ODK DAO

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Remind of the Project

- Shifting the data collection paradigm of ODK to handle non-linear data input.

- Allowing users to develop custom forms with a user specified taxonomy.

- Making medical records available to clinicians in resource constrained environments.
Design Process
**Data Structure**

- Directed Graph
  - Two types of nodes: QuestionGroups and Questions
- Each QuestionGroup contain:
  - A title
  - Links to other QuestionGroups
  - Links to Questions
  - A set of Tags
- Each Question contains:
  - It's prompt.
- This relaxed structure makes the data structure flexible for a variety of uses.
XML to reflect our Data Structure

<daoform title="..." >
  <question_groups>
    <question_group title="Group Title" id="group_title">
      <tags>
        <tag name="..." />
        ....
      </tags>
      <question_group_links>
        <link title="..." target="..." />
        ...
      </question_group_links>
      <question_links>
        <link title="..." target="..." />
        ...
      </question_links>
    </question_group>
  </question_groups>
...</daoform>

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The Parser

- Converts XML to Data Structure
- Made more robust to handle buggy XML
- Tags feature allows for users to more easily dive into the Form.
Widgets

- Widgets = (mostly visual) UI elements to use on your Application screen

- Built-in ODK Collect Widgets - DateWidget, AudioWidget, DecimalWidget, ImageWidget, SelectMultiWidget, StringWidget

- Created an activity from clicking on a jump list item (question) to a widget.

- However, when we construct a new intent to start a new activity, we can't pass information to the new activity

- Next thing to do: Implement recognizing which widget to use for each question inside our jumplistactivity - add parser functionality for widget recognition.
Demo

Let's just show you what has changed

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User Testing
User Testing Methods

- Conducted semi-structured interviews with:
  - 2 Doctors
  - 2 Medical students
  - 1 Physician's Assistant
- Created scenarios for understanding doctor and clinician diagnostic workflow practices
- Conducted a card sort to identify categories for symptoms and menu items
- Asked questions regarding user interface
  - Task bar
  - Home menu
  - "See also"
Task Bar Development

Screen shot of task bar from iPhone application

Screen shot of alternative iPhone application

Combined new task bar:
Home Screen Menu

- User feedback for preferred home screen content
- Patient
  - New Patient
  - Patient Record (patient history)
- Diagnosis (differential diagnosis generator)
  - By symptom
  - By system
  - By lab values
- Medications (the PDR feature)
- Search

Adapted screen shot from multiple iPhone applications
"See also" Menu

Suggested content for "see also" menu from epocrates online
What's left to do

- More User Testing
- More Extensive XML Forms
- Tweaking UI
- Widgets
- Saving & Retrieving Data
Suggested Questions

- So, what happened to Ginger Bread Person now?
- Where did the idea for tags come from?
- Take this!