Presentation

Quoting from project website:
“As to content, the "trade show" metaphor is useful, but you should aim for more than just a glitzy demonstration. The instructors really will be looking for evidence that you accomplished something, that you learned something, and that you can present something clearly. You might think of:

- a short introduction to what your system is supposed to do,
- a quick summary of major features,
- a demo of a small number (two or three?) of features; glitzy is fine but pick features known to work,
- a brief overview of architecture, implementation, or how it works, and
- something that worked well or failed to work out or that you might explore if there were more time.”

Outline:

1. Introduction to System - Austin
    1. Motivation
        1. It's hard to study some populations, and even harder to get constant data from them.
            1. Want locations and contacts, as well as survey data.
            2. This sort of data can really be useful.
        2. Some of the parts of this system exist, but nothing has been created that brings them all together: surveys, GPS (HMP), and call logging.
    2. Audience
        1. Web end users are sociologists or other social science researchers. In theory system can be used for just about any sort of task involving the collection of data from people using smartphones. Mention Naomi Surge.
        2. Phone end users can be anyone, but specifically we were asked to write this with the parolee population in mind.
        3. Higher level
            1. Institutions – universities, etc. can make the server side of our app a tool that is available to their faculty.
            2. Service – companies can host a server running the software and offer its use to people.
    3. Goals
        1. System to get real time location data to the best of the ability of the current infrastructure. Sometimes GPS isn't very accurate or can't be used, and sometimes cell towers are no better.
        2. Track the calls of people, but do so in an anonymous way. We're interested in the size and spread of the network that a person has, but no who the specific people in it are.
        3. Surveys
            1. We want to be able to create surveys and send them out to be administered to the phone users (subjects) at set times during the week/day.
            2. We also want a very flexible system that doesn't just present a series of straight-line questions.
        4. Open Source
2. Features
    1. Phone App - Diego
        1. Silently tracks location and logs calls.

    2. Pulls surveys from the web server.
    3. Administers these surveys on a timer, but also allows the user to refuse a survey if s/he is busy. Tracks the answers to these surveys.
    4. Sends all this information the web server.
    5. Allows the user to turn each of these parts on or off for privacy when needed/desired.
2. Web Site - Austin
    1. User control – set up accounts, have admins, etc.
    2. Subject control – set up who is using the phones (or not, as in Naomi's case) as well as what phones are being used. Basically, associate a particular phone (ie deviceID) with some subject (could just be a number, or could have real data).
    3. Create surveys – unique five level survey system:
        1. Survey level: can be scheduled to be given at set times during set days of the week.
        2. Question level: each question has some text that is presented to the user
        3. Choice level: each question has zero or more choices presented to the user. If zero, then the question is interpreted as free-response.
        4. Branch level: each question has zero or more branches. Each branch leads to another question.
        5. Condition level: each branch has zero or more conditions. Each condition checks previous questions. A branch is followed only if all it's conditions evaluate to true.
            1. Can check previous answers in current survey.
            2. Can check previous answers in previous surveys.
    4. View Data – can be exported as XLS (Excel) file as well
        1. GPS
        2. Call log – calls are anonymized; can see how many times a particular number was called, but not what that number was.
        3. Survey answers
3. Demos - Henry
    1. Web Site Round 1 - show survey entry; maybe don't enter one ourselves, but just show the one Naomi created.
    2. Phone App - take a survey (probably Austin's New York survey).
    3. Web Site Round 2 - show the results of the survey that was just taken.
4. Implementation and Architecture (draw some flowcharts here)
    1. Phone App - Diego
        1. Google's Linux-based Android
        2. Java
        3. Services
            1. GPS Service
            2. Scheduler Service
        4. Activities
            1. Survey Activity
            2. Control Panel (Admin Pane) Activity
            3. Device ID Activity
    2. Web Site - Austin
        1. PHP – the most supported
        2. CakePHP
            1. MVC
            2. Easy security
            3. Keeps things organized
            4. Open source (MIT) and requires no Apache mods besides mod_php

        5. Probably should mention jQuery (also MIT)
    3. Major modules
        1. Surveys including Questions, Choices, Branches, and Conditions
        2. Users
        3. Subjects
        4. Data – shows collected data
        5. Answers – send/receive from phone
    4. MySQL – though CakePHP supports many others. It would be pretty easy to port our site to another database provider.
5. Development - Diego
    1. Tools
        1. GitHub
        2. Eclipse
        3. Android SDK/emulator
        4. Test phones courtesy of Naomi
    2. Big team (supposed to be limited to five) caused some problems
6. Future Plans - Tony
    1. Overall
        1. Summer development – probably Austin and Tony
        2. Hope to do beta in 12 person 1 month study at end of summer
    2. Phone App – add:
        1. better tracking and reporting of when app is on/off
        2. UI features (for example, turning the phone sideways)
        3. more configuration options
    3. Web Site – add:
        1. Study level over everything: give the ability to run multiple studies on the same server
        2. enhanced usability:
            1. do away with ids in GUI
            2. drag and drop survey trees
        3. Much more configurability via config file sent to phones