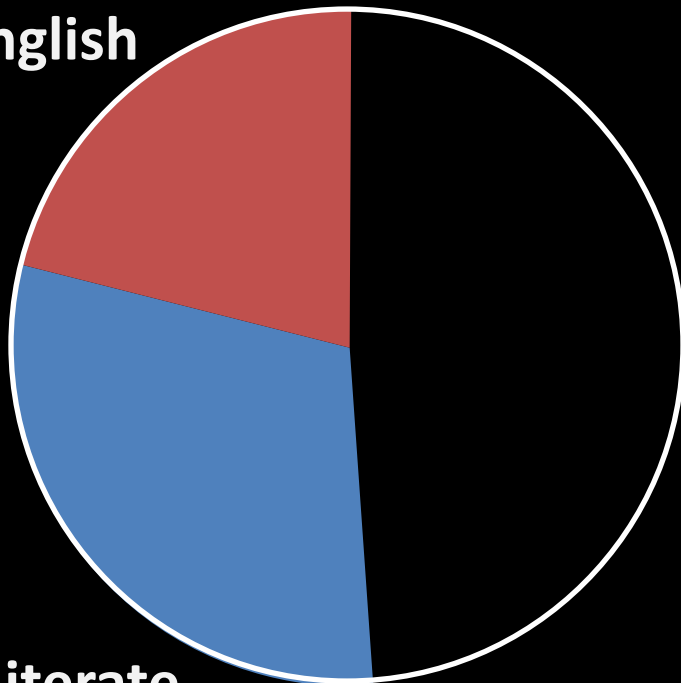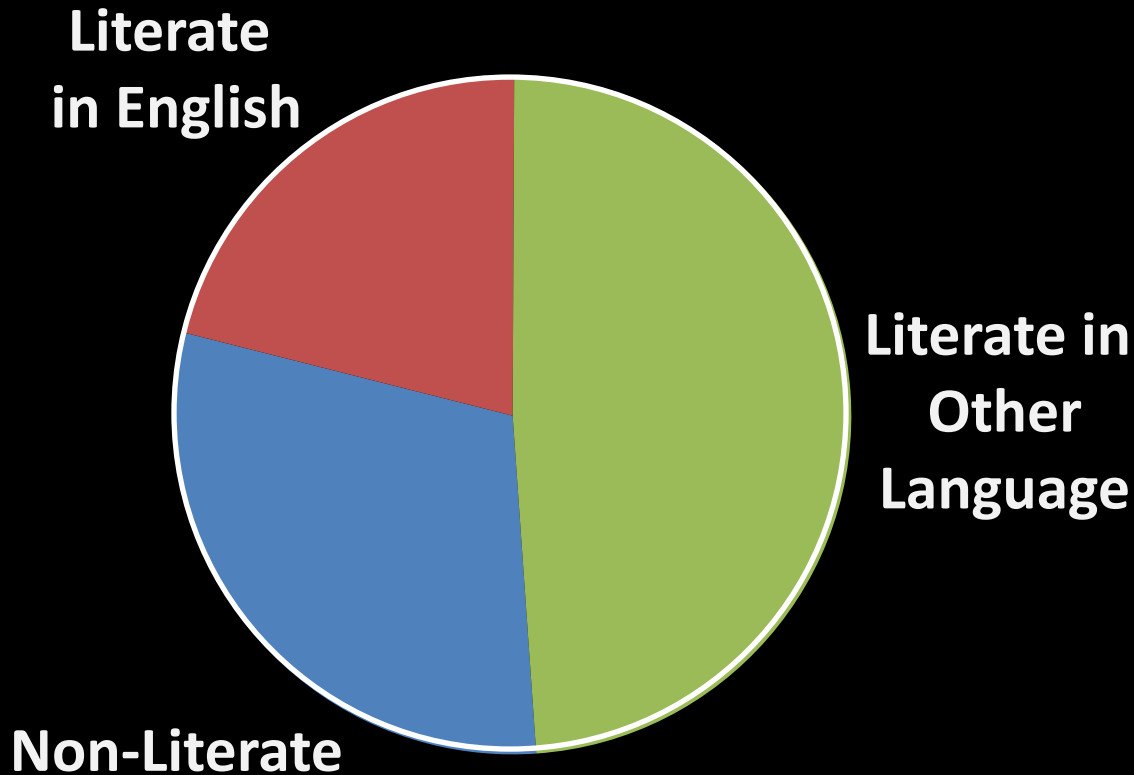# Voice Remains Primary Interface for Mobile Subscribers in India

Non-Literate

Voice Remains Primary Interface for Mobile Subscribers in India

Literate in English

Non-Literate

Voice Remains Primary Interface for Mobile Subscribers in India

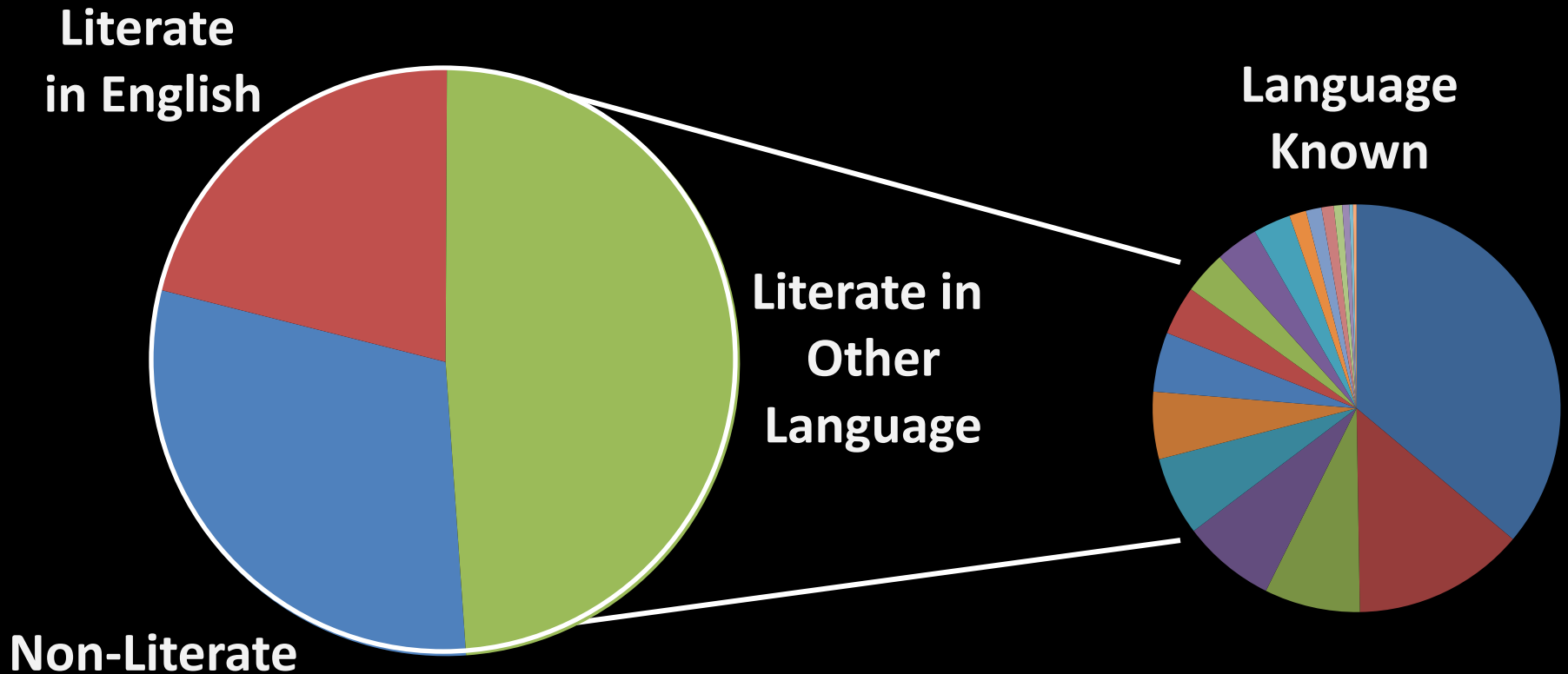Literate in English

Literate in Other Language

Non-Literate

Voice Remains Primary Interface for Mobile Subscribers in India

Literate in English

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Literate in Other Language

Language Known

Interactive Voice Response: $1B Industry

Voice Messages for Healthy Behaviors During Pregnancy

In collaboration with Sion Hospital (Mumbai); to appear at ICTD 2013

- Can automated voice reminders improve the adherence of pregnant women to iron pills?

- Randomized controlled trial across 79 women in Mumbai
  - Treatment group: Hb levels increase (0.32 g/dl)
  - Control group: Hb levels decrease (-0.10 g/dl)
- Evolved into DocTalk: doctor broadcasting system

ASHA-Assist: A Counselling Aid for ASHAs

Interactive mobile videos for maternal health education

Challenges

- Poor training programs
- Limited education/literacy
- Issues in credibility
- Traditional beliefs and barriers

Goals

- Improve Efficacy of ASHA visits
- Encourage better maternal health practices
- Address language barriers

Accredited **S**ocial **H**ealth **A**ctivists (**ASHA**s) monitor and provide services for pregnant and postnatal women

Research and Reality: Using Mobile Messages to Promote Maternal Health in Rural India.
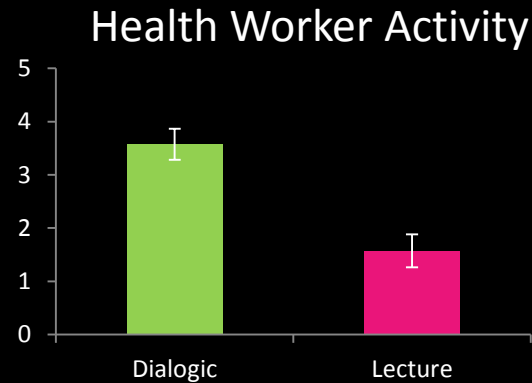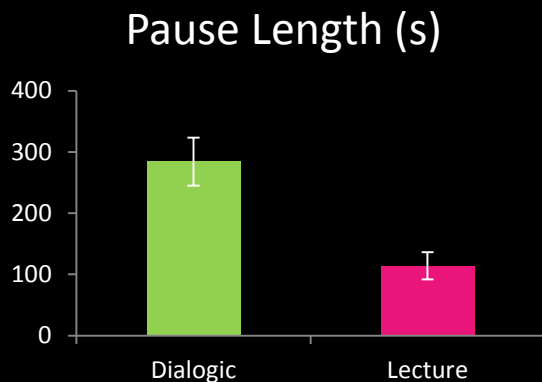D. Ramachandran, John Canny, Prabhu Dutta Das, Ed Cutrell. ICTD'10.
Mobile-izing Health Workers in Rural India. D. Ramachandran, et al. CHI'10.

Measuring Persuasiveness:
Dialogic vs. Lecture-based Mobile Video

Common myth: iron tablets will make the baby too big to deliver normally

	Lecture	Example	Dialogic	Example
Myth	General Statement	Many women believe that <myth>.	Question about personal beliefs	Do you believe that <myth>?
Correction	Explanation	<myth> is not true; in fact, <correction>.	Explanation with rhetorical question tags	<myth> is not true; in fact, <correction>, did you know that?
Action	Instruction	You should <action>.	Request for Personal Commitment	Will you <action>?

Pause Length (s)

Health Worker Activity

Quality of counseling significantly improved with dialogic style of message presentation.

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How does ASHA-Assist compare to and relate with existing interventions?

Standard Intervention:

Flip Chart

Interactive

| Dialogic Flip Chart | Dialogic Interactive Video |
| Traditional Flip Chart | Traditional Video |

Mobile Intervention:

ASHA Assist v.2

How does ASHA-Assist compare to and relate with existing interventions?

Ganjam District Orissa
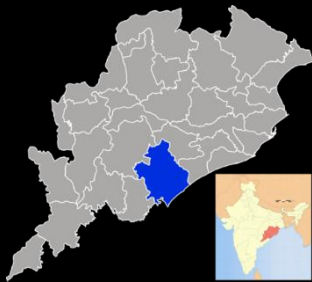
4-arm RCT, 12 months

ASHA-Assist v.2
- Touchscreen feature phone
- 29 videos
- UX learning

Per Arm
- 25 ASHAs
- 75-125 Mothers

Total
- 100 ASHAs
- 300-475 Mothers

- Topical Training Only
- Baseline and Exit Interviews for all Participants

Control Group

- Use format from flip chart developed for ASHAs in this region
- Baseline and Exit Interviews for all Participants

Traditional Flip Chart

- Interactive, persuasive, dialogue: Script on Flip Chart
- Baseline and Exit Interviews for all Participants

Dialogic Flip Chart

- Same script as Dialogic Flip Chart, on mobile phone
- Baseline and Exit Interviews for all Participants

Dialogic ASHA-Assist

Same content and images for all arms