

# User Experience Research

Integrative Seminar

Feb. 7, 2010

Prof. Van House

When

Before the design

During design and  
implementation

After version 1.0...et al.

## Business model

Decisions you need to  
make *before* you design  
your data collection?

Decisions that *depend on*  
data collection?



Many decisions about the content, functionality, users may (or need to) be made *before* you start collecting data.



**Many** decisions require more information.

<http://www.michaelfruchter.com/blog/wp-content/uploads/2009/03/arrows-confusion.jpg>

# Competitive Analysis

For the iPhone,

- Baby Brain
- BabyConnect
- iTrackBaby
- Baby Activity Logger
- NursingLog
- Total Baby
- Baby Geek
- Bant
- Weightbot

For Android,

- Baby ESP

For the web,

- Trixie Tracker
- Keas
- theCarrot
- PatientsLikeMe
- Project HealthDesign

Who Are the  
“Users”?

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Who decides about...?

Who does...?

✧ adoption

✧ data entry

✧ data use

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CHILDREN'S HOSPITAL  
& RESEARCH CENTER OAKLAND





Greater Lawrence Community Action Council, Inc.



# Possible “Users”

## Medical personnel

Doctors

Technicians

Record-keepers

Insurance report  
preparers

Hospital/clinic  
administrators

Insurance companies\*

## Home (and Daycare)

Parents

Nannies, daycare  
providers (regular  
caregivers)

Babysitters (intermittent  
caregivers)

Grandparents, older  
siblings, and others...

# Personas

- Rick – gadget-loving working father
- Angela – tech-shy mother, primary persona
- Scott – academic pediatrician
- Emma – community pediatrician
- Susan – entrepreneurial babysitter



# Who Are the “Users”?

who decides about...?  
Who does...?

✧ adoption

✧ Parents, doctors, insurance  
companies, medical admins...

✧ data entry

✧ Parents, babysitters, nannies...

✧ data use

✧ Parents, doctors

## Need from users

What info do they need?  
In what form? When?

What info can they  
enter? When, how?

Relevant context, e.g.

✧ other tech (e.g. iPhone,  
med records system)

✧ constraints

## Selecting Methods

Info needed?

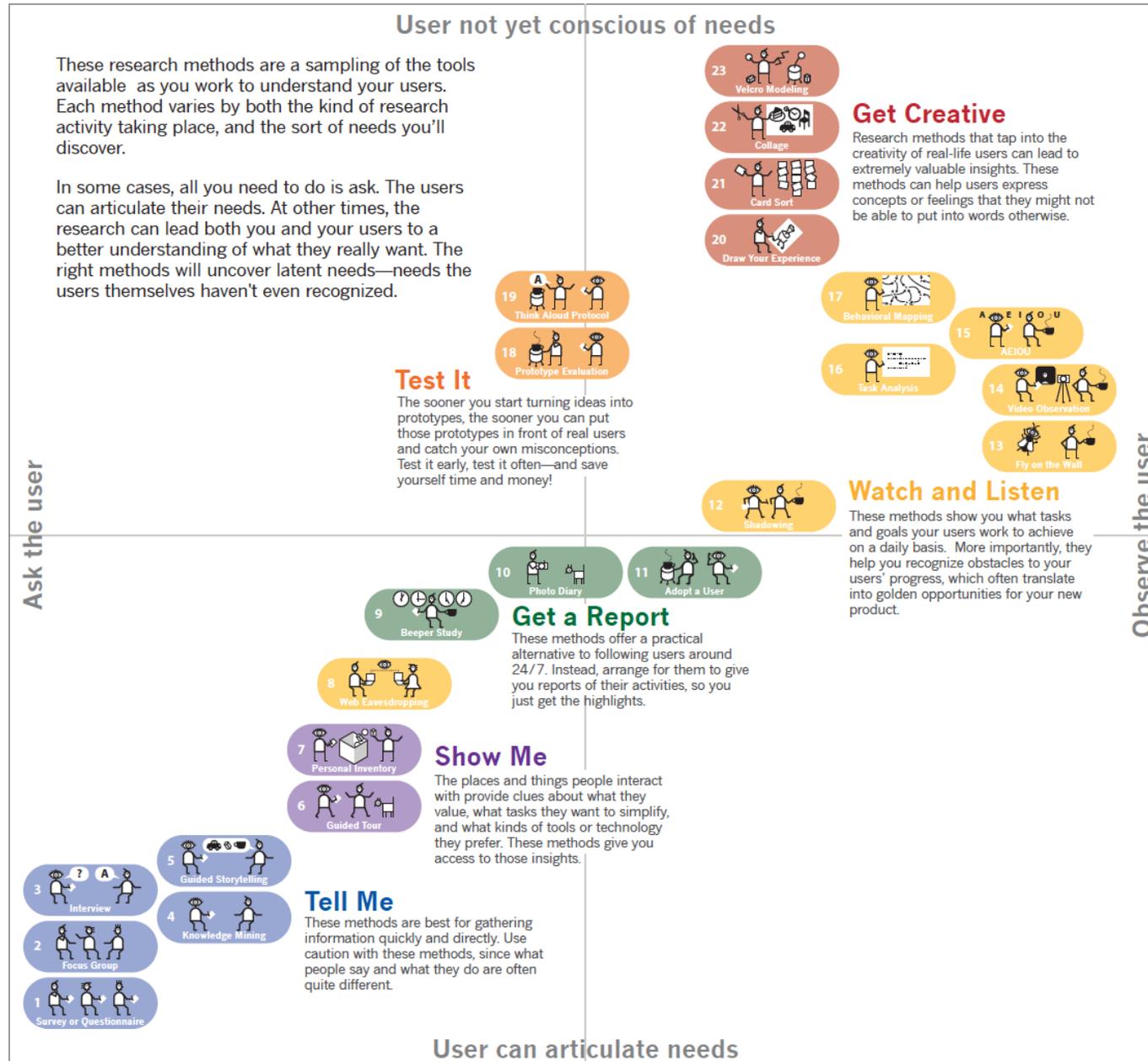
Access to users?

Your time?

How can you go from  
data collection to what  
you need to know?

# Research Toolbox

Twenty-three research methods to discover what your users really want.



## Choosing Methods

End-users or experts?

Many or few respondents?

Distant or F2F?

Quantitative or qualitative?

Your time and theirs?

## Choosing Methods

End-users, intermediaries,  
experts?

Access to respondents?

Many or few respondents?

Distant or F2F?

Quantitative or qualitative?

Your time and theirs?

Project length?

Other resources?

## Methods Used

Key informants (James;  
doctor)

Interviews:

Parents

Doctors (1 group int)

Surveys

Parents

Doctors

User testing of  
prototypes

# Questioning Methods

## Interviews

Few, labor-intensive  
Unstructured or semi-structured  
Improvisational, responsive  
Difficult to summarize and interpret  
Room for surprise  
Usually early; exploratory

## Surveys

Many, easy,  
Highly structured  
Fixed  
Easy to summarize  
Surprises are unwelcome  
Often only after interviews identify key issues



<http://emol.org/music/artists/feinstein/greatamericansongbook.html>

# Who owns what?

As some devices grow ubiquitous in American life, others remain the domain of the young. But Millennials are not always more likely to own certain gadgets – take a look at the following charts to see how your age group’s gadget ownership stacks up.

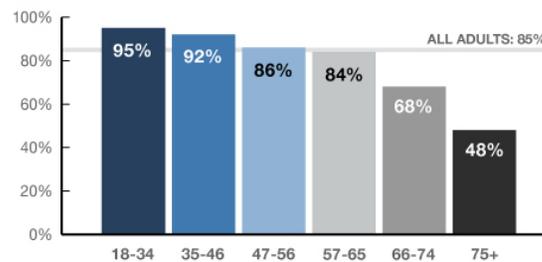
GENERATIONS DEFINED

<b>Millennials</b> AGES 18-34	<b>Gen X</b> AGES 35-46	<b>Younger Boomers</b> AGES 47-56	<b>Older Boomers</b> AGES 57-65	<b>Silent Gen.</b> AGES 66-74	<b>G.I. Gen.</b> AGE 75+
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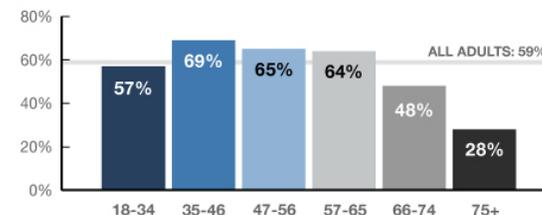
The percentage of adults\* in each generation who own the following devices:

\* "Adults" = Americans age 18+

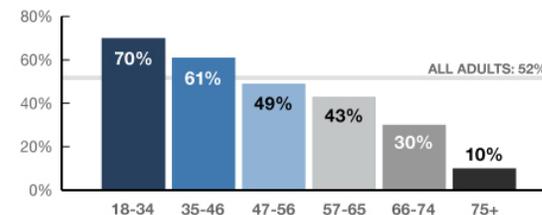
**Cell phone**



**Desktop computer**



**Laptop computer**



**iPod**



# Interviews: Parents

What, if any, data about your baby do you track and keep a record of? Why? What has your doctor asked you to track?

What have you found useful?

What sorts of questions do you want the tracking to answer?

How do you do your tracking? (Show me)

What's easy? What works well?

What's difficult? What doesn't work well?

*If they don't report using a smartphone app,*

- ✧ Do you have a smart phone? Would you use it to track information? why not?
- ✧ Did you try one and it did not work as you hoped? (if so, what were you hoping for)? Cost?

*If they do use a smartphone app:*

- ✧ Show me, describe it, what works, what doesn't, what would you improve?
- ✧ What don't you use at all? What do you wish you had?

Do you have a favorite application (not related to baby)? Show me, describe it. What works etc...

Who do you share the information with?

Do you talk to other parents about tracking baby data?

What do other parents do differently?

# Survey: Parents

## **Observations of Daily Living for Neonates**

We are a group of graduate students at the UC Berkeley School of Information developing a smartphone application for new parents to track observations about their baby. We're very interested in making the application useful and usable. Please take a moment to answer a few questions about tracking data for your baby.

### **Questions**

What, if any, data about your baby do you track and keep a record of?

Why did you decide to track it?

What have you found useful about the data you collected?

What sorts of questions do you want the tracking to answer?

How do you do your tracking?

On paper

With a computer application

With a smartphone application

With a PDA

Some other way (please specify)

What's easy about tracking? What works well?

What's difficult? What doesn't work well?

Do you own a smartphone? If so, what kind is it?

If you have tried electronic tracking applications, did any work for you? Why or why not?

Who besides you would need to add tracking data for your baby?

Who do you share tracking information with?

Would you be interested in helping us test a prototype? If so, please provide your contact information (email or phone) below.

# Interviews: Pediatricians

What types of observations do you recommend that parents keep track of?

what granularity (hourly, daily, ounces, containers)?

What types of observations are useful for you to know about?

What particular questions would you want to answer with ODL data for a baby?

eating

pooping, peeing

sleeping

what format (spoken, image, text, graph)?

What would you need of an image to be comfortable using a picture from a camera phone as part of the information used for diagnosis?

What data of this type would you want to add to the patient's chart?

What challenges do you see for your own use of information gathered this way?

How do you see yourself using this info? (patient printout? log in to GH? log in to our site?)

Would you be comfortable asking patients to buy our application?

Would you be interested in helping us with testing our application?

# Survey: Pediatricians



# Survey: Pediatricians

1. What observational data would you want to add to the patient's chart?
2. Would a photo be helpful for any of the observations? If so, which ones?
3. What would you need of a camera phone image to be comfortable using it for diagnosis?
4. Are you interested in correlations between observations? Which ones?
5. What clinical questions do you hope to answer with observation data?
6. How do you see yourself accessing electronic observation data? (check all that apply)
  - I would ask the parent to bring a paper printout.
  - I would ask the parent to email me the report.
  - I would ask the parent to bring the report on a flash drive.
  - I would ask the parent to show me the data on their smartphone.
  - I would log in to Google Health and retrieve it myself.
  - I would log in to Microsoft HealthVault and retrieve it myself.
  - I would log in to the application provider's web site and retrieve it myself.
  - I would get the data in some other way (please specify).
7. How do you currently use the data that parents track? (check all that apply)
  - I just want the parents to pay attention to the observations.
  - I ask parents to tell me what they think is unusual.
  - I want to review the raw data myself.
  - I use the data to generate other data (please specify).
  - I use the data in some other way (please specify).
8. How would you like to use the data that parents track? (check all that apply)
  - I don't really use the data.
  - I want to review the raw observational data.
  - I want a list of events that are outside normal parameters.
  - I want a summary for each type of observation.
  - I want graphs of the data.
  - I would like something else (please specify).
9. What challenges do you see for your own use of information gathered by parents?
10. How do you currently request that parents track their observations? Do you recommend any particular tools or templates?
11. Would you be comfortable asking parents to buy a smartphone application for tracking observations?

Other methods?



## Diary Study



<http://s3.images.com/huge.42.214164.JPG>



<http://www.coated.com/wp-content/uploads/2010/12/spying-gadgets.jpg>







<http://pregnancyandbaby.sheknows.com/pregnancy/baby/How-to-decorate-the-baby-nursery-like-a-pro-6408.htm>

# Understand the User *Experience*



# Paper Prototypes

