

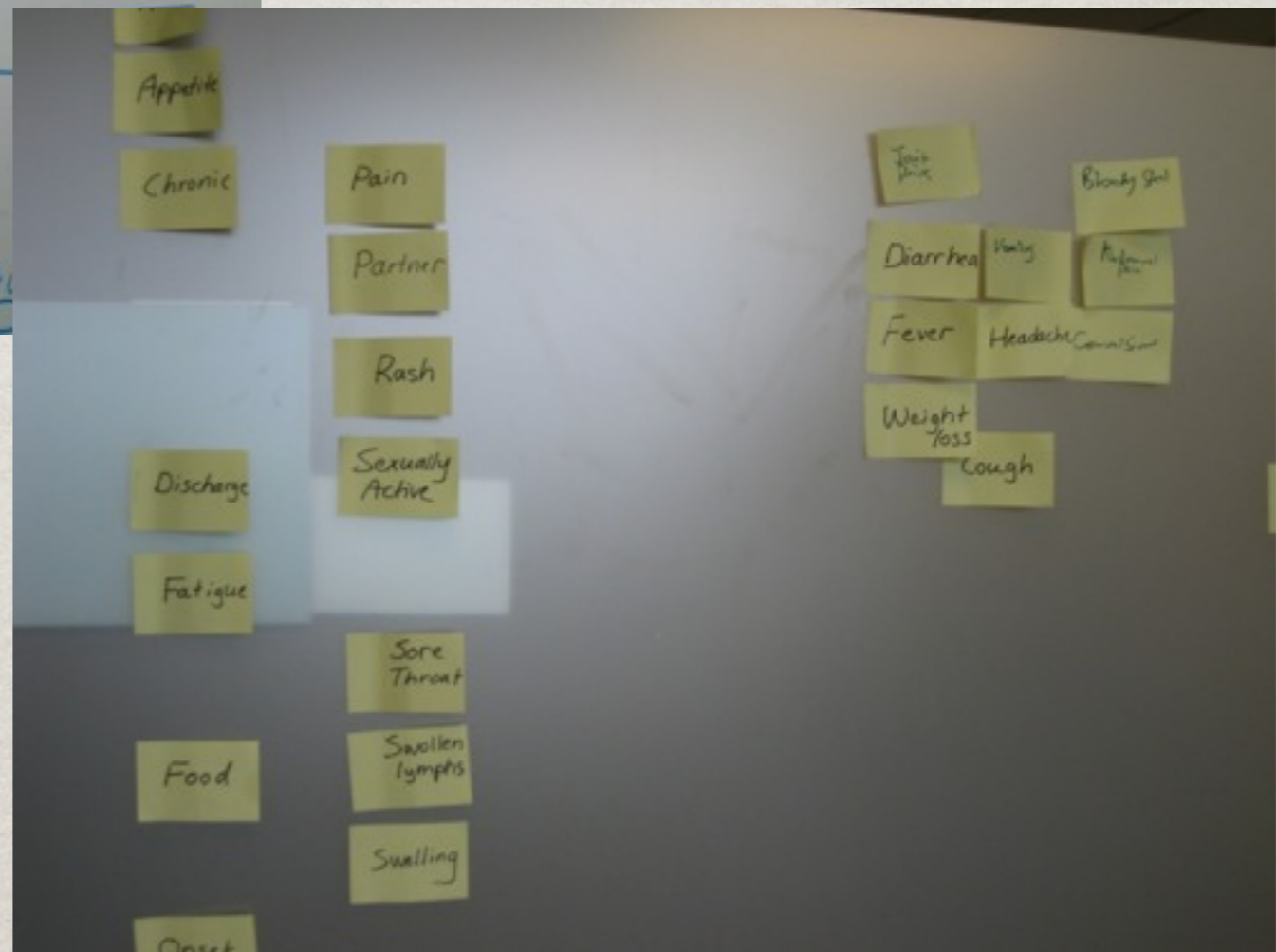
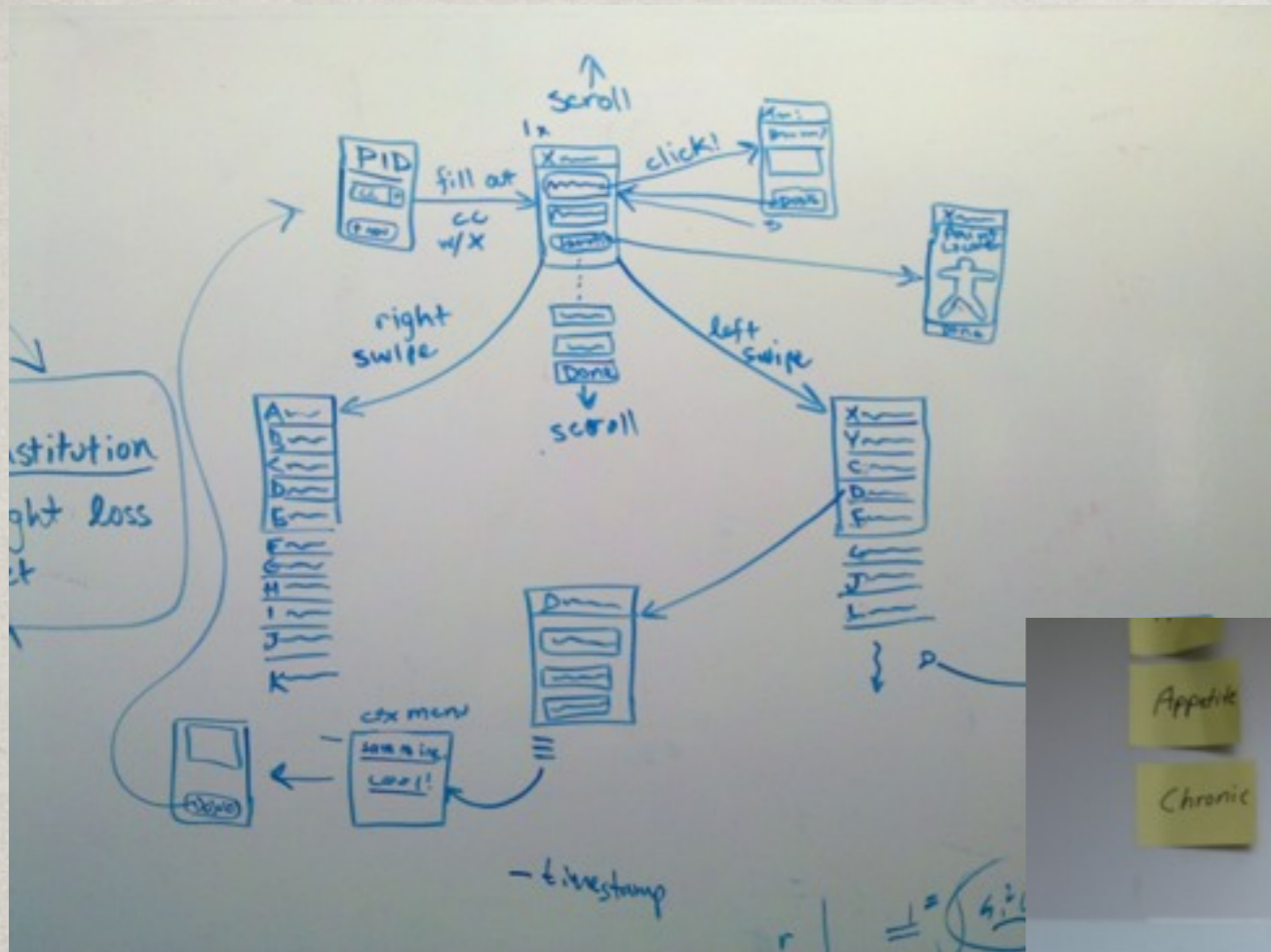
ODK DAO

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REMINDE 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



DESIGN IMPLEMENTATION

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>
  ...
</daoform>
```

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

USER TESTING

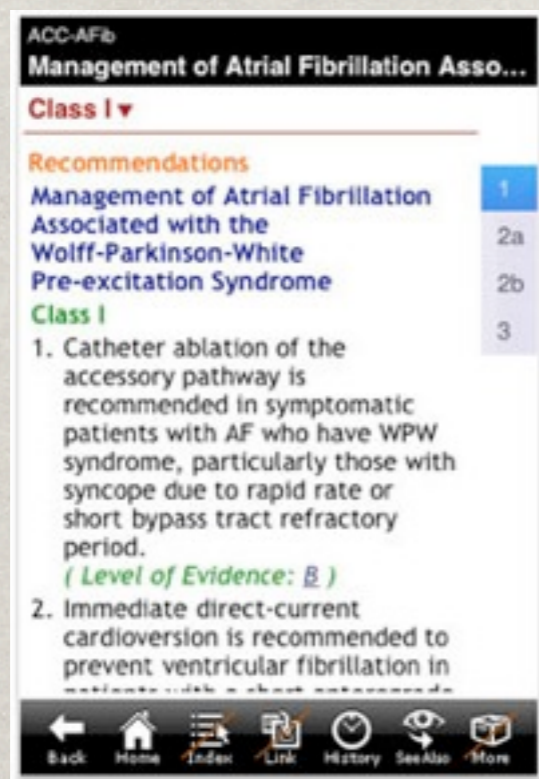
USER TESTING

USER TESTING METHODS

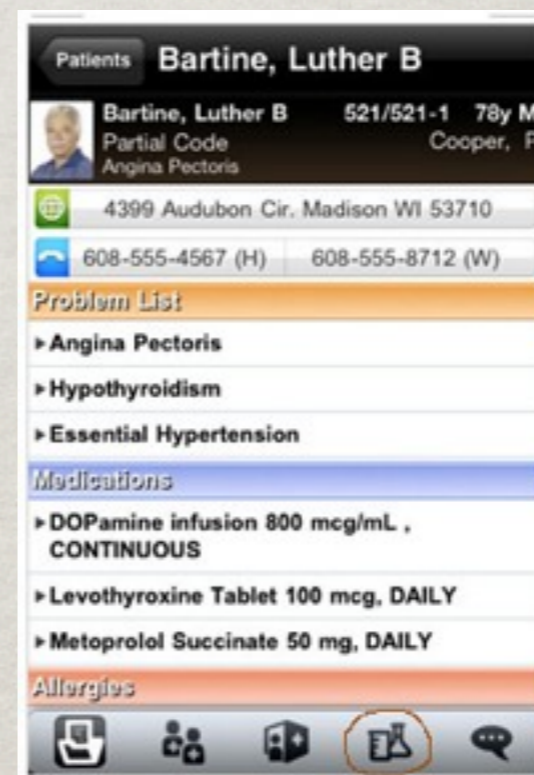
- ✿ Conducted semi-structured interviews with:
 - ✿ 2 Doctors
 - ✿ 2 Medical students
 - ✿ 1 Physician's Assistant
- ✿ Created scenarios for understanding doctor and clinician diagnostic work flow practices
- ✿ Conducted a card sort to identify categories for symptoms and menu items
- ✿ Asked questions 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

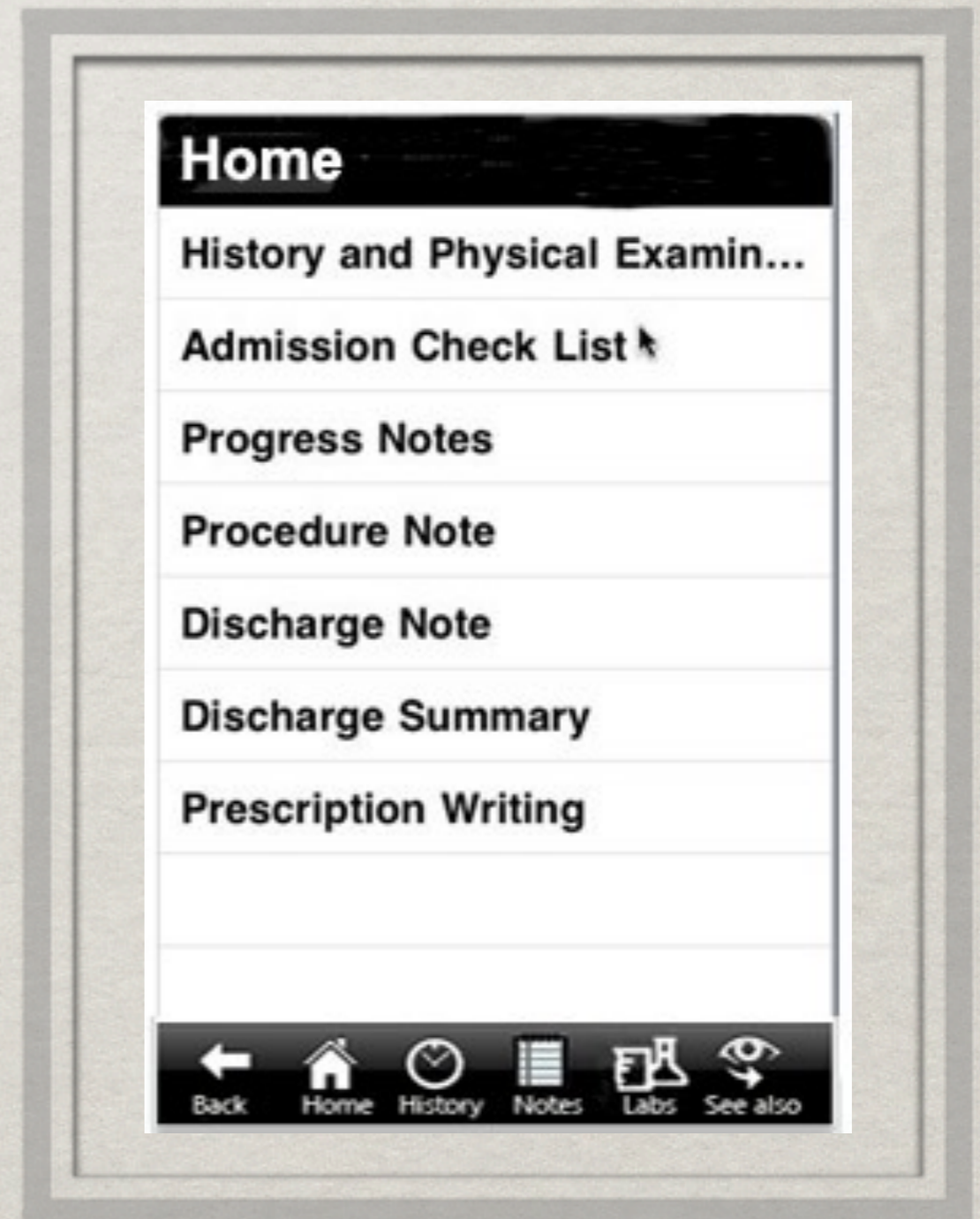


Combined new task bar:



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

The screenshot shows the EPOCRATES ONLINE interface. At the top, there is a navigation bar with a home icon and tabs for DRUGS, DISEASES, m (selected), PILL ID, MEDCALC, and TABLES. Below this is a 'Table Lookup' search bar and a 'Browse: Tables' button. The main content area is divided into two columns: 'Table Categories' and 'Tables'. The 'Table Categories' column lists various medical categories, with 'All Categories' selected. The 'Tables' column lists specific medical topics, including ACEI Dose Comparison, ACLS: ABCD Maneuvers, ACLS: Asystole/PEA, ACLS: Bradycardia, ACLS: Rapid Sequence Intubation, ACLS: Tachycardia, Stable Narrow Complex, ACLS: Tachycardia, Stable Wide Complex, ACLS: Tachycardia, Unstable, ACLS: VF/Pulseless VT, Analgesics: NSAID Subclasses, and Analgesics: Opioid Equivalents. A 'close' button is located at the bottom right of the interface.

Table Categories	Tables
All Categories	ACEI Dose Comparison
ACLS	ACLS: ABCD Maneuvers
Anesthesiology	ACLS: Asystole/PEA
Antibiotic Regimens	ACLS: Bradycardia
Arrhythmias	ACLS: Rapid Sequence Intubation
Calculations/Formulas	ACLS: Tachycardia, Stable Narrow Complex
Cardiology	ACLS: Tachycardia, Stable Wide Complex
Dermatology	ACLS: Tachycardia, Unstable
Diagnostic Aids	ACLS: VF/Pulseless VT
Drug Classes/Groups	Analgesics: NSAID Subclasses
Drug/Dose Comparisons	Analgesics: Opioid Equivalents

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!

