Computing at the Margins

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What is Computing at the Margins?

- Research efforts focused on groups
  - That have been at the margins of technology

- Recognition that similar *classes* of research problems exist
  - In underserved parts of Industrial Nations as in Global Development
    - *not the same solutions, but related problems*

- Raise awareness of and create a community focused on
  - **Computing** research needed to create transformative technologies
  - **Interdisciplinary** research to work on all aspects of problems

NSF Sponsored Workshop

To identify what those common challenges might be

To meet each other, create community
connect to CCC efforts

Highlights include

- Network and Power, Literacy...

- Nomadicity

  - Population increasingly migratory

    - e.g., *rural to urban, transnational, homeless, nomadic*

  - What kinds of technology innovation does that require

    - *clouds accessible on mobile technologies, small bandwidth?*

    - *what data do people want to have migrate across what boundaries?*

Empowerment

- Not just access, but a *voice* and ability to *control* participation
  - In the digital society
    - e.g. *civic engagement*
    - e.g. *post-conflict recovery (truth and reconciliation processes)*

- ICTs that empower people by being culturally relevant

- Public health research advocates culturally sensitive health interventions
  - Within U.S. groups underserved due to lack of cultural awareness
    - *Design culturally specific health ICTs to empower wellness*

Innovation

- Diversify innovation
  - Socio-computational systems like wikipedia/trapster
    - *made possible by individual end-users' ability to innovate*
  - Currently limited to those with literacy, access, etc...

  - Make it possible for everyone to innovate
    - *participate in existing systems*
    - *create their own unique systems*

- Requires environments for development and platforms for dissemination

Relations to Other Topics: Green IT

- Sustainable technologies

    - Power conserving machines good for power poor environments

- The ability for end-users to self-maintain their own machines

    - Good for the environment prolonging life

    - Good for environments that are resource poor

Computing at the Margins

- Identify common challenges
  - Access, Empowerment, and Innovation

- Discussions of synergies with other fields
  - Green IT

- Create research community

- Locally underserved groups may also
  - Provide locally available testbeds for some research

More Information

- Workshop Report
  - www.computing-margins.org

- email
  - beki@cc.gatech.edu