CS449/649: Human-Computer Interaction

Spring 2017

Lecture II

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Assignment 1

1. Understand your users
2. Translate needs into functionalities
3. Create design ideas
4. Prototype design
5. Test & Evaluate
6. Build final version
1. Identify key objectives and desired outcomes
2. Identify corresponding critical aspects of the user experience
3. Identify the design work that can be done
Value Proposition

A promise of the value you can deliver; a sharp product definition that highlights the key aspects of it.

Often reflected in slogans:

- “Relationships Matter”
- “Watch TV programmes and films anytime, anywhere.”
- “Connect with friends and the world around you on Facebook”
- “Broadcast Yourself” (2005–2012)
- “The simpler, safer way to get paid.”
Value Proposition

A promise of the value you can deliver; a sharp product definition that highlights the key aspects of it.

- **What do you do?**
- **Who is it for?**
- **How will it help?**
- **Why you?**

**Assignment 1:**
- Description of the project
- Goals and Hypotheses
- Target user groups
- Description of the project
Value Proposition Canvas

Product

Benefits

What does it feel like to use your product?

Experience

Features

How does your product work?

Customer

Wants

What are the emotional drivers of purchasing?

Fears

What are the rational drivers of purchasing?

Needs

What are the hidden needs?

Substitutes

What do people currently do instead?

Company:

Product:

Ideal customer:

Created by Peter Thomson
## Value Proposition

A promise of the value you can deliver; a sharp product definition that highlights the key aspects of it.

<table>
<thead>
<tr>
<th><strong>What do you do?</strong></th>
<th><strong>Who is it for?</strong></th>
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<tbody>
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<th><strong>How will it help?</strong></th>
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What do you do?  
Who is it for?

How will it help?  
Why you?
Value Proposition

A promise of the value you can deliver; a sharp product definition that highlights the key aspects of it.

What do you do?  Who is it for?

How will it help?  Why you?
Your Users

User groups
- Set of characteristics
  - Based on statistics
    - General

Personas
- Fictional character
  - Based on statistics
    - Specific
User groups

Your Users

Set of characteristics
Based on statistics
General

Demographics:
- Age & Gender
- Country & Language
- Education
- Occupation
- Residence
- Income
- Family status
- Size of a family
- ...

Other Characteristics:
- Means of transportation
- Music preferences
- Hobbies
- Food preferences
- Device preferences
- Fashion & clothing style
- Haircuts
- Sport preferences
- ...

...
Your Users

Personas

Best practice: 3-5 different personas

- Persona Group
- Fictional name
- Job titles and major responsibilities
- Demographics (age, education, family status, etc.)
- The goals and tasks when using the product
- Physical, social, and technological environment

Fictional character
Based on statistics
Specific

Important for:

- Building empathy and relating to users
- Communicating design goals
- Staying focused of design goals
- Supporting decision-making

Reading: The origin of personas by Alan Cooper
How to build your creative confidence | David Kelley
Your Users

Participants

Representation of user groups

Diverse but generalisable

Balanced around key differences

How many?
Why You Only Need to Test with 5 Users

by Jakob Nielsen

\[ N \left(1-(1-L)^n\right) \]

Where \( n \) is a number of users, \( N \) is the total number of usability problems, \( L \) is the proportion of usability problems discovered while testing a single user. The typical value of \( L \) is 31\%
Why You Only Need to Test with 5 Users by Jakob Nielsen
Your Users

- Representation of user groups
- Balanced around key differences
- Diverse but generalisable

Participants

- How many?

For this course 3-5 participants
Your Users

Ethics
Your Users

Why would the university have ethics requirements for a course?

Always respect participants!
Including their:

- Time
- Attitude and environment
- Desire for privacy

University has a formal process for Ethics.
They consider:

- Recruitment
- Voluntary participation
- Confidentiality and anonymity
- Risks/benefits
- Fully informed consent

Process and protections ensure study is done correctly with proper forethought
Your Users

Ethics

Principles:

- Respect for human dignity
- Respect for free and informed consent
- Respect for vulnerable persons
- Respect for privacy and confidentiality
- Respect for justice and inclusiveness
- Balancing harms and benefits
- Minimizing harm
- Maximizing benefits

Research Ethics Board (REB) at Waterloo can:

- Approve, reject, propose changes, or terminate any work with human subjects by members of the university. This includes you.
- REB consists of five members (both men and women)
  - One member knowledgeable in ethics
  - Two members have expertise in fields covered by REB
    - One member knowledgeable in biomedical law
    - One member from outside university
- Goal is breadth – want a balanced perspective on projects being examined
Your Users

Ethics

Informed Consent:
- Full Disclosure
- Comprehension
- Voluntariness
- Competence
- Agreement

Voluntariness:
- Subjects can refuse to answer and can stop participating at any time
- If they say they don’t want to participate, their involvement is done
- Never, ever push subjects for information they cannot or do not want to disclose

Partial consent:
- They can consent to all or part of process
- Consider consent forms
- Make them aware of selective exclusion
IDEO Shopping Cart (21:15 min)

Tim Brown: Designers -- think big! (16:42 min)
Questions:

- Differences between UI, UX and usability
- Steps in user-centered design cycle
- Mobile first design principle
- Value Proposition: what is it, why we need it and 4 components
- Users:
  - User Groups and Personas - differences, how to identify and describe, how to use
  - Forming groups of participants for user studies
  - Ethics in human research

Names:

Don Norman, Jakob Nielsen, Alan Cooper, David Kelley, Tim Brown