

# Understanding Users: Qualitative Research

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## Introduction



## PRODUCT DEVELOPMENT

- Old way - design a product and try to sell it
- Design thinking way - identify needs and use them as the starting point
- The new way flips the traditional product development cycle on its head.



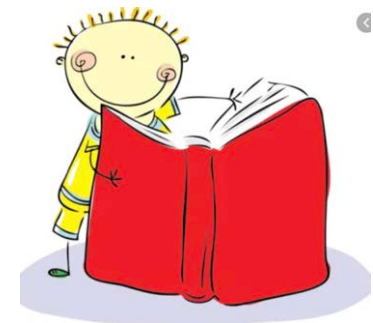
# HOW DO WE IDENTIFY USERS' NEEDS?

- Why don't we just ask them?
  - They either don't know them
  - they may not be able to articulate them

**We offer “qualitative research” as a tool**

## QUALITATIVE VS. QUANTITATIVE?

- Qualitative vs. quantitative to gather data on user behaviors
- Normally we think quantitative methods are valid approaches, but qualitative methods can be equally valid
- Qualitative method is less expensive and more feasible to do
  - you need less users
  - if done correctly, it gives superior results (the ***whys***)



- Behaviors, attitudes, and aptitudes of potential users
- Technical, business, and environmental contexts - the domain - of the product
- Vocabulary and other social aspects of the domain in question
- How existing products are used





## THREE TOOLS FOR QUALITATIVE RESEARCH

1. Domain research (literature review)
2. Competitive analysis
3. User interviews & Observations

**Today we cover the first two**



## Domain Research





## WHAT IS DOMAIN RESEARCH?

- Researching the domain where your product operates
- Consider the following examples:
  - online wine recommender system
  - travel planning tool
  - mobile apps to help people jog better

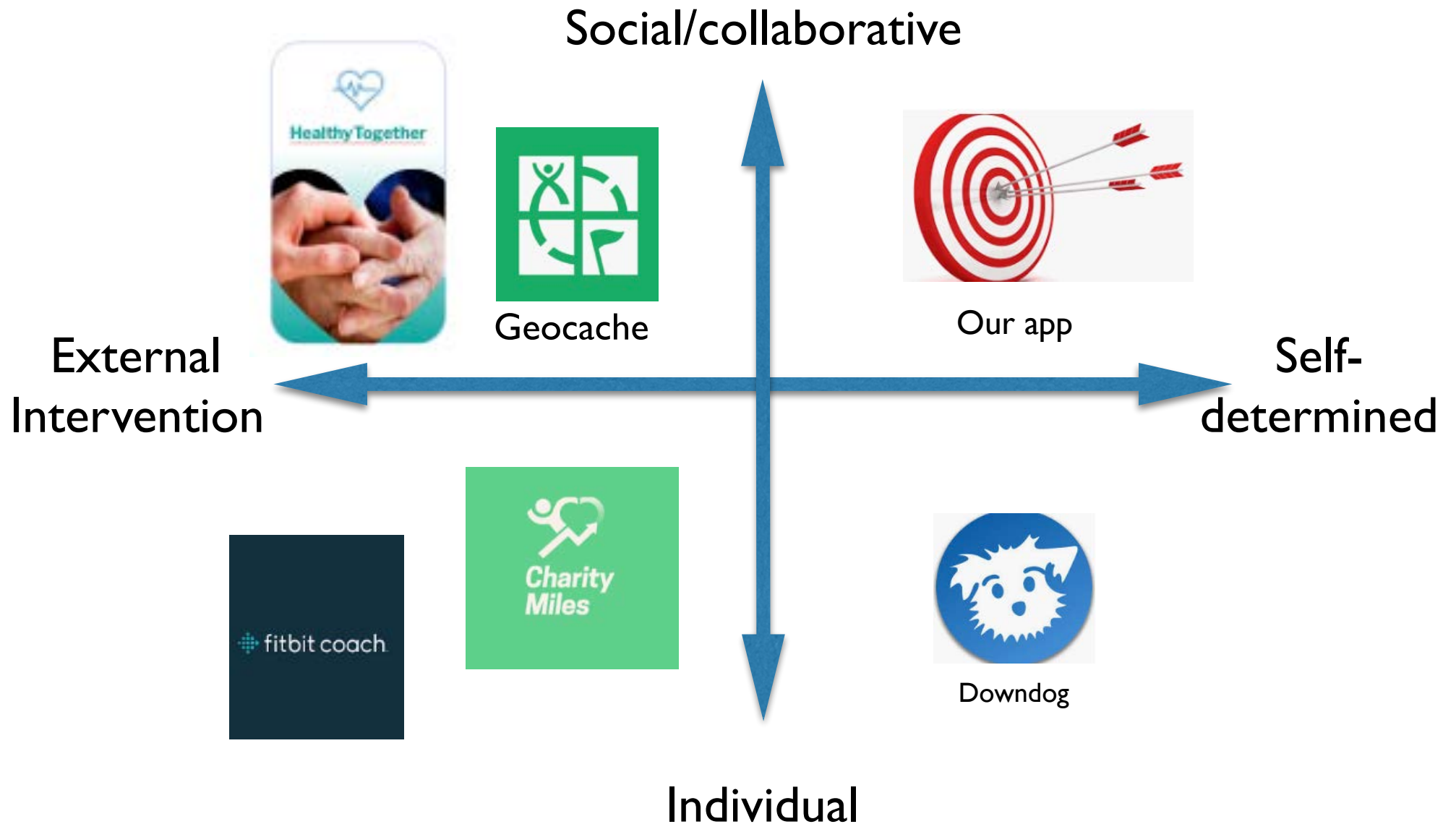


## Competitive Analysis


















## COMPETITIVE ANALYSIS

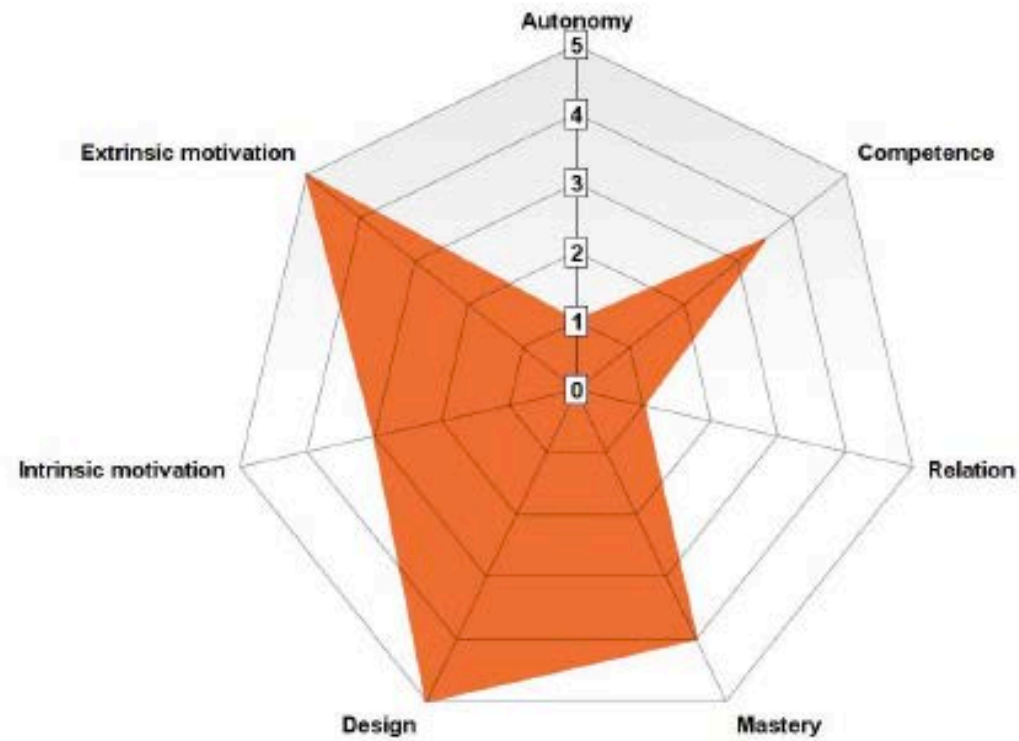
- Survey existing products addressing the same design problem
- Avoid re-inventing the wheel
- Understand what's not being addressed - define your value proposition (unique selling point)
- Tip: try to use one or two competitive products yourself
- Final step: build a competitive analysis map



## Competitive Analysis

	Basic Alarm	Alarmy	Relaxing Melodies	Fitbit
Wake alarm				
Bedtime reminder				
Configurable Sleep music				
Track of sleep				
Sleep log				
Needs an external device				
Offers something innovative for waking up				
Offers something innovative for going to the bed				
Offers any kind of gamification				

# BAD EXAMPLE OF CA



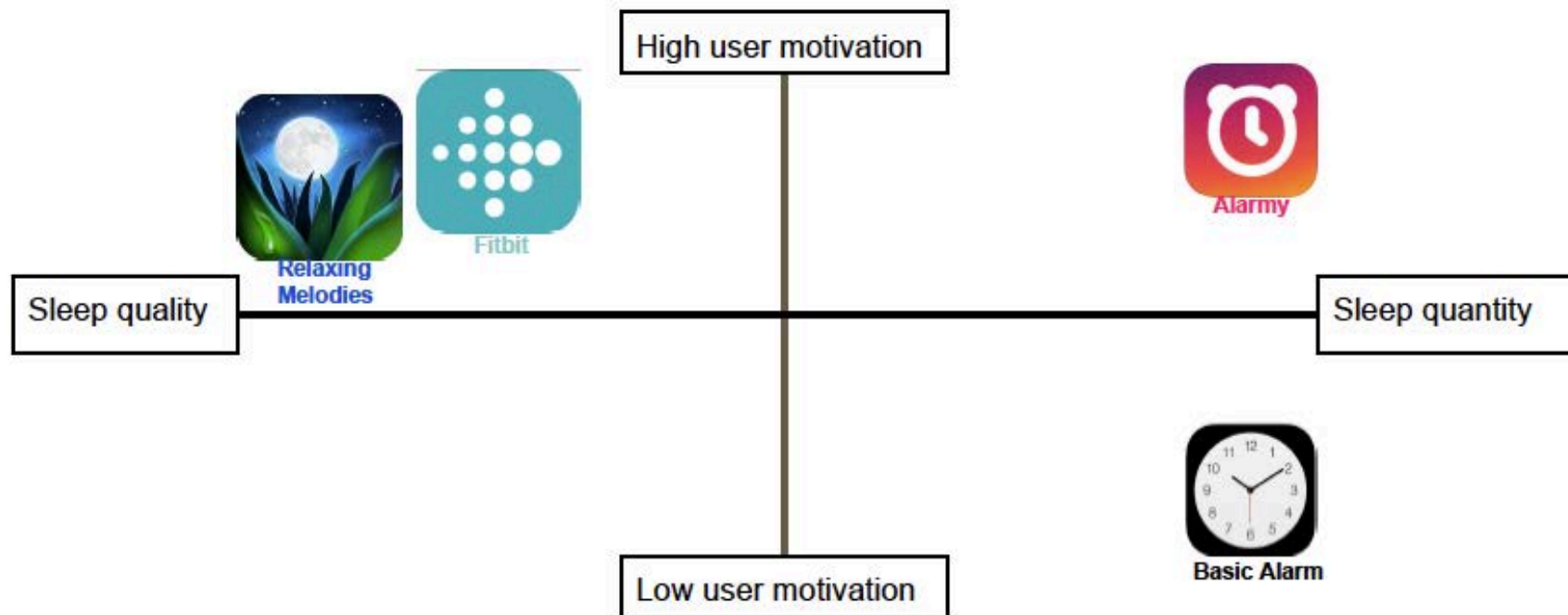
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## WHY?

The competitive analysis includes a nice table of whether the new app has a certain feature or not. But it's not clear in what ways the new app stands out.

## Competitive Analysis Map

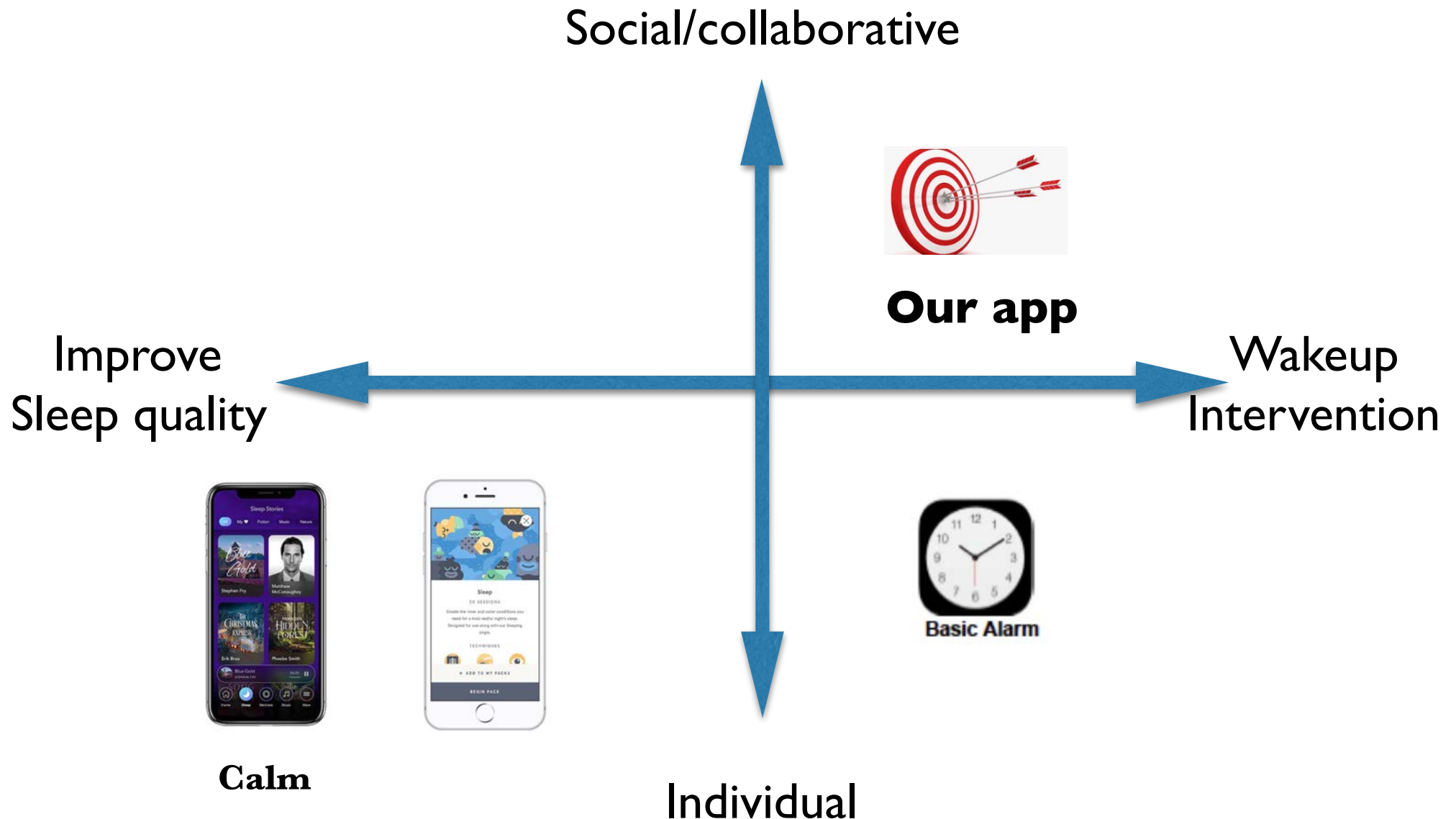




Sleep quantity is usually part of the quality criterion. The criteria forming the opposite axes have to be different.

How can we contrast?

# GOOD EXAMPLE OF CA MAP



## 4

# Ethnographic Study

## BORROW FROM ANTHROPOLOGY

- An ethnographic study (a method borrowed from anthropology) is a qualitative method where researchers completely immerse themselves in the lives, culture, and conditions of people they are studying
- It is a combination of immersive observation and directed interview techniques

**In HCI, we call it qualitative study (QS)**



## USER OBSERVATION

- Please watch Scott Klemmer's video to know more about user observation
- I focus more on user interviews



## WHAT QUALITATIVE STUDY IS NOT

- Not a market survey
- Not a user interface A/B testing
- Not quantitative study
- Not a job interview





## MAIN IDEA OF THE METHOD

- Context - interview users where the app is used (or simulate it)
- Partnership - collaborative exploration in a master-apprentice relationship
- Interpretation - train yourself to read between lines; synthesize the results and inform your design (design implications)
- Focus - direct the interview with prepared guides, but do not follow a fixed set and order of questions
- Understand users' goals and mental models

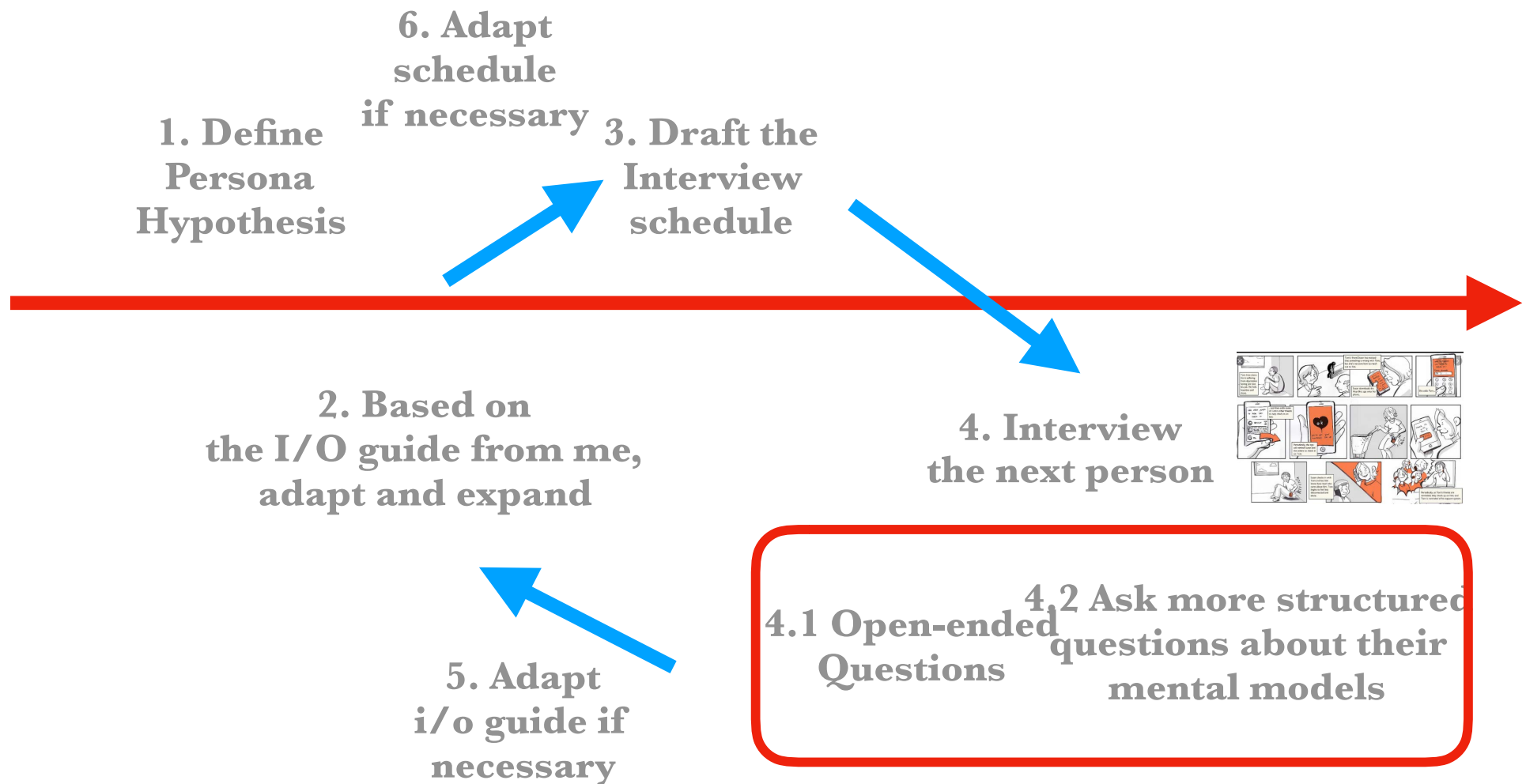




## **PREPARE FOR IO (INTERVIEW & OBSERVATION)**

- Whom to interview
- Planning
- Conduct the IO

# THE PROCESS AT A GLANCE



## 4.1

**Whom to interview?  
How many?**

- Potential users
  - people who are going to be the target users of your system
- Existing users, but also non-users
  - suppose you are designing a better version
  - existing users, but also broaden the user base
- Enthusiastic, but also hesitant users
  - to understand pain points
- Avoid self-referential design
  - you should interview users who are different from you
- Experience level (IT experience)
  - design for the beginners and intermediates.

## SET UP A PERSONA HYPOTHESIS

- What different sorts of people might use this product?
- How might their needs and behaviours vary?
- What types of environments need to be explored?

**Read further on persona hypothesis**










## PERSONA HYPOTHEIS

- Roles
  - People who want to stop shopping
  - People who used to buy a lot and now has stopped
  - Older adults who want to stop but feel they need to experience new things
  - People who are hesitant about stop shopping
- Behavior variables
  - Frequency of shopping
  - Products they buy (clothes, gadgets, accessories)
- Motivations
  - Protect environment
  - Save
  - Have an uncluttered closet

# PERSONA HYPOTHESIS – STOPSHOP

Name	Persona	Demor- graphics	Why
Sophie		Female 20s	potential users
Laura		Female 40s	older potential users
Kevin		Male 20s	male potential users
Francine		Female	Non-user, but can learn from her
Marion		Female	Potential users with different behaviour patterns

**StopShop: Persona Hypothesis Table**



## NEGATIVE PERSONA AND HESITANT USERS

- Negative persona
  - Those for whom you are not designing your app
  - Example: expert users who don't need the desktop interface for using the computers
  - **Do not interview them**
- Hesitant users
  - Those who have very negative attitudes towards your app
  - Interview them and they offer concerns for you to design around



## 4.2

### **Planning for ethnographic study**



## TEAM, TIMING, ETC

- A team of two designers: one who drives the interview and the other takes notes
- A typical interview lasts an hour
- Interview 6 users
- Interview them one at a time, but plan the interview schedule ahead of time
- Recruit them from social circle, bulletin board, mailing list
  - possible to interview them via Zoom, Skype, Goole Meet
- Offer a small gift as token of appreciation



## PHASES OF ETHNOGRAPHIC INTERVIEWS

- Early interviews
  - Exploratory
  - Focus on gathering domain knowledge from the point of view of the user
  - Broad open-ended questions
- Middle interviews
  - Based on patterns you saw in early interviews, ask clarifying questions
- Later interviews
  - Ask questions about user behaviours related to tasks

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**Present storyboard in middle and late phases**



## WHAT YOU WANT TO FIND OUT FROM USERS

1. The context of how the product fits into their lives or workflow: when, why, and how the product is or will be used
2. Domain knowledge from a user perspective: What do users need to know to do their jobs?
3. Current tasks and activities: both those the current product is required to accomplish and those it doesn't support
4. Users' goals and motivations for using the product
5. Mental model: how users think about their jobs and activities, as well as what expectations users have about the product
6. Problems and frustrations with current products (or an analogue system if no current product exists)

Even though that's what you want to know,  
asking them directly these questions is not likely  
to work

You need to ask them about their experiences to  
find answer to these questions

**Asking good questions is half science and half art**

## 4.3

### Open ended questions

- Have a “softball question” (not from the book)
- Interview where the interaction happens
- Avoid a fixed set of questions
- Focus on goals first, tasks second
- Avoid making the user a designer
- Avoid discussions of technology
- Encourage storytelling
- Ask for a show and tell





## *Have a 'softball question' ready*

Please tell me a little bit  
about how you buy  
your clothes?

Could you tell me  
about how you may  
want the website to  
help you....

Please tell me how you  
currently get wine  
recommendations?

# INTERVIEW WHERE THE INTERACTION HAPPENS

- Interview them where they perform their tasks
  - consider this interview a field study
- **Keep your eyes open**
- Don't snoop around without permission, but if you see something that might be interesting, ask to discuss it.







## **AVOID A FIXED SET OF QUESTIONS**

- We don't know enough about the domain to presuppose the questions that need asking
- This doesn't mean we cannot prepare a set of questions before hand
- We just don't want to use a fixed set of them, nor in a fixed order
- You need to develop this set of questions iteratively



## GOAL-ORIENTED QUESTIONS

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- Goals - what makes a good day? A bad day?
- Opportunity - what activities currently waste your time?
- Priorities - what is most important to you?
- Information - what helps you make decisions?



## SYSTEM-ORIENTED QUESTIONS

**If you are redesigning!**

- Function - what are the most common things you do with the product?
- Frequency - what parts of the product do you use most?
- Preference - what are your favourite aspects of the product? What drives you crazy?
- Failure - how do you work around problems?
- Expertise - what shortcuts do you employ?



## ATTITUDE-ORIENTED QUESTIONS

- Aspiration - what do you see yourself doing five years from now?
- Avoidance -what would you prefer not to do? What do you procrastinate on?
- Motivation - what do you enjoy most about your job (or lifestyle)? What do you always tackle first?



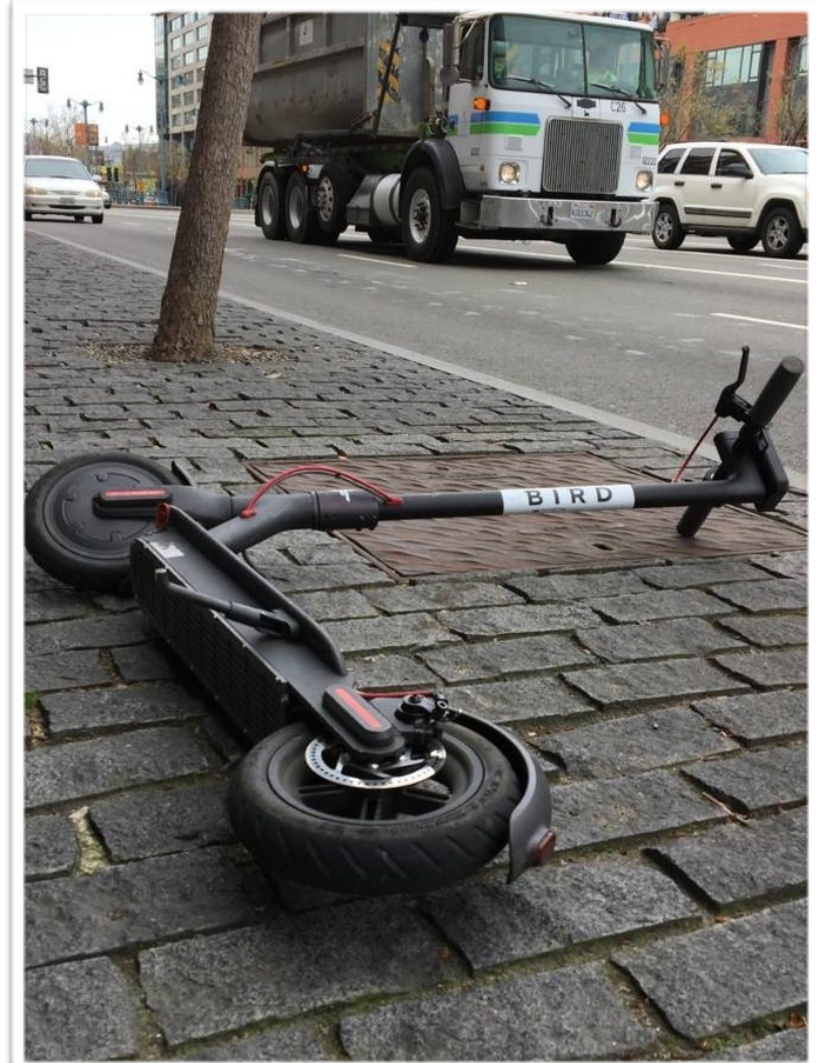
## FOCUS ON GOALS FIRST, TASKS SECOND

- Try to understand the *why* and *how*
  - What *motivates* the behaviors of individuals?
  - How do they hope to *ultimately* accomplish this goal?
- How would they expect to interact with the product to achieve the goals?



## AVOID MAKING THE USER A DESIGNER

- Guide the interviewee towards examining problems and away from expressing solutions
- Sometimes it's a jumping off point to discuss goals
  - What problem would that solve for you?
  - Why would that be a good solution?





## **AVOID TECHNOLOGICAL DISCUSSIONS**

- Don't treat them as a programmer or engineer
- Do not attempt to solve their problems during the interview/observe phase
- Bring the subject back to goals and motivations by asking “How would that help you?”

- Encourage users to tell specific stories about their experiences
  - How they use an existing product (if a previous version exists); what they think of it; what are the problems?
- Encourage stories that talk about typical cases, but also unusual examples
- Encourage them to replay a past situation

### Experience Sampling

## 4.4

# Structured Questions and artefacts



## 3 TYPES OF STRUCTURED QUESTIONS

- How questions
  - How do you currently reduce spending on clothes?
- Yes/no questions
  - Do you by chance ask a friend to help you fight such urges?
- Multiple choices
  - How do you currently reduce spending on clothes?
    - a) sleep over the purchase decision
    - b) ask a friend to help you fight such urges
    - c) think of a cause where you can donate money

**Ask “how” questions unless users have trouble formulating her/his thoughts**



## ASK FOR A “SHOW AND TELL”

- Ask them to show artefacts related to the design problem
  - Those related to the domain
  - Software interfaces
  - Tours of the work environment
- What you want to know from them?
  - ask them to show you how they currently do their activities.

## EXAMPLES OF ARTEFACTS





## AVOID LEADING QUESTIONS

- Examples of leading questions
  - Would feature x help you?
  - You like X, don't you?
  - Do you think you'd use X if it were available?
- Refrain from suggesting answers to users
  - You can bias users with your questions





## AFTER THE INTERVIEW & OBSERVATION

- Compare notes
- Check - are all questions probed and answered?
- New questions worth asking?
  - Add that into the interview guide



## **Tips (material outside of the book)**



# OPEN VS. LEAD QUESTIONS

## Open-ended questions

**YAY**

Who

What

When

Where

Why

How

What were you trying to do?

## Lead questions

**NAY**

Did



Have

Are

Were

Will

Were you trying to do A or B?

- Do you need an intelligent refrigerator? 
  - it's a lead question
  - better approach: probe about her household, how much time she spends making a list of what everyone wants, stocking food and drinks in the refrigerator, etc.
  - it's more valuable to ask users about their lives and their goals
- How often do you go grocery shopping? 
  - it's a hypothetical question which is hard to answer
  - better approach: how often did you go grocery shopping last week? in a typical week?

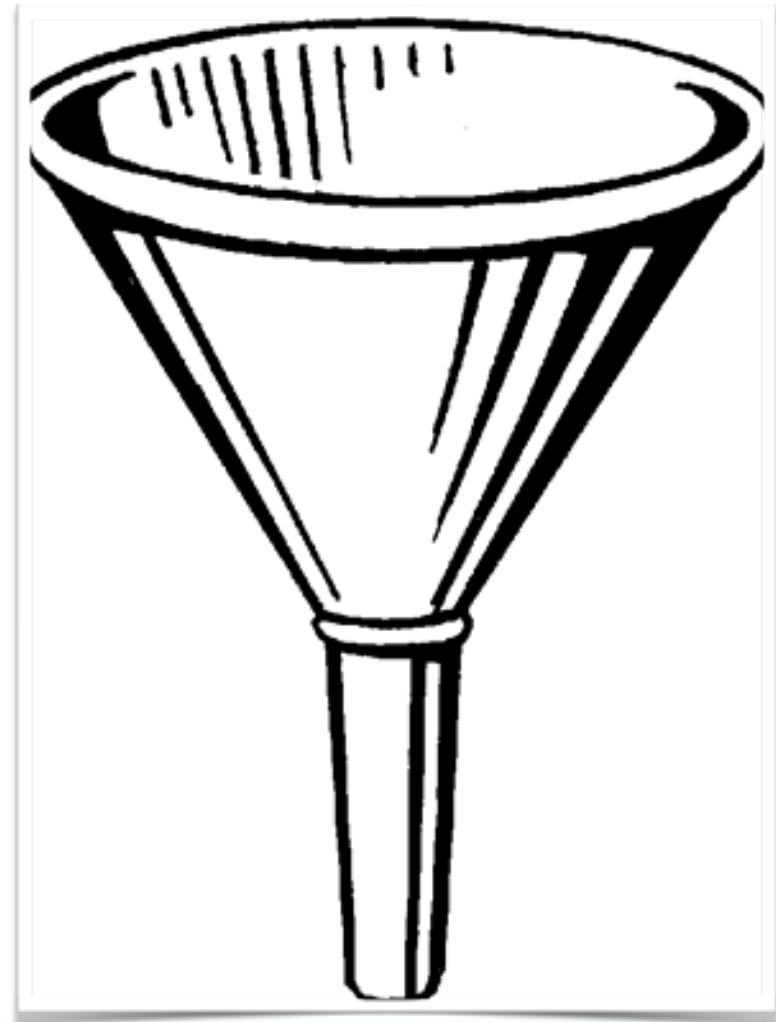


## POLITE WAY OF ASKING WHY

- It's really important to ask why
- But users may not be comfortable with them
  - why were you looking ...?
  - Replace it with
  - Tell me how it was that you came to be looking for this technology solution that day?

## THE FUNNEL OF QUESTIONS

- exploratory questions in the early phase of i/o
- more structured and focused questions in later phases



- Preparation – remind yourself of goals of the interview
- Greet the interviewee
- Settle down
- Introduction of what the interview is about, length
- Inform about anonymity of data, voluntary nature (end at any time)
- Ask permission for audio (start recording), pictures/video
- Warm-up, e.g. with demographic data, general questions
- Interview – **listen, observe, note; focus on questions from slide 37**
- Wrap-up, stop recording, pack-up
- Give a token gift and leave
- Note down additional comments after recording stopped
- Debrief between partners, discuss observations, note down, highlight points, amend questions for next

- **Language.** Refrain from giving too much information about the project, but maintain a hospitable presence
- **Dress.** Dressing too casually or too formally might be distracting
- **Well-planned Procedure.** Greeting interviewee, getting the letter of consent signed, setting up the recording device, preparing well-rehearsed script and considering what questions and concerns the interviewee might ask
- **Other Preparations.** Backup batteries, plug-ins for recording device, pens, quiet place, etc.

(Cone 2007)





## AVOID THESE EFFECTS WHEN ASKING

- **Expectancy Effect**
  - Our expectations as interviewers might shape the outcome of the interview
  - People will tell you what they think you want to hear
- **Third-Party-Present Effect**
  - An interviewee might modify answers due to the presence of a third party
- **Threatening Questions**
  - An interviewee would avoid the questions they think threaten their values, e.g., political questions.

# Don't Judge

e.g. You sure you don't want this feature?



**WHOM YOU SHOULD BE CAREFUL WITH?**



# ***How to deal with difficult people***



## DIFFICULT USERS

- Be careful with users with negative attitudes
  - users who are not ready to adopt your product
  - users who are not enthusiastic about your product
- Ask them why they are not ready
- Turn negativism/skepticism into opportunities
  - identify the impediments
  - identify what can alleviate the concerns



# Listening to body languages



Yes!



Not so much.



***The quiet one***

- **Encourage them to say more**
- How does this (part/page) compare with what you were expecting?
- Could you tell me more about your story on using this device?
- What did you do when the problem happened.



## ***How to keep people talking***

Tell me more...

What do you mean  
by...

What else can you  
tell me about...

Can you tell me  
the story about  
that?

Help me understand  
better





## ***Echoing and rephrasing***

This is confusing...

Confusing...

Yes, confusing. I wasn't sure whether...



## ***Conversational disequilibrium***

I wanted to download that application, but the instructions were so confusing... (trails off and stops talking)

The instructions were confusing?

And you expected...

Confusing?...Because....

So then you...

Mmmm hmmm.



***The chatty one***

- Bring them back on track immediately and politely
- That's really interesting, thanks for telling me about that. To come back to....
- Can I interrupt you? Sorry, I was actually curious if you could...



## QUALIFICATION QUESTIONS FOCUS INTERVIEWERS' ATTENTION

- Ask for qualifications when people talk not about themselves, but about others e.g. *we, everybody, nobody, some people*
- What do you mean by “we”, “everybody”.

# Recording is helpful

Notes are better than nothing





## VIDEO OR AUDIO RECORDING

- Video is ideal
- Make sure you have their trust before using them
- Ask them for consent
- Make sure you don't use the material for other purposes

- We use Qualitative Study techniques to find out
  - the domain where the product will operate
  - vocabulary of the subject matter
  - existing products and opportunities for improvement
  - goals, attitudes, motivations, mental models, behaviors, tasks, and aptitudes of potential product users

