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	Technology constraints	Diverse challenges
Poverty	Computers	Culture
Education	Cell phones	Gender
Gender equality	Mobile devices	Politics
Infant mortality	Networks	Language
Maternal health	Connectivity	Literacy
Human rights	Energy and power	Social structures
Conservation	Transport	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

LECTURES

- 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 (AHHHHH!!!)
- 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

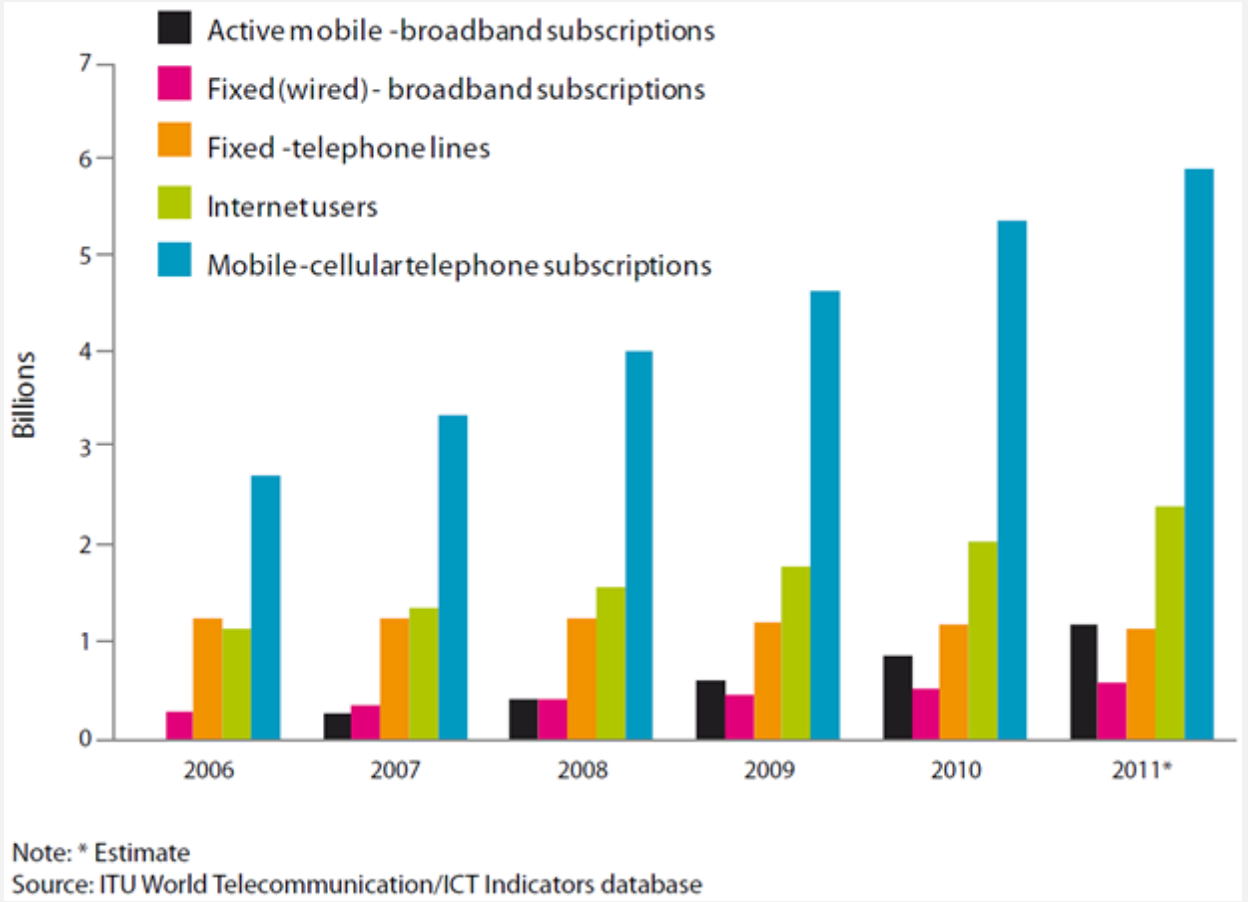
- Why are they still not everywhere in the world?
- The desktop metaphor?

LET'S TALK ABOUT COMPUTERS

LET'S TALK ABOUT TELECENTERS

LET'S TALK ABOUT PHONES

LET'S TALK ABOUT PHONES



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/1FAIpQLSf1GwovUCRCtT5mM_LC3_pKNx0KEWyRVoA8RNmqRXIUPjCuEw/viewform?usp=send_form

NEXT WEEK

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