Requirements Engineering at the Margins: Avoiding Technological Hubris through Alternative Approaches

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RE@tM: Problem Statement

• The SE community has made advances in methods, models, tools, automated support for Requirements Engineering (RE)
• But these may not work/apply at the margins
  – that is, in developing ICT for underdeveloped nations, developing regions, poverty-stricken communities, etc.
• In addition, we run the risk of *technological hubris*
  – “We know what you need”
  – “We know how to do it right”
  – “We can improve your quality of life”
• Thus, we need innovative approaches for *RE@tM*
RE@tM: Proposed Solutions

• *RE@tM* must draw from other disciplines
  – Cognitive psychology
  – Anthropology
  – Sociology
  – Linguistics
  – etc.

• One approach: extend traditional *RE* with ethnographic methods ...
  – Cultural probes
  – Storytelling
  – etc.

...that feed back into and iterate with existing *RE* methods
Research Opportunities

- Requirements gathering/elicitation
  - Integrating ethnographic methods:
    - Cultural probes
    - Storytelling
    - etc.
  - Incorporating participatory design

- Requirements analysis
  - Mapping to RE constructs:
    - Storyboarding
    - Scenario analysis
    - Use case analysis
    - etc.

- Requirements modeling/specification
  - Creating RE models:
    - Narrative scenarios
    - Use Cases
    - User experience design
    - Prototype design
    - etc.

- Requirements validation
  - Validating in-situ:
    - Animation
    - In-context stories
    - In-context video
    - Prototypes
    - etc.

In the "lab"

In the field
Advances made by considering the margins could also provide dramatic advances in dealing with traditional requirements engineering domains.