

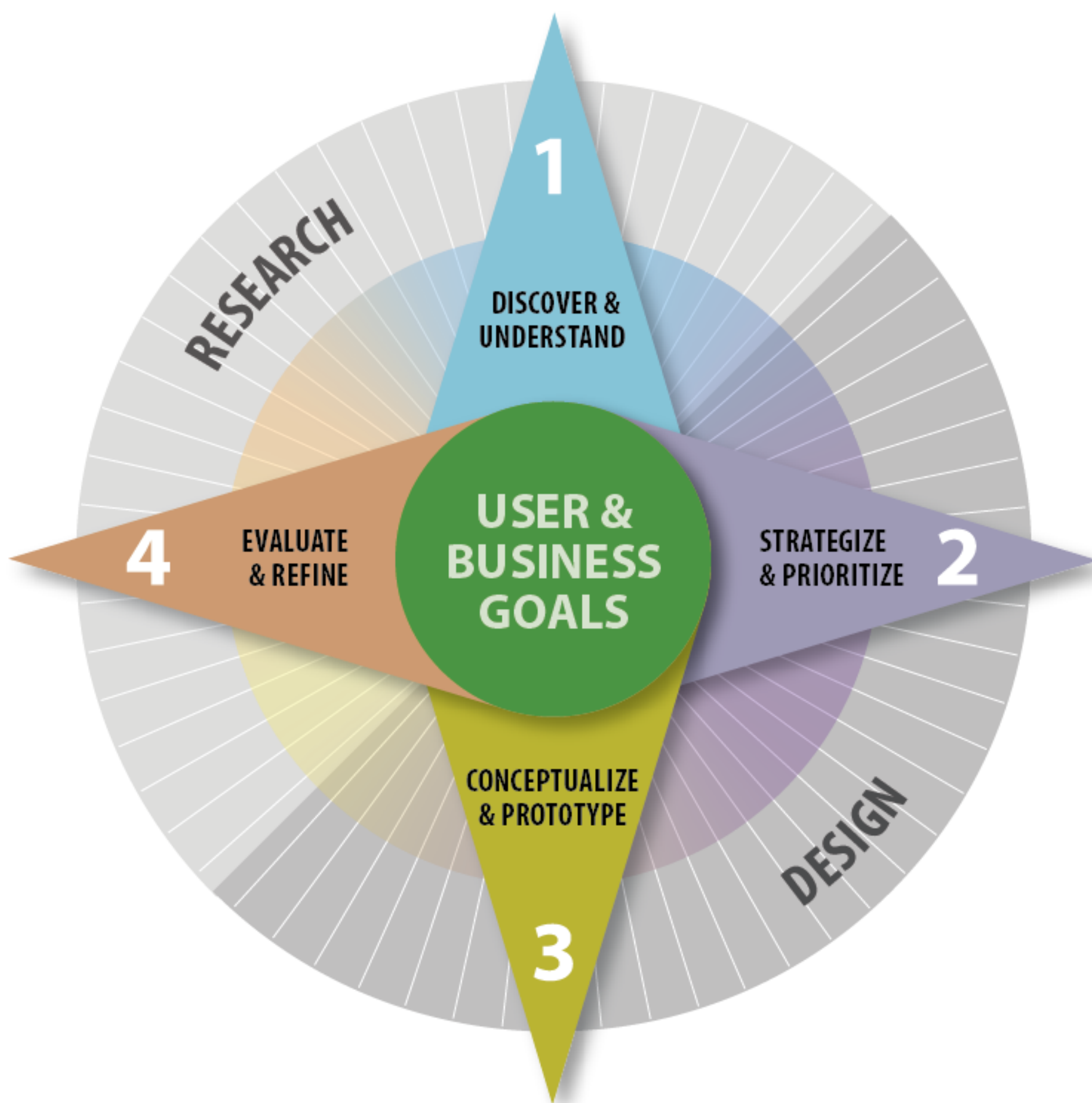
User Research

CMPT 363

“We do not see things as they are. We see things as we are.”

— From the Talmud

*How to understand and
communicate people's needs
and behaviors?*



Topics to Explore

1. Needsfinding

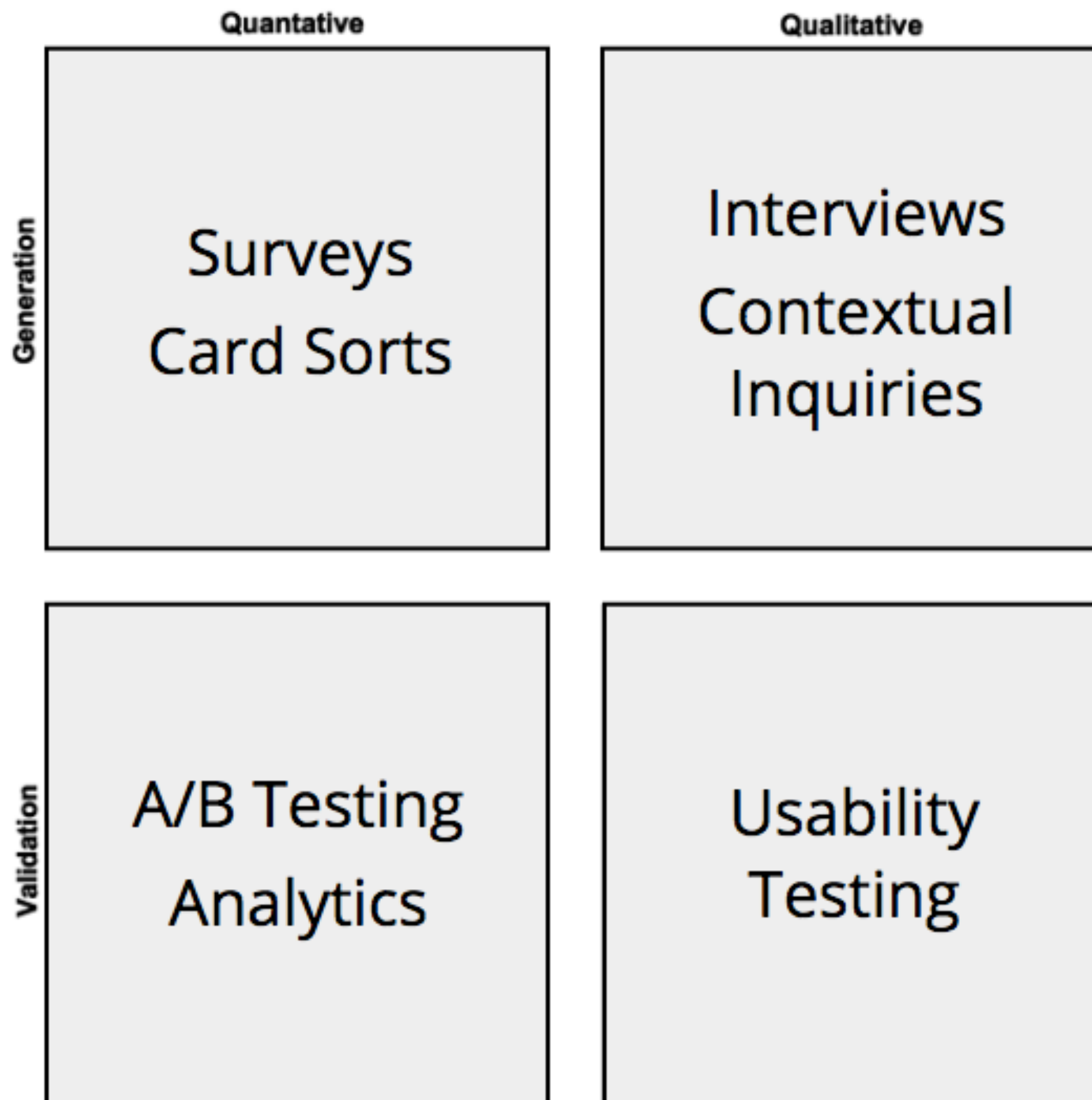
- Interviews
- Surveys
- Contextual inquiries

2. User Models

- Personas
- Proto-personas
- Empathy maps

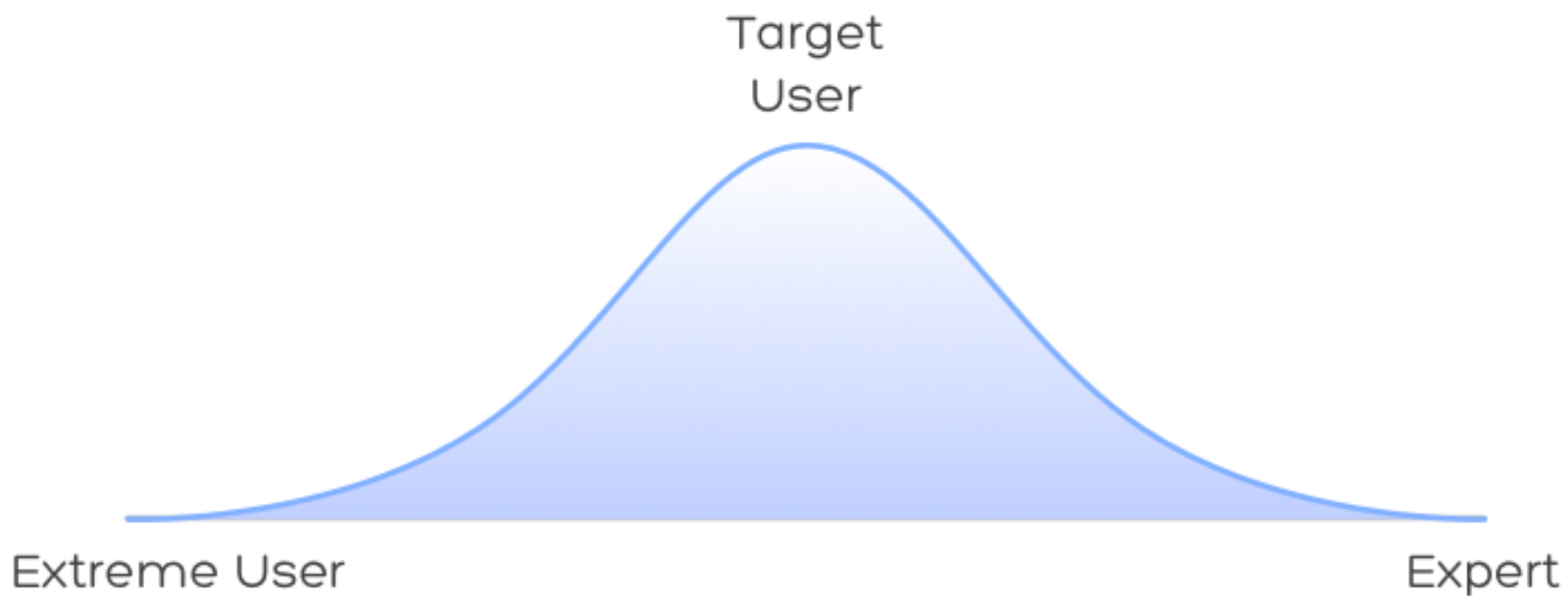
3. Stories of Usage

- Scenarios
- User stories
- Jobs to be done
- Job stories
- Task prioritization



Before You Start Any Research Effort

- Identify the questions you are trying to answer (i.e. five Ws and one H):
 - Who?
 - What?
 - Where?
 - When?
 - Why?
 - How?



User Research

Needsfinding

Here's (another) important
interviewing tip: Don't try to
turn participants into designers

Types of Interviews

- Structured
- Unstructured
- Semi-structured (also called semi-directed)

Structured

A pre-defined set of questions designed to produce shorter answers – often lacking opportunities for true insight

Unstructured

No question script and more open-ended questions – can produce more insightful results

Semi-structured

A core set of questions with ad-hoc questions for more details – insightful and more replicable

Example Semi-structured Interview Questions

- What apps do you use daily? Can you describe the last time you used that app?
- Are these apps used at any specific times or days of the week? If yes, why at those times?
- What app do you find easiest to use?
- How did you learn to use that app? Oh I see, please tell me more about that...
- Why do you find that app easy to use?

Things Not to Ask About

- What might be helpful in the future
- How feature “x” should be designed

Interview Process

- Decide on what you want to learn
- Undertake appropriate level of domain research
- Decide which representative users to interview
- Consider ethical issues (e.g. consent, names, etc.)
- Decide information recording strategy
- Write interview outline, including intro, and conduct pilot-test
- Establish rapport and keep focus on participant
- Start interview with easy warm-up questions
- Present questions in a logical sequence
- Try to elicit stories and emotions
- Be sure to thank participants for their time

Activity: Analyze Interview Video



https://www.youtube.com/watch?v=SgUZbwT_IL8



<https://www.youtube.com/watch?v=KnBX0ShbYxQ>

Developing Interview Questions

- Avoid long questions
- Avoid compound sentences (i.e. > 1 question)
- Minimize hypothetical (e.g. would you?) questions
- Avoid unfamiliar terminology
- Avoid leading questions (e.g. why do you like...)
- Minimize use of yes/no type questions
- Start with easier What and When questions, then move onto Hows, and finally Whys

The Art of Listening

- Be comfortable with silence
- Give participants time to expand on initial thoughts, and ideally to start telling stories
- Provide visual or audio cues that you are focused
- Practice active listening (i.e. reflect back what is said)
- Do not offer your own opinions or thoughts

The Power of Why

- By inquiring why a user does something in a particular way (or even a feature request!) is a very powerful technique to gain insight into user goals
- Why type questions can be seen as threatening sometimes, so try to formulate them in a less aggressive manner

Keeping the Interview Going

- To keep the conversation going try
 - “Uh-huh”
 - “Yes, that’s very interesting”
 - “Oh yes, I see”
- To encourage continuation/show that you understand try
 - Paraphrase or repeat back
 - To get more details try
 - “Tell me more about...”
 - “And what did you do then?”
- To clarify try
 - “If I understand, your saying...”
- To change topics try
 - “Great, now let’s next talk about...”
 - “Let’s go back to something you mentioned earlier...”

Interview Location

Ideally interviews should occur in the same environment that a person would be using the product in (e.g. workplace, home, etc.)

Activity: Interview Questions

PROJECT GROUP

Write down 2-3 key questions that you might ask the primary user group of SFU's myExperience app

Surveys

Online surveys are a natural complement to interviews, and can be useful both before and after interviewing users.

Surveys

Surveys are often best when a large sample size is needed for a number of simple questions (yes/no, multiple choice, item ranking, etc.)

Tips for Creating Effective Surveys

- Keep the overall length of survey as brief as possible
- Maximize closed (i.e. pre-defined choices) questions and minimize open-type (i.e. free-form text fields) questions
- Order the questions in a natural/logical sequence
- The overall time for completing the survey should be < 5 mins.

Time for Questions & Discussion

- What we've covered so far
 - User research methods
 - Types of interviews
 - Interview process
 - Developing interview questions
 - Interview tips
 - Creating surveys
- Coming up
 - Contextual Inquiries

What is a Contextual Inquiry?

Observing people in their own environment perform their actual work with a product

Why Perform a Contextual Inquiry?

- To learn who our are users
- To learn what are their tasks
- To learn what are their values, concerns, and issues

Key Principles

- Context
- Partnership
- Interpretation
- Focus

Possible Methods

- Work-based interview
- Post-observation
- Artifact walkthrough (most common approach)
- Performance-based focus group

Inquiry Plan Outline

- Overall focus
- Specific concerns
- Participant demographics
- Inquiry method
- Inquiry schedule
- Pre-inquiry survey
- Inquiry script, including core interview questions

Inquiry Script Outline

- Introduce yourself
- Restate focus of session
- Set session expectations
- Review confidentiality of information
- Get permission to record (if needed)
- Ask participant interview questions
- When appropriate, “transition” to CI (contextual inquiry) mode and ask participant to demonstrate tasks

Example Interview Questions for a New Product

- Could you describe your current job/role?
- Can you describe a typical workday or week?
- What makes a good or bad workday?
- What activities do you most frequently perform?
- What activities are most important to complete?
- Are there any activities that you would like to change the workflow of? If so, why?
- Are there any activities you would like to reduce or eliminate? If so, why?

Example Interview Questions for an Existing Product

- Could you describe your current job/role?
- Can you describe a typical workday or week?
- On average, how often do you use <product>?
- What are your main goals (reasons) for using <product>?
- What is your general opinion of <product>? What are its strengths and weaknesses?
- What is an example of a key task that you use <product> for?
- How often do you perform that task? Please demonstrate that task.

Probing for More Information...

- Tell me a little more about...
- What are your thoughts about...
- Describe a bit more about...
- Share some more about...
- Talk some more about...
- Help me understand a little more about...

Session Tips

- Perform your own domain research before the sessions
- Ensure to allocate enough time for each session, and between sessions
- If participant wants to vent, let them vent before session begins
- Be vigilant about observation being the majority of the session
- Whenever possible, ensure real tasks are being demonstrated, from start to finish

Session Wrap-up

- Thank participants for their time
- Offer to answer any remaining questions that participants may have
- Would be appropriate to now share any tips and/or ask for their own possible solutions
- If appropriate, ask participants if follow-up contact is ok

Post Session Activities

- Review collected data as soon as possible
- Ensure all data/notes are traceable to individual participants
- Perform task analysis on observed workflows (i.e. flowchart)
- Consider construction of affinity diagram (a hierarchical organization of all notes)

inquiry
(site visits)

3) ANALYSING THE DATA



\$

DAYS		ACTIVITY	
2-3		PLANNING	
3		VISITS	
2-3		ANALYSIS	



<https://www.youtube.com/watch?v=mOWeNnSY5M0>

Time for Questions & Discussion

- What we've covered so far
 - Key principles of contextual inquiry
 - Possible methods
 - Inquiry plan and scripts
 - Interviewing long-time customers
 - Probing for more information
 - Session tips
 - Session wrap-up
 - Post-session activities
- Coming up
 - User Models

User Research

User Models

Personas

“A precise description of our user and what he or she wishes to accomplish.”

– Alan Cooper

Confident learner



Samantha Bell

“I’d love to keep in contact with my friends”

Sam is about to go abroad for her gap year, so her parents decided to get her a new camera, to make sure she’s able to record everything she gets up to.

She likes the camera as it looks so modern, and it’s able to do so much more than a lot of her friends’ cameras.

She loves being in contact with people all the time, and finds it’s a great way to kill time like when waiting for the bus. She uses a lot of the more advanced features – panoramic shots, online upload and .

When she encounters a problem she ignores it most of the time - she’s not sure if she even got a manual with the camera. When she has trouble she can’t ignore she speaks to her friends, or goes into a camera store – she wants to be talked through the problem.

First time user

Female, 27 year old, single
Student

Sam prefers to learn how to things by trying things out by herself. She isn’t worried about ‘breaking’ anything. If she does need help she would prefer to not to refer to a manual but “do it herself”.

Needs

In order of preference:

1. To share pictures with her parents
2. To share her pictures with her friends
3. To share her pictures with people she meets whilst travelling

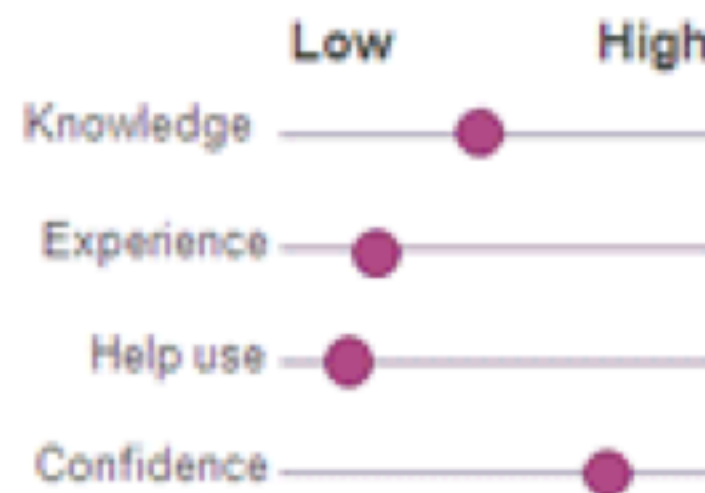
Ideal features

- Ability to take pictures
- Ability to upload images to personal site using 3G/Wifi
- Allowing others to access her pictures remotely
- Long battery life
- Ability to name and add comments to uploaded images
- Ability to create several albums, and upload pictures to each

Frustrations

- Lack of wireless/3G access
- Slow uploads
- Low battery life
- Need to be plugged in to upload images
- Slow shutter speed
- Want to be able to name/add comments to uploaded images
- Getting online is confusing
- Creating new albums

Key attributes



Why Use Personas?

- Designing for everyone is really designing for no one
- Avoids the “elastic user”
- Communicates key user goals and needs
- Builds team consensus
- Improves design decision efficiency

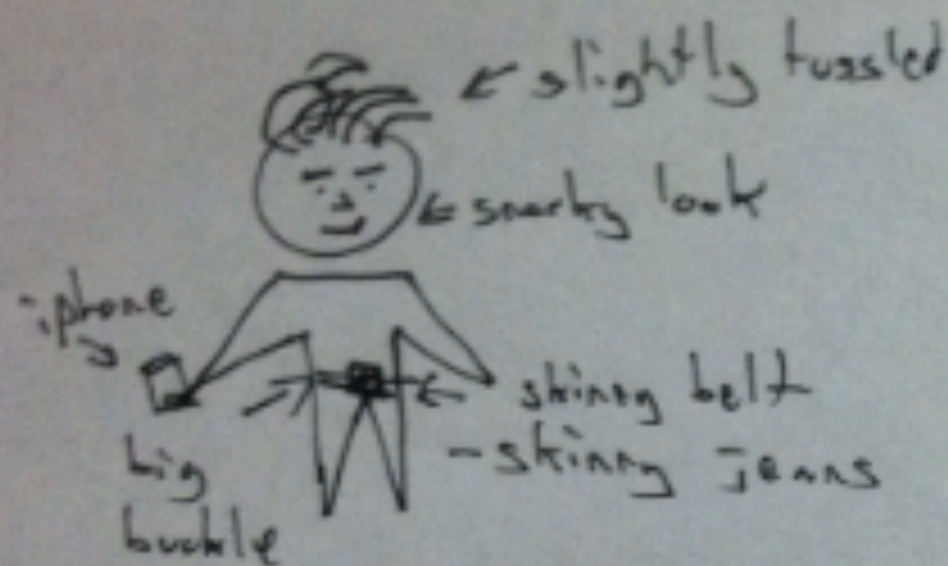
Example Elements for Personas

- Name
- Photo (when possible)
- Occupation
- Insightful quote (related to goals or pains)
- Personal background (i.e. characteristics, skills, knowledge, attitudes, expectations, behavior patterns, environment, interactions, etc.)
- Key goals
- Key actions/behaviours

Proto-Persona

A persona based on our assumptions, but is viewed as a hypothesis to be iteratively validated and refined

Jack



Demo

20-30

male

NTU ~~university~~ grad

~~does not~~ ~~prohibit~~

non-leadership white collar job

econ/politics major

- seeks out
unheard of art/music

Behaviors

- ~~isn't~~ afraid
of criticism

- watches daily show / Colbert
- gets frustrated w/ 24 hour news channels
↳ doesn't watch
- has late night political discussions
- thinks the world needs changing
- gave up blogging
- ~~isn't~~ twitter or tumblr user
- shares on facebook
- does non-profit because it's cool (it impresses the indie)
- comments on blogs
- online extravert

Needs / Goals

- ego gratification
- wants own views represented in media
- wants politicians held to account
- wants to be heard
- engage with humans
- find "cool" stuff and hang out in the "cool crowd"

Elements of Proto-Persona

- Name/Image/Quote
- Demographics
- Behaviors (actions)
- Goals and Concerns

Methods to Help Validate (or invalidate!) Proto-Personas

- Surveys
- Interviews
- Observations
- Domain experts
- Broader distribution
- Usability tests

Empathy Map

An empathy map is a collaborative method to capture and summarize the desires and needs of your audience

THINK AND
FEEL?

HEAR?

SEE!

SAY AND
DO?

PAIN

GAIN

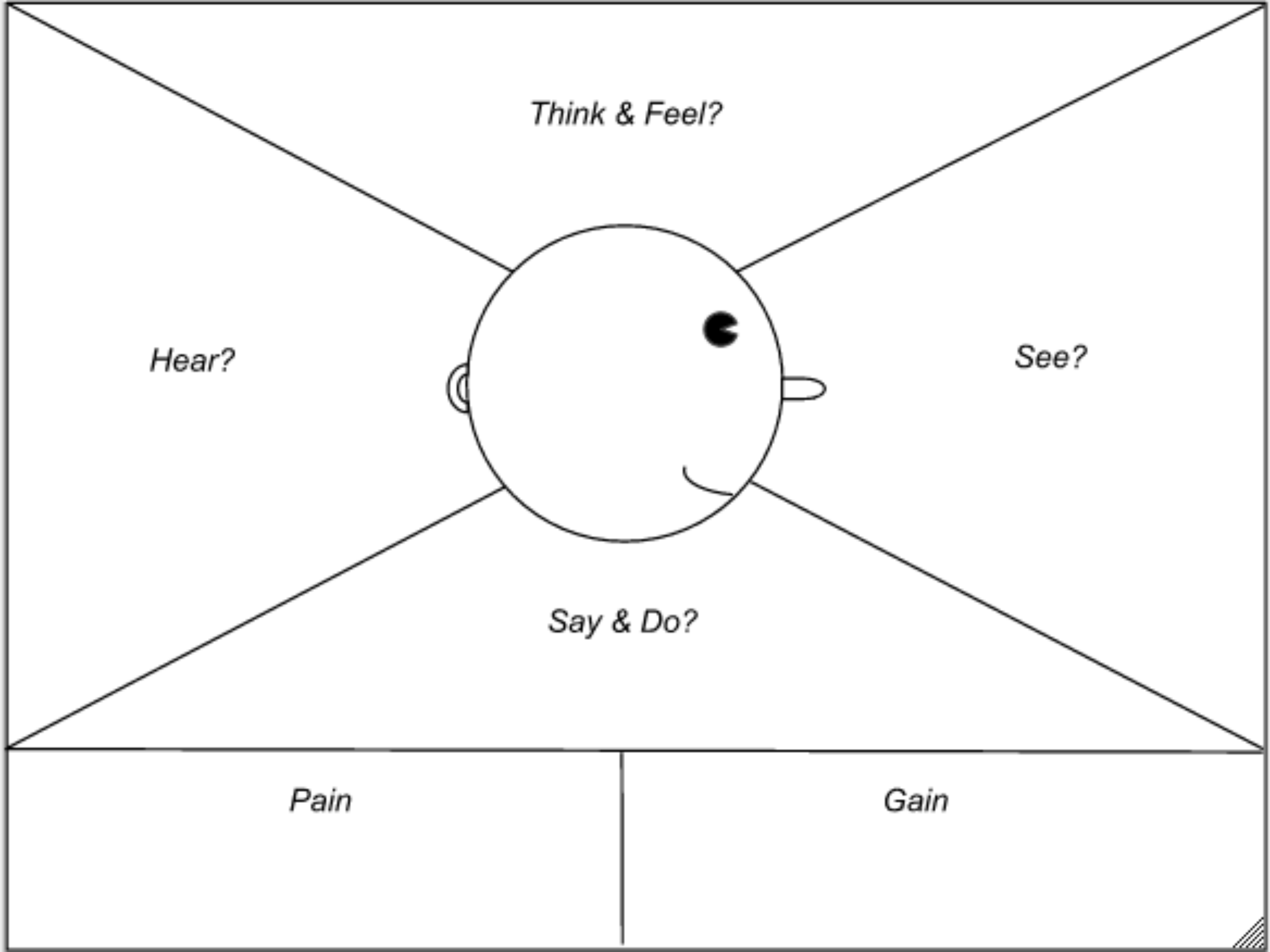


Shakira

Executive Director

Small Foreign
mission society





Think & Feel?

Hear?

See?

Say & Do?

Pain

Gain

Think & Feel?

- What is important?
- What moves them?
- Things on their mind?
- Worries?
- Aspirations?

See?

- What is their environment?
- Who are around them?
- What situations do they see?
- What are the similar products/systems?
- What problems do they see?

Say and Do?

- What do they say?
- What are their attitudes (public and private)?
- What is their appearance?
- How do they behave?

Hear?

- What do their friends say?
- Work colleagues?
- How about what influencers are saying?

Pain?

- Frustrations?
- Fears?
- Obstacles?

Goals?

- Wants and needs?
- How is success measured?
- Strategies for success?



<https://vimeo.com/27832845>

Activity: Personas and Empathy Maps

How do personas compare with empathy maps?

Time for Questions & Discussion

- What we've covered so far
 - Empathy map overview
 - Map elements:
 - Think and feel?
 - See?
 - Say and do?
 - Hear and do?
 - Pains
 - Goals
- Coming up
 - Stories of Usage

User Research

Stories of Usage



<https://www.youtube.com/watch?v=acMXhhdWylQ>

Ways to Represent Stories of Usage

- User Stories (as discussed earlier)
- Scenarios
- Jobs To Be Done
- Job Stories

Scenarios

A description of people and their activities, including reaching their primary goal

Example Scenario

“Emma, a sales manager, needs to arrange a meeting with her 5-member sales team to work out the details of an upcoming promotion. Using the meeting room booking system from her office computer she determines when they can all meet this week and reserves a room with a projector for the meeting.”

User Stories

As a **role**,
I want to **goal/desire**
so that **benefit**

Example User Stories

*As a Central Canadian Bank customer,
I want to withdrawal funds from an ATM
so that I have the cash I need on hand.*

*As a Central Canadian Bank customer,
I want to transfer funds from one account to another
so that I have the funds to cover a large cheque.*

Jobs To Be Done

A framework, or really a lens, to focus on customer motivations

The JTBD Framework

Whatever product you are involved in, considering asking the question, what job is your product hired to do?

What is a Job-To-be-Done?

The premise is simple: customers don't just buy products
They "hire" them to do a job.

*"People don't want to buy
a quarter-inch drill..."*



**The
SOLUTION
(WHAT)**

Product Language – Features & Benefits



*...they want
a quarter-inch hole!"*



**The
JOB
(WHY)**

Job Language – Outcomes & Value

Theodore Levitt
Harvard Business School

Job Stories

A job story is an alternative to traditional user stories to collaborate and capture product requirements

Irrelevant



How do we know this is the best action to take? Maybe there's a better way....



As a _____

I want to _____

So that _____

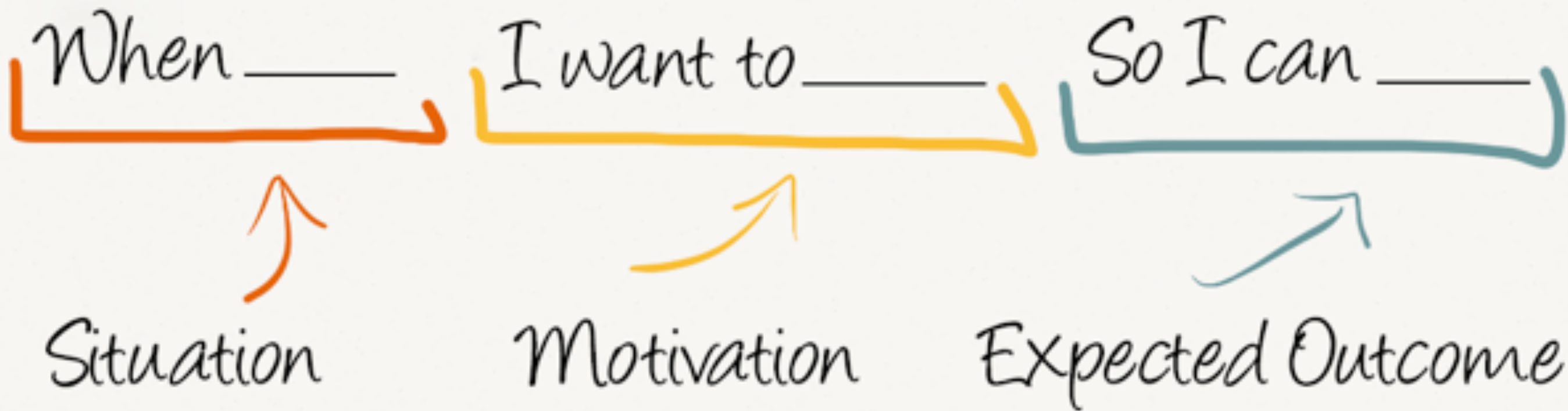
Persona

Action

Expected outcome

Too many assumptions





Example Job Stories

When I am running low on cash

I want to withdrawal funds from a nearby ATM

So I can have the cash I need on hand.

When I need more funds to cover an upcoming large cheque

I want to know ahead of time

So I have the funds to cover the cheque.

Task/Story Prioritization

- Frequency
- Importance

Activity: JTBD

PROJECT GROUP

Write down an 2-3 job stories for the primary user group of SFU's myExperience app

When **situation**,
I want to **motivation**
So I can **expected outcome**

Summary

- Needsfinding
 - Interviews
 - Surveys
 - Contextual Inquiries
- User models
 - Personas
 - Proto-personas
 - Empathy Maps
- Stories of Usage
 - Scenarios
 - User stories
 - Jobs to be done
 - Job stories
 - Task prioritization

References and Suggested Books

- Contextual Design: Defining Customer-Centered Systems by Hugh Beyer and Karen Holtzblatt
- Interviewing Users by Steve Portigal
- Learning From Strangers: The Art and Method of Qualitative Interview Studies by Robert Weiss
- Observing the User Experience: A Practitioners Guide to User Research by Mike Kuniavsky
- Rapid Contextual Design: A How-to Guide to Key Techniques for User-Centered Design by Karen Holtzblatt, Jessamyn Burns Wendell and Shelley Wood
- User and Task Analysis for Interface Design by JoAnn Hackos and Janice Redish

References and Suggested Books

- About Face 3: The Essentials of Interaction Design by Alan Cooper, Robert Reimann and David Cronin
- Lean UX: Applying Lean Principles to Improve User Experience by Jeff Gothelf and Josh Seiden
- Observing the User Experience by Mike Kuniavsky
- The Essential Guide to User Interface Design by Walter Galitz
- The Inmates are Running the Asylum: Why High-Tech Products Drive Us Crazy and How to Restore the Sanity by Alan Cooper
- The Persona Lifecycle: Keeping People in Mind Throughout Product Design by Tamara Adlin and John Pruitt
- The Usability Engineering Lifecycle by Deborah Mayhew

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