

PEOPLES

Enables the

Observation of

Populations

Living in

Everyday

Society

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Motivation

- Social sciences are limited when collecting data
- What if smartphones could be used to get that data?
- Specifically:
 - Naomi Sugie (a PhD student in the SOC department) contacted us about building such an application to study how just-released prisoners go about finding jobs



Idea

- Build phone-based system that:
 - Tracks location
 - Tracks calls
 - Can ask surveys on the go
- Make a web application to run it
- Free (open source)!



Phone Features

- Gets data from web server
- Administers surveys
 - Simple interface
 - Multiple choice questions and next/back buttons
- Tracks location
- Silently monitors calls
- Sends this data back to web server
- Can be totally/partially disabled



Web Features

- Easy and secure
- Subject setup
- Survey creation
 - Set days/times that surveys should be taken
 - Set question flow
- Get data – export as Excel sheet



Survey System

- Unique survey system – powerful and flexible
- Surveys adapt
 - Next question can differ based on answers given
 - Avoids non-applicable questions



Survey Example

1 Did you go to New York today?

No

Yes

1

Yes
now

Yes
Before

2

Yes
now

Not
Yes
Before

3

No
now

3 What did you do?

4 Why not?

2 Why did you go back?

4

5

6

5 Did you have a good day?

No

Yes



Demos!



Implementation Details

- Web Site
 - PHP
 - CakePHP
 - jQuery
 - MySQL – easy to change
- Phone
 - Android
 - Java



Web Site Architecture

- CakePHP – model-view-controller
- Main controllers
 - Surveys
 - Answers
 - Subjects
 - Users
 - Data
- AJAX
 - CakePHP uses jQuery



Phone Architecture

- Services
 - Coordinator (master service)
 - Survey scheduler
 - Location collection (GPS)
 - Call logging
- Activities
 - Viewing surveys
 - Control panel
- SQLite



Development

- git and GitHub
- Eclipse IDE with Google's Android SDK and plugin
- Amazon EC2 test server
- Problems
 - Large group (six people!)
 - Different OSs
 - Phone drivers...
 - Learning Android



To Infinity, and Beyond!

- Development will continue over the summer
- Hope to do a pilot program in September – 1 month, 12 people
- Features to add
 - Text logging
 - Drag and drop surveys
 - Study level
 - Report phone status



Thank You!

- Questions?

