• 49% of people in developing regions have mobile phones (feature phones with voice + SMS)

• Mobile phones are very affordable (~$20)

• Internet access in these regions is scarce

• Voice and SMS is the primary channel (Pervasive + Affordable)
Related Work

• Related Projects
  – RapidSMS, FrontlineSMS, UjU
  – M-Pesa, GCash, mCheck

• What ideas does it draw on and who has worked on them?
  – Healthcare
  – Microfinance/Banking

• What makes this project novel/interesting?
  – User friendly cloud computing on mobile
  – Data visualization
Scope

- Importance of Problem Space
  - Designing system for time-constrained environments.
  - Help users get the most amount of survey data under tight time/cost constraints

- People deal with this problem by using online tools (Catalyst, Survey Monkey) or conducting hand-written surveys.

- Human-Centered Design Challenge
  - System syntax most usable and convenient for participants to take surveys
Scope

• Who will care about your solution?
  - Students or other people under time and budgetary constraints

• Who will your solution effect?
  - Those collecting survey data on campus
  - Platform could be utilized to applications in Africa, etc

• How does it address the problem?
  - Don't need to be on a computer or online
  - Participation on the spot → more timely survey responses
Fieldwork Findings

- Interviews with 4 people
- Survey responses from 104 (and still going) people.
- Data on difficulties of various characters, thoughts on system as a whole
- Interviews with UW college students
- Facebook advertising of surveys to primarily college and high school aged students
Fieldwork Findings

• What did you learn from your fieldwork?
  - Interview themes, further verified by surveys showed agreement that users find punctuations (.,! ? ') easy to use for texting.

• What further fieldwork is needed?
  - Easier syntax vs. more logical syntax?
  - Learning curve?
  - Testing new iterations of syntax design
keyboard types

- Qwerty (soft) 36%
- Qwerty (hard) 25%
- T9 (soft) 8%
- T9 (hard) 12%
- Multi-tap (soft) 5%
- Multi-tap (hard) 8%
- Swype 4%
- Other 2%
how difficult do you find these characters to use?

difficult

easy
have you ever used a texting service?

- No: 61%
- Yes: 39%
relationship between age and difficulty?
don’t text and drive

great communication tool

ruining the use of proper English and grammar

I LOVE IT!
Scenario

ODK Tables in Use
ODK Tables app
Do you support Obama?

Text

@POLL A: YES/NO
to

206-123-4567
Scenario

NEW TEXT TO:
206-123-4567

@POLL A: YES
<table>
<thead>
<tr>
<th>name</th>
<th>position</th>
<th>class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jason</td>
<td>Accountant</td>
<td>Junior</td>
</tr>
<tr>
<td>Bob</td>
<td>Engineer</td>
<td>Phd</td>
</tr>
<tr>
<td>Larry</td>
<td>HR</td>
<td>Junior</td>
</tr>
<tr>
<td>Ruth</td>
<td>PR</td>
<td>Junior</td>
</tr>
<tr>
<td>Matthew</td>
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<td>Receptionist</td>
<td>Sophomore</td>
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<td>Jeffrey</td>
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<tr>
<td>Jose</td>
<td>Software</td>
<td>Senior</td>
</tr>
</tbody>
</table>
Scenario
Architecture

- Basic components
  - A smartphone with ODK tables application
  - Feature phones with SMS for interactions
- How do they interact?
  - SMS messages from simple phones can manipulate and obtain the data tables on the smartphone
    - add information on data tables
    - query into the data
  - ODK tables illustrate the data in charts or graphs
Architecture
Next Steps

- Test with current version of ODK tables with functions:
  - add/remove tables and columns
  - manipulate data
  - data illustration

- Other user population
  - Test users on Android ODK tables application
  - Academic researchers

- Data illustrations

- Solutions for security

- Other platforms