INFO 6600: TECH FOR UNDERSERVED COMMUNITIES

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Fall 2016
WELCOME!

Today:
• Introductions
• Course logistics, overview, and structure
• Brief background
• Reading and discussion (in-class)
• Complete “Assignment 0” (in-class)
INTRODUCTIONS: ME

• Nicki Dell
  • IS faculty at Cornell/Tech/Jacobs
  • Ph.D. in CSE at University of Washington (Seattle)
  • Research: designing, building, and deploying systems for underserved populations (in developing countries)
  • Second semester teaching at Cornell Tech
  • Fun fact: From Zimbabwe, lived (over one year) in six different countries
INTRODUCTIONS: YOU

• Name
  • Background
  • Why are you in this class?
  • Tell us something unexpected about yourself
    • What is the craziest thing you’ve ever done?
COURSE OVERVIEW

• We spend too much time thinking about ourselves
• 80% of the world’s population lives in “developing” countries
• 3 billion people live on < $2 per day
COURSE OVERVIEW
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Global problems
- Poverty
- Education
- Gender equality
- Infant mortality
- Maternal health
- Human rights
- Conservation

Technology constraints
- Computers
- Cell phones
- Mobile devices
- Networks
- Connectivity
- Energy and power
- Transport

Diverse challenges
- Culture
- Gender
- Politics
- Language
- Literacy
- Social structures
- Communication

Technology alone is not enough!
COURSE GOALS

1. Examine the design, deployment, and adoption of computing technologies that aim to improve the lives of underserved populations in low-income regions.

2. Discuss case studies from the US and across the world.
   • Study specific application areas such as agriculture, finance, health, education, etc.
   • Examine the design, deployment, and adoption of different technologies in these domains.

3. Explore big questions and debates in the field.
   • How do computing technologies affect the lives of those living in poverty?
   • What role can such technologies play in global development?
   • How might technologies/applications differ between developed and developing countries?
   • What are examples of ways in which entrepreneurs use ICT to combat poverty?
   • What works, what doesn’t?
COURSE COMMUNICATION

- Slack channel: INFO6600.slack.com
  - Please use Slack instead of email!!
- Class website
  - http://nixdell.com/classes/Tech-for-the-underserved/
- Office hours
  - By appointment
CLASS STRUCTURE

• Weekly 3 hour class (!!!)
• Rough approximation…. But not today 😊
  • 1/3 Paper discussion (Student Lead)
  • 1/3 Lecture discussion (Nicki): contrasting projects / case studies
  • 1/3 In-class design activity / assignment / thought exercise
• Two ~10min breaks (caffeine!)
READINGS

• Mandatory weekly paper readings
  • Big debates in the field
  • Will also post optional readings

• Homework before each class:
  • Post a ~300 word thought response to the Slack channel
    • The NIGHT before!
  • Include at least one “Topic for discussion”
    • MUST be different to topics raised by others!

• In class: student lead will start with a quick summary of the paper and then moderate the discussion
• Nicki will pick a few projects / use cases related to a topic and talk about them
• Will post optional readings related to the lecture
• Discussion based as well (please!)
IN-CLASS ACTIVITIES

• Usually based on lecture topics
  • Come up with a new project idea and explore it
  • Come up with a modified/improved study design
  • Critique one of the case studies
  • ….and so on….
HOMEWORK ASSIGNMENTS

• Roughly every two-three weeks
  • Starting next week
• Mostly design, prototyping, social experiments, etc.
GRADING

- In-class exercises and participation 30%
  - Can skip two with no penalty
- Reading summaries 30%
  - Can skip two with no penalty
- Homework assignments 40%
LOGISTICS

• Distance learning (AHHHHHH!!!)
• Please be patient… there will be technical challenges
• Please be communicative…. tell me how it’s going
• Slack Slack Slack Slack
  • For posting discussion thoughts/commentary
  • For uploading documents etc.
• For being better connected to each other
IN-CLASS POLICIES

• You get out what you put in!
• Show up on time
• Devices
QUESTIONS?

• What did I forget?
• Questions / Comments?
LET’S TALK ABOUT TECHNOLOGY

• When and what was the first technology in a “developing” country?
• When was the first computer in a developing country?
LET’S TALK ABOUT COMPUTERS

• Why are they still not everywhere in the world?
• The desktop metaphor?
LET’S TALK ABOUT COMPUTERS
LET’S TALK ABOUT TELECENTERS
LET’S TALK ABOUT PHONES
LET’S TALK ABOUT PHONES

Note: * Estimate
Source: ITU World Telecommunication/ICT Indicators database
WHY DID PHONES TAKE OFF?
QUICK EXERCISE

• Compare and contrast “basic” phones vs. smartphones (for low-resource contexts)
• 10 mins on your own
• Discuss as a group
COFFEE BREAK (30 MIN)

• Read paper (print it if you want)
• As you read, note down 2-3 discussion topics/questions
• Come back ready for discussion!
HOW DID YOU READ THE PAPER?
HOW I READ A RESEARCH PAPER

• (But not this one!)
• (And what do I know?)
• Read abstract
• Skim intro… read paragraph about what they did!
• Read methods
• Look at figures/graphs
• Read findings/discussion
• Go back and read intro/related work
THE CASE FOR TECHNOLOGY IN DEVELOPING REGIONS (2005)
LAST THING: ASSIGNMENT 0

• https://docs.google.com/forms/d/e/1FAIpQLSf1GwovUCRClT5mM_LC3_pKNx0KEWydRoA8RNmqRXIUPjCuEw/viewform?usp=send_form
NEXT WEEK

• Debate: what are “underserved” communities?
• Case studies in tech+agriculture
• Readings posted later today