Assignment 3   INFO 6600: Tech for Underserved Communities

Due: October 27th, 2016 BEFORE CLASS **(we will do demos in-class on October 27th)**

In this assignment you will get some hands on experience with Open Data Kit, one of the most popular platforms for data collection in low-resource settings.

If you get stuck on any of the specific steps, try to find the answers on the ODK website or on the ODK community forums before coming to Nicki!

Steps to follow:

1. Find an Android device to work with (smartphone or tablet). You can definitely use your own device if you own an Android device.

2. **Install ODK Collect from the Google Play store** and play around with the "example form". Here are the instructions to follow: https://opendatakit.org/use/collect

3. **Play with the online demo of ODK Aggregate** to understand what this tool offers and how it interacts with ODK Collect. It is set up to work with the "example form" you used in question 2. Here are the instructions to follow: https://opendatakit.org/use/aggregate

4. **Download the "sample XLSForm"** from this website: https://opendatakit.org/use/xlsform/
This example form is the XLS form that gets converted into the ODK Collect and Aggregate forms you have been playing with in question 2 and 3. Open this example form in Excel and study the format of the form. You should see how these questions end up being rendered on the Android device by ODK Collect.

5. **Create your own ODK Aggregate server**. Follow these instructions:
https://opendatakit.org/use/aggregate/. I suggest you set up an App Engine instance of ODK Aggregate.

6. **Configure your ODK Collect app to talk to your own ODK Aggregate server**. You can use the "example form" to test sending data from ODK Collect to your own ODK Aggregate server. Instructions are on the second half of this page: https://opendatakit.org/use/collect/

7. **Use the XLSForm tool to create your own form** (https://opendatakit.org/use/xlsform/).
i.e., make a new excel (xls) file that contains a set of questions you want to collect answers to. Suggestions for forms you could create are:
(1) Create a form that would let you collect data about one of your own research or on-going class projects.
(2) Create a form that would help you collect data about the ICTD project you studied and wrote up for assignment 2.
Make sure your form includes some "rich" data types. e.g., collecting photos, GPS signals, etc.

8. Once you have created your own XLS form, **use this tool to convert it to an Xform (xml)** for use by ODK Collect: http://opendatakit.org/xiframe/
(Work to fix any errors until you have successfully created and converted an ODK xml form).

9. **Upload your new xml form to your own ODK Aggregate instance**. You can follow these instructions: https://opendatakit.org/use/form-uploader/

10. After the new form is in ODK Aggregate, **download the new form to your ODK Collect app**. Instructions are here: https://opendatakit.org/use/collect/ (NOTE: you need to put in your own ODK Aggregate app-spot instance instead of the example one).

11. **Use ODK Collect to fill out instances of your form and send the data to ODK Aggregate**. Make sure the data shows up in ODK Aggregate. Play around with the different visualizations and exporting capabilities to get the data out of ODK Aggregate.

Grading

1. In-class demo: We will do in-class demos on Thursday, October 27th.
The demo will consist of filling out at least one instance of your own form using ODK Collect and submitting it to your own ODK Aggregate server instance. We will also confirm that the data shows up in ODK Aggregate.

2. Files: Submit a zip file containing your write-up (see below) and any other files you generated in this assignment (e.g., your own xls files and converted xml files).

3. Write-up: Submit a write-up of your assignment that contains the following:
(a) Describe the ODK Collect form that you chose to make.
What is the purpose of the form? What project did you choose to make a form for?
What data does it collect? What data types does it include?
Include a screenshot of your XLS form.
Include screenshots (or photos) of your form being rendered on the Android device.

(b) Provide a link to your ODK Aggregate server and include a screenshot showing data that has been submitted to your server.

(c) Discuss anything unexpected that happened or any challenges you had to overcome setting up your own ODK Collect, Aggregate, XLSForm instances. How did you solve these challenges?

(d) What do you think are the benefits and limitations of the ODK tools you have worked with?
What applications will they work well for and why?
What applications will they NOT work well for and why?