Part 5 – Modelling users for proper product design

Users

- The central message or the core of interaction design is: ***the user***
- Yes, the user
  - at the beginning
  - in the process
  - at the end of the design process - (recall user-centered design)

Know your users!

- Who are they? [e.g., age, background, computer experience, etc.]
- Probably they are not like you! (watch out the temptation to design as if you were the main user)
  - Talk to them
  - Watch/observe them
  - Use your imagination
- Some methods for knowing your users (and also for collecting user requirements):
  - Personas
  - Scenarios
  - Questionnaires
  - Interviews, Focus Group Discussions
  - Direct observation and indirect observations … etc.

Having a good list of users helps us understand functional scope

- How many different types of users will use this software?
- What goals will they be in pursuit of?
- What tasks will they need to perform?
- Which of those tasks will the software we design support?

Look closer at the people engaged in using your tool – what about them has relevance to the tool's design?

- What do your users know about using computers? - assuming we're building software
- What do they know about the goal they're attempting to reach?
- Have they done this before?
- How often do they do this?
- When and where are they when they'll use the software you design?
- If they use other software like this – what expectations might they have about your software?

Questions like these help us understand characteristics our software should have to best serve these users

How do we go about describing users in the most relevant way?

The humble “actor” gives a common name for a user type

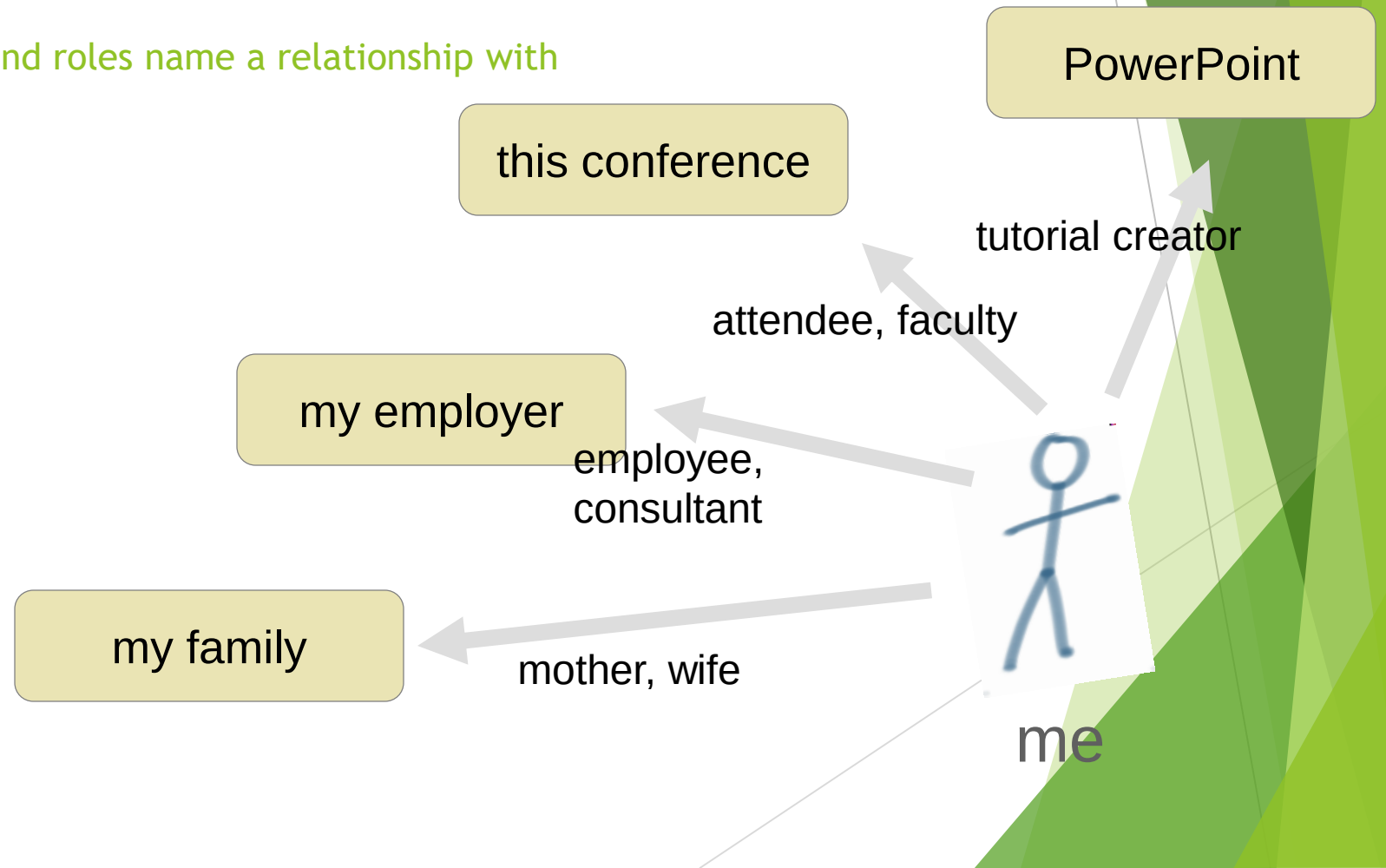
- In use case modeling, actors are people who interact with the system.
- They’re often described using job titles or a common name for the type of user.
  - accounts payable clerk
  - manager
  - cashier
  - customer

The “role” names a relationship between a user type and a process or a software tool

- A user role general refers to a user’s responsibility when using a piece of software or participating in a business process.
  - AP voucher enterer
  - administrator
  - on-line payment checker

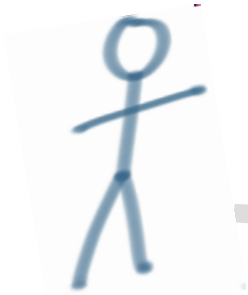
- That relationship may be between a person and:
  - Their organization
  - A business process
  - A Software tool
  - Any other entity

Both actors and roles name a relationship with some entity



Both actors and roles name a relationship with some entity

- An individual may change their role as their goal or responsibility changes.
- Changing roles is like changing hats
- For our purposes, that entity is the software we intend to design



me – a user

PowerPoint

tutorial creator

tutorial presenter

low-fi UI prototyper

Roles decompose into finer grain roles

Some practice thinking about roles

attendee

speaker

SD staff

- Software Development (SD) has come to you and asked you to build them a better conference website. This website will support potential attendees of conferences such as SD Best Practices East, West, and Dr. Dobb's Architecture & Design World. It will need to support the needs of potential attendees, speakers, and SD employees who manage the conference.
- **In a small group – 3-4 people, brainstorm a list of candidate roles for the system**
- **Try using the form "thing-doer" such as "website browser" or "presentation proposer"**
- **Remember the primary rules of brainstorming:**
  - **No discussion – just ideas**
  - **Quantity matters more than quality**
  - **Keep it fun – suggest silly roles**
- **Timebox this to 5 minutes – the team with the most roles wins**

Prioritizing user types is important

- For the software tool we intend to build, which user types are the most relevant to the design?
  - This depends on the business case.
- Why is the software product being built?
- What business objectives do we hope to achieve?
- Which of these user types is it most critical that we support to achieve our objectives.
- Refer to these users types as primary, or focal
- For a typical system, expect 2 or 3 focal users

Choose focal users – the users that best advance SDs business objectives

- With your group, choose 2 or 3 focal roles for the SD's new website.

> "We need to add features to the website to begin to build community all year round.
>
> When people come to the conference, they make valuable connections with each other, we want them to build those connections… to plan on coming next year and continue to grow relationships.
>
> The conferences drive SD."

Profile users to identify relevant characteristics about them

To help us understand the characteristics of our users that might have bearing on our design, construct a profile containing information about the type of user relevant to the software being created.

1. **# of users** that occupy this user type
2. **General responsibilities or activities**
3. **Computer skills**
4. **Domain expertise**
5. **Goals:** how does this software tool help this user reach their goals?
6. **Pain Points:** what nagging problems can this software help solve?
7. **Usage Contexts:** where will this software be used?
8. **Software Ecosystem:** what other software tools does this user type rely on?
9. **Collaborators:** who does this user work with to help reach their goals?
10. **Frequency of Use:** how often is this type of user likely to use this software?

Creating profiles from assumptions and facts

- Quickly creating profiles from assumptions allows us to find out what we do and don't know about our users.
- There's danger in basing critical decisions on software functionality on assumptions. But, before allocating time to research, the assumption based profile will help you estimate how much research you'll need.
- Interaction designer that create personas from assumptions refer them as and **assumption-based persona**, or a **persona hypothesis**

Profile your users using assumptions

Choose one of your focal roles. As a group, for that role, discuss the following characteristics and record them for your focal role.

1. **# of users** that occupy this user type
2. **General responsibilities or activities**
3. **Computer skills**
4. **Domain expertise**
5. **Goals:** how does this software tool help this user reach their goals?
6. **Pain Points:** what nagging problems can this software help solve?
7. **Usage Contexts:** where will this software be used?
8. **Software Ecosystem:** what other software tools does this user type rely on?
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10. **Frequency of Use:** how often is this type of user likely to use this software?

10 minutes

Backfill profiles with facts

- Given assumption based profiles, you can identify the areas where your information is sparse or incomplete. You can use research to backfill your profiles with facts in critical areas.
  - Interviewing users from target user groups
  - Observing users
  - Questionnaires
  - Existing published demographics
  - Existing published research
  - Customer service records and representatives
  - Sales and marketing
  - Usability testing
  - Focus groups

Interview someone nearby

- Interview technique: ask your interview subject to recall a specific event and describe to the best of their recollection how that event took place.
- Ask them to describe their experience reviewing the conference website before deciding to attend.
  - Where were they?
  - How long did it take?
  - What computer equipment or software was used?
  - What did they most enjoy about the experience?
  - What was most annoying about the experience?

Distill your user model to communicate information most relevant to the design of the software

- Of the assumptions and facts gathered, what are most relevant to the design of this software?
- What could you remove to more concisely communicate to:
  - analysts
  - UI designers
  - developers
  - business stakeholders

Personas make user data more tangible

Jutta

Frequent Conference Speaker

"I really appreciate efficient conference organizers – the ones that value my time."

Jutta has an over-stuffed conference schedule speaking at over a dozen conferences a year internationally. She travels to US conferences from Germany where she lives. She has one published book and is working on her second. Speaking at conferences allows her to share her ideas with others, promote her work, and network with colleagues to share information and experience.

Over the years Jutta has learned the idiosyncrasies of various conference presenters. - some are more efficient than others. She appreciate those that are early with reminders for due dates and forthcoming with information she needs to put together submissions. She's on some conference website every month – but they all vary a bit and it's frustrating to find the critical information she needs on a particular website she only sees once every few months.
She's been using computers since she was young, and although much of her work is done talking with people and facilitation collaborative work, she's proficient on the Windows based applications she spends time on every day.
Feature Opportunities
Email reminders with iCal Calendar entries, downloadable presentation templates, on-line submission status, on-line counts of tutorial registrants
Design Imperatives
Quick to find important dates and venue information. Easy to learn because of infrequent use. Verbose

- Profiles contain general characteristics about your groups of users.
- A persona in an archetypal user that is derived from specific profile data to create a representative user.
- A persona is more tangible, less ambiguous, easier to envision, easier to empathize with.
- Personas with irrelevant or stereotypical information in them will damage user understanding and empathy.

Characteristics of a good persona

- Name
- A role or job title
- Quotes in the personas language
- Relevant demographics
- Descriptions that reveals goals, motivations, pain points
- Descriptions that describe primary activities this user type will engage in.

Build a simple persona from your profile data

- Include:
  - Name
  - A role or job title
  - Quotes in the personas language
  - Relevant demographics
  - Descriptions that reveals goals, motivations, pain points
  - Descriptions that describe primary activities this user type will engage in.

your details here

How do we make this user model relevant?

Feature opportunities describe the good ideas that result from thinking about your users

- As you discuss, speak with, and observe your users, you'll get great ideas for product features – features that will really help your users.
- Include these feature opportunities in your profile or persona

Design imperatives describe good characteristics the software should have based on the user type

- Inside your user profile are clues about the type of user interface and user interface characteristics needed by your user.
- Document these as design imperatives.

- Think about:
  - ease of learning
  - retention of learning
  - efficiency of interaction
  - reliability of interaction
  - user **satisfaction**
  - user **convenience**
  - necessity for **proficiency**
  - importance of **accuracy**

Discuss and record feature opportunities and design imperatives

- What feature opportunities are particularly valuable to this user type?
- What characteristics must the design have to be suitable for this user type? (design imperatives)

- **ease of learning**
- **retention** of learning
- **efficiency** of interaction
- **reliability** of interaction
- user **satisfaction**
- user **convenience**
- necessity for **proficiency**
- importance of **accuracy**

User modeling distilled

1. Identify actors or roles - take your pick, or mix as you see fit
2. Prioritize based on relevance to the product's business case
3. Profile to identify details relevant to design
4. Personify to better communicate user types
5. Identify feature opportunities
6. Identify design imperatives
7. Communicate your user model with their relevant feature opportunities and design imperatives – this communicates the relevance of your user model

We design and build software to create value for the business that pays for it.

Value doesn’t usually come from the delivery of the software, but from the use of the software.

Understanding users is critical to getting value out of our software.

Modeling users is a simple first step to clearly communicating our design target to everyone involved in software design and development.