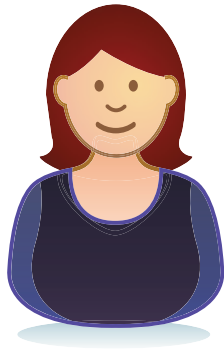# METHODS FOR **USER RESEARCH** IN **USER-CENTERED DESIGN** & UX-WORK

+ *BONUS:* ***UX***-*WORK IN* ***AGILE*** *SETTINGS*

Miriam Begnum, NTNU

OVERVIEW

1. about ME

2. OVERVIEW of the UX-field

3. UCD - User Centered Design

4. User Research

5. an anecdote about PARADIGMS
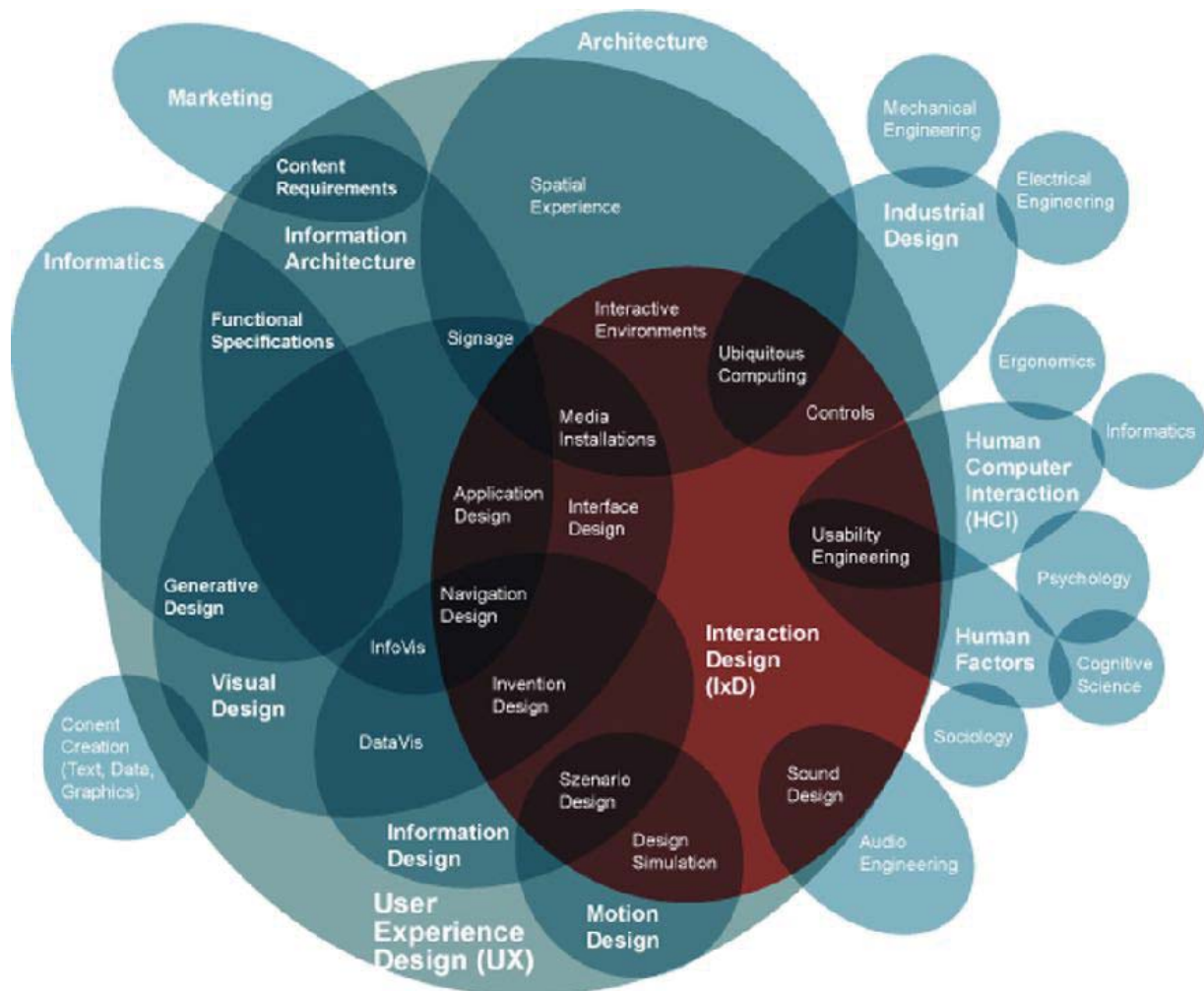
6. UX in an agile setting
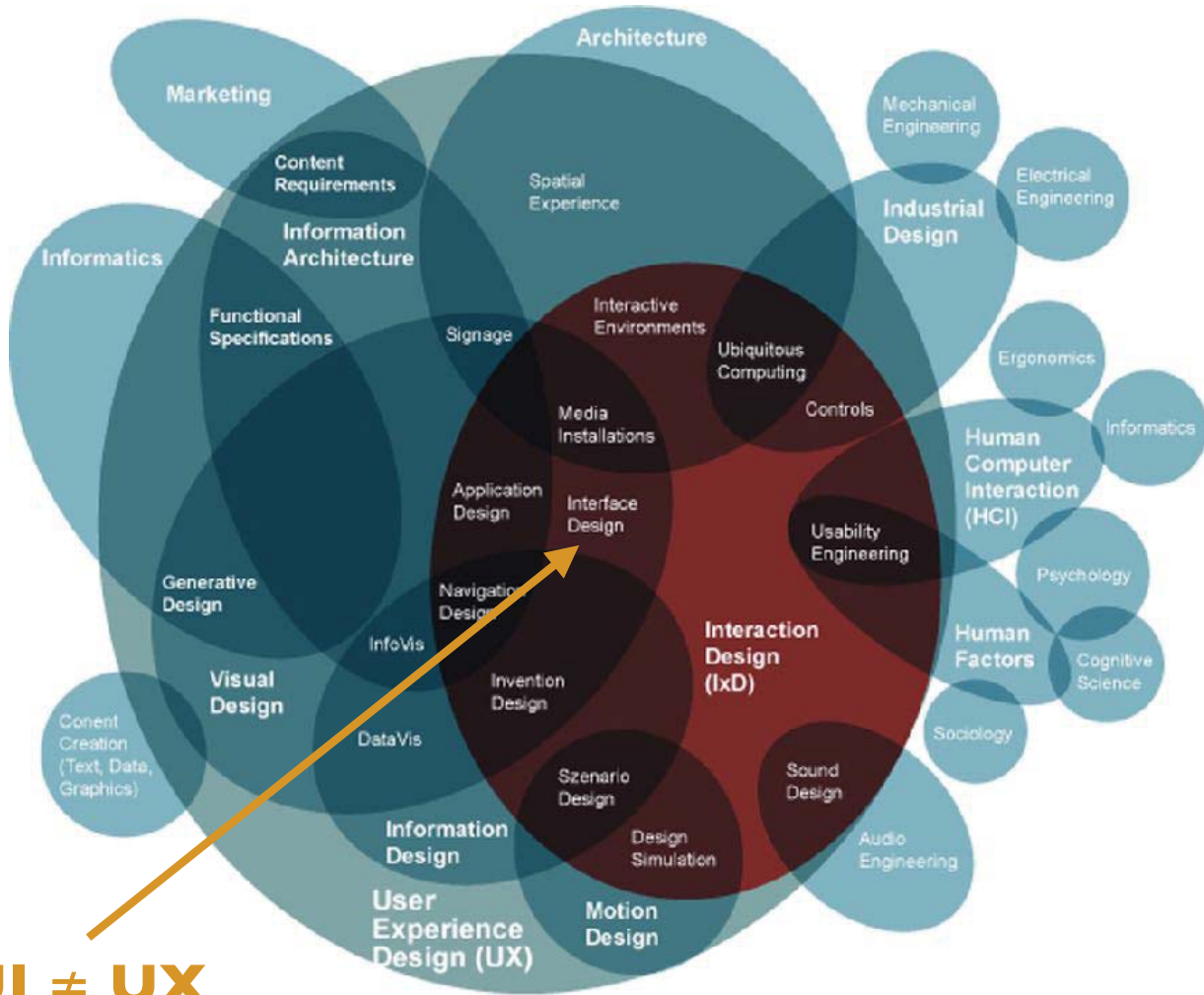
MIRIAM

miriam.begnum@ntnu.no

Skype: miriam.begnum

- UiO, Informatics

- NTNU CS PhD, UX-track

- Universal Design of ICT

« It is the **user** and the **context of use** that is the benchmark for evaluation of a product or service. »
- *Sintef*

2. THE UX-FIELD

Marketing

Architecture

Content Requirements

Spatial Experience

Information Architecture

Informatics

Functional Specifications

Signage

Mechanical Engineering

Electrical Engineering

Industrial Design

Interactive Environments

Ubiquitous Computing

Media Installations

Controls

Ergonomics

Informatics

Application Design

Interface Design

Usability Engineering

Human Computer Interaction (HCI)

Generative Design

Navigation Design

InfoVis

Invention Design

Interaction Design (IxD)

Psychology

Human Factors

Cognitive Science

Visual Design

Conent Creation (Text, Data, Graphics)

DataVis

Szenario Design

Sound Design

Sociology

Information Design

Design Simulation

Audio Engineering

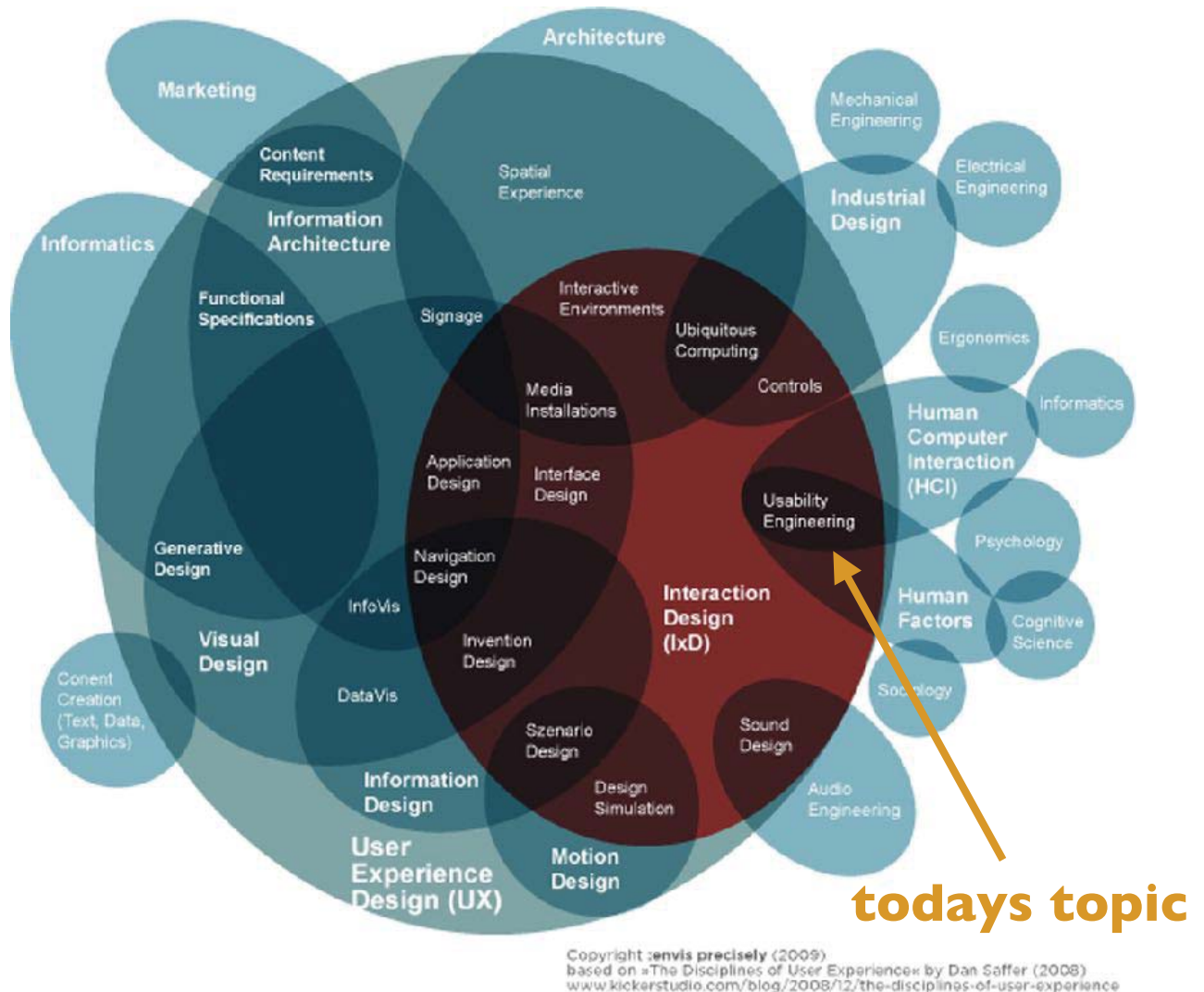User Experience Design (UX)

Motion Design

UI ≠ UX

Copyright :envis precisely (2009)
based on »The Disciplines of User Experience« by Dan Saffer (2008)
www.kickerstudio.com/blog/2008/12/the-disciplines-of-user-experience

UX-designer

Copyright :envis precisely (2009)
based on »The Disciplines of User Experience« by Dan Saffer (2008)
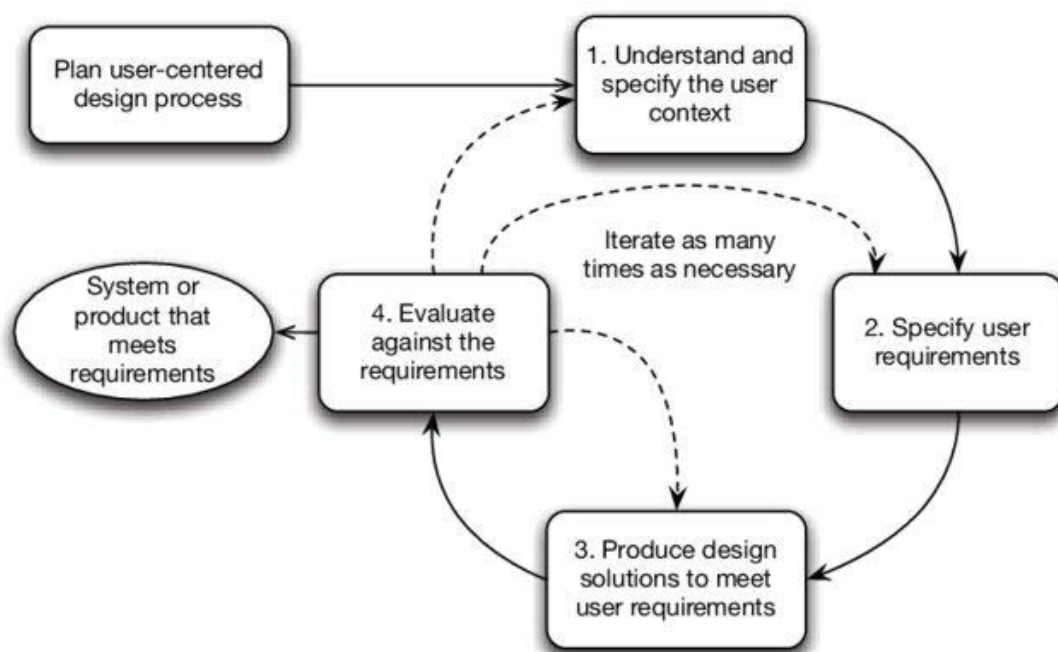www.kickerstudio.com/blog/2008/12/the-disciplines-of-user-experience

A product developed with a focus on **usability** shall:

- be easy to *learn*
- be easy to *use*
- be easy to *remember*
- be *efficient* and appropriate (*«formålstjenlig»*)
- reduce the likelihood of *errors*
- be *experienced* as satisfying and useful

(Sintef)

3. USER-CENTERED DESIGN

THE **HUMAN**-CENTRED DESIGN PROCESS

REMEMBER THIS!!!!!

1. User-centered design (UCD) is an approach to design that **grounds the process** in information about the people who will use the product.

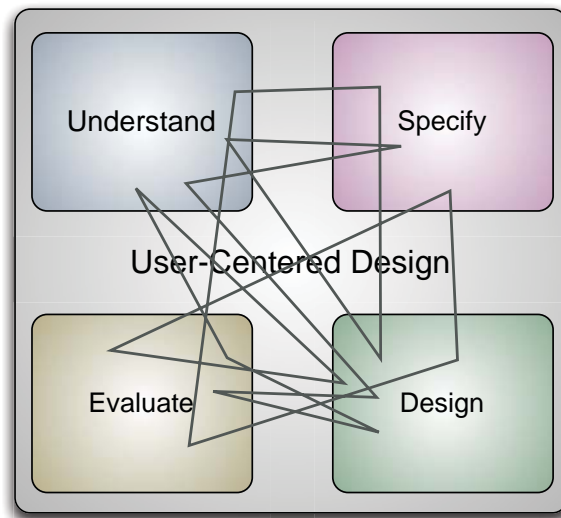2. UCD processes **focus on users throughout** the planning, design and development of a product.

(A key summary of the 6 principles for UCD)

CATEGORIES OF METHODS

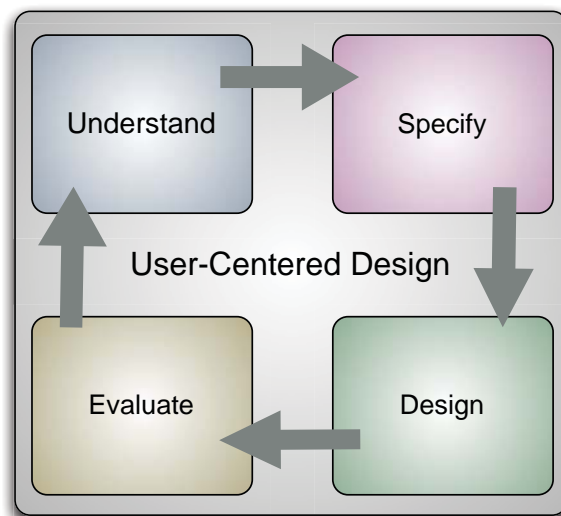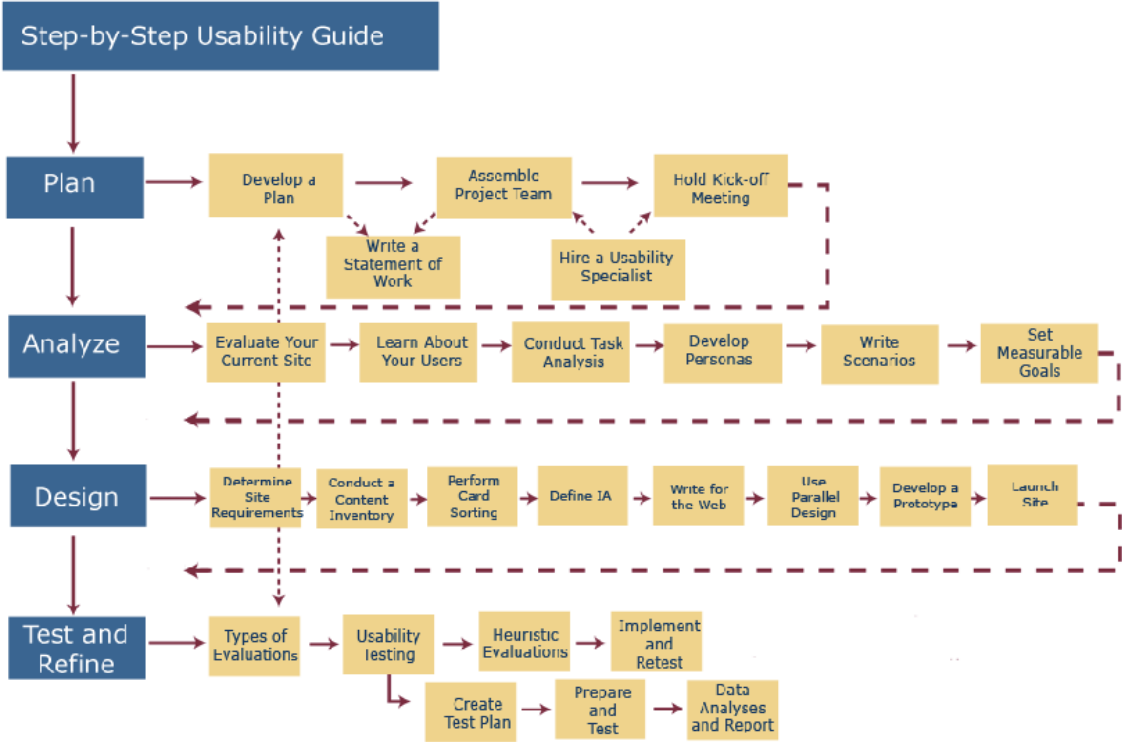| Understand	Specify
User-Centered Design	
Evaluate	Design
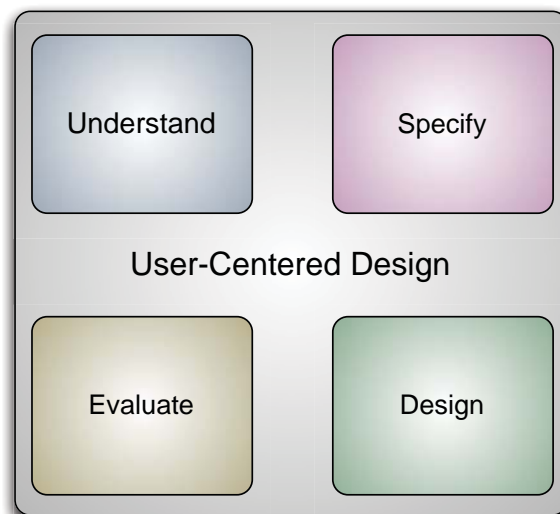
REAL LIFE until you run out of time:

THEORY until you are done:

PLAN-BASED USER-CENTERED PROCESS:
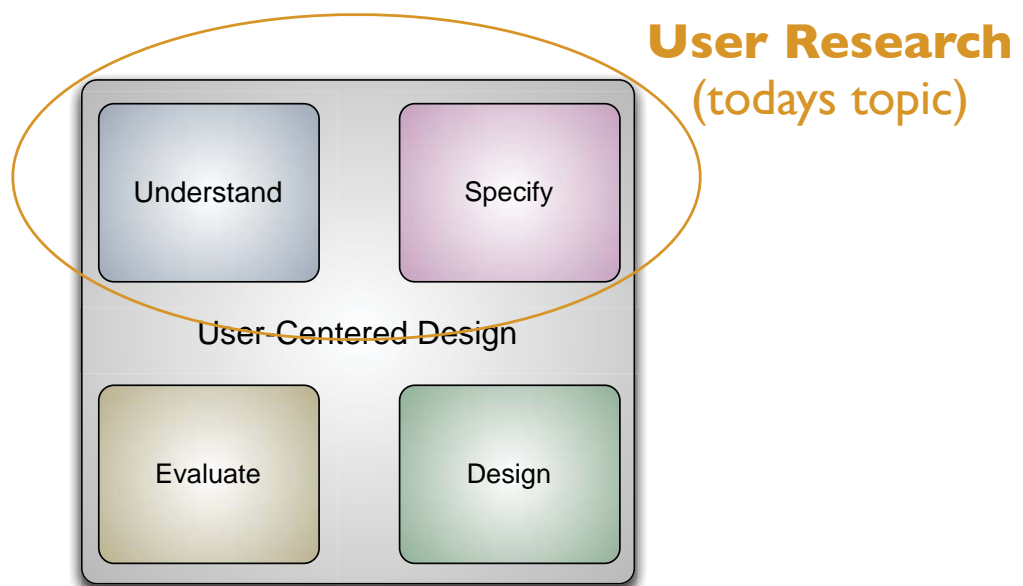

usability.gov

4. USER RESEARCH

# «BROADLY SPEAKING, UX ACTIVITIES CAN BE DIVIDED INTO:»

1. **Research** - learning about the people who will use a product and the context in which it will be used.
2. **Evaluation** - observing (and learning from) users as they work with a product before, during and after the design and development process.
3. **Design** - whether it is called interface, interaction, information or experience design.»

- UXPA, User Experience Professionals Association: https://uxpa.org/resources/about-ux

1. **Research** - learning about the people who will use a product and the context in which it will be used.

User Research
(todays topic)

Understand	Specify

User-Centered Design

Evaluate	Design

- UXPA, User Experience Professionals Association: https://uxpa.org/resources/about-ux

- User analysis
- Field study
- Observation*
- Interview*
- Focus groups
- Diary
- Survey
- Logging usage data

- Environment analysis
- Probes
- Document analysis
- Task analysis (HTA)
- Exploratory user tests
- Role Play
- Card Sort
- Workshops

Specify

User-Centered Design

Evaluate

Design
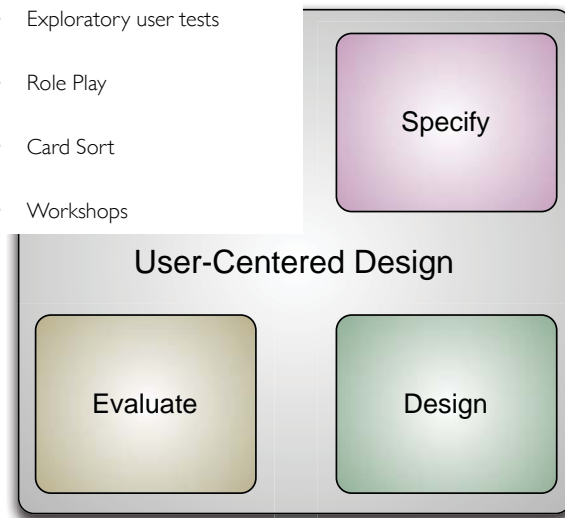
- User stories
- Personas
- Scenario
- Use Case
- User Journey
- Storyboard
- Cost-benefit analysis
- Service blueprint
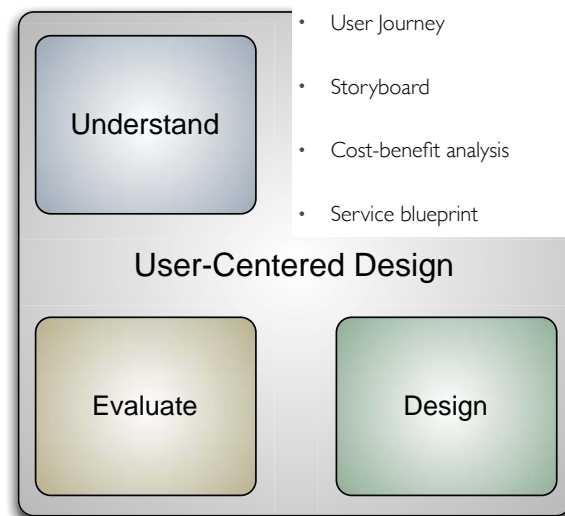
Understand

User-Centered Design

Evaluate

Design

- User analysis
- Field study
- Observation*
- Interview*
- Focus groups
- Diary
- Survey
- Logging usage data

- Environment analysis
- Probes
- Document analysis
- Task analysis (HTA)
- Exploratory user tests
- Role Play
- Card Sort
- Workshops

- User stories
- Personas
- Scenario
- Use Case
- User Journey
- Storyboard
- Cost-benefit analysis
- …

all these are common **User Research** methods **in UX-work**

User-Centered Design

Evaluate

Design
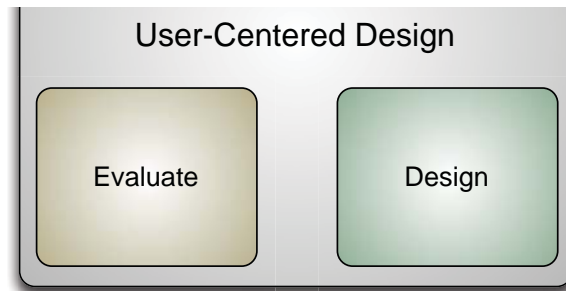
WHAT METHODS TO USE?

- This **VARIES** depending on your aim & constraints

- It takes experience & reflection to choose the "right" methods
  - What is the most important insights to gain?
  - How much time do we have now & later? JIT? BDUF?
  - What total resources do we have to do UX-work?

- It takes time to recruit users and schedule appointments!!!
  - Can we pay someone to do user recruitment?
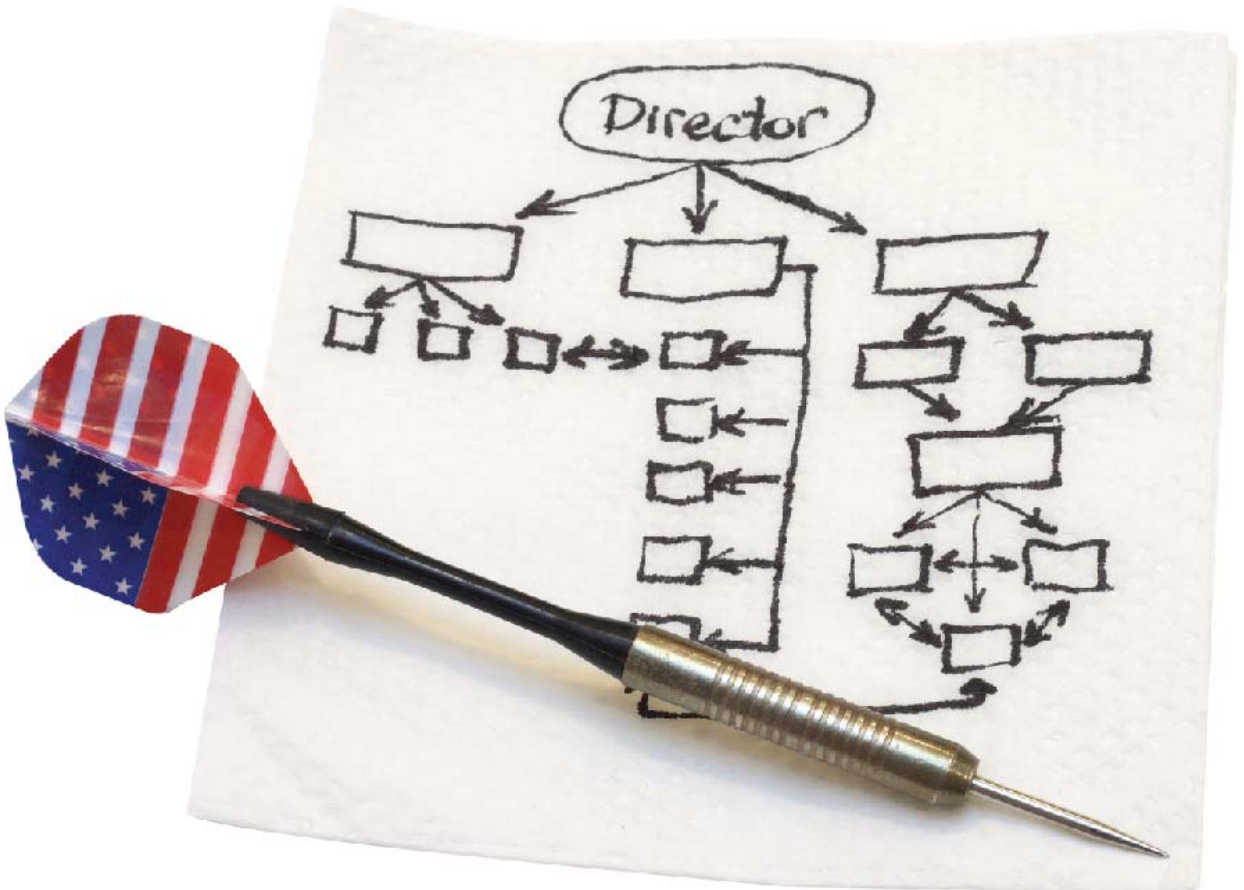
WHY USER RESEARCH?

- NOT recommended in UCD to only **think** about users…

- …you should strive to **understand** them:
  - *What is their reality? Their needs? Context and nature of use?*
  - *Level of expertise? Experiences? Expectations? Mental models?*

- …you can **involve** them to help you understand!

…DEGREES OF USER INVOLVEMENT

User focus   vs.   User involvement   vs.   Co-creation

(no / low contact)   *(medium contact)*   *(high contact)*

REFLECTED IN

- Low-contact methods
  (surveys, personas, PACT analysis…)

- Medium-contact methods
  (diary, probes, interviews…)

- High-contact methods
  (fieldwork, workshops…)

WHO TO INVOLVE?

- This VARIES depending on your aim

- It takes careful reflection to find the "right" users:
  - Who should participate?
  - How homogenous are the user group? (personal attributes + goals)
  - Do we want «representativity» or "edge-cases"?

- **It takes time to recruit users and schedule appointments!!!**

5. PARADIGMS

UX'ers often want **in-depth** insight & use **qualitative** methods

- User analysis
- Field study
- Observation*
- Interview*
- Focus groups
- Diary
- Survey
- Logging usage data

- Environment analysis
- Probes
- Document analysis
- Task analysis (HTA)
- Exploratory user tests
- Role Play
- Card Sort
- Workshops

- User stories
- Personas
- Scenario
- Use Case
- User Journey
- Storyboard
- Cost-benefit analysis
- …

Research approaches include:
- Case study*
- Interview study
- Content analysis*
- Survey research
- Grounded theory

User-Centered Design

Evaluate

Design
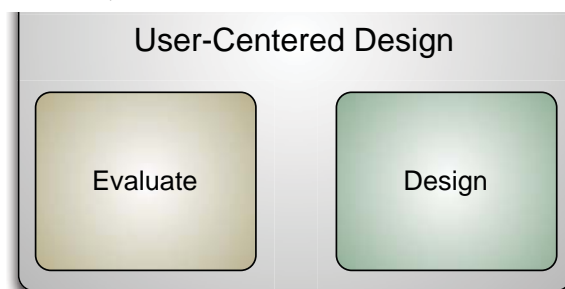
CLASSIC STANCES

- Positivist
  objective, static, generalizable
  ┈┈┈┈> One optimal solution:
  Practitioner is **Expert**

- Critical
  subjective, evolving, nuanced
  ┈┈┈┈> Several possible solutions:
  Practitioner is **Advocate** for positive change

- Constructivist
  interpretive, subjective-objective
  ┈┈┈┈> Several possible solutions:
  Practitioner is **Negotiator** for compromise

Dahlblom, B., & Mathiassen, L. (1993). *Computers in Context: The Philosophy and Practice of System Design* (1st ed.). Oxford, UK: Wiley-Blackwell.

Merriam, S. B. (2009). *Qualitative Research, A Guide to Design and Implementation* (2nd ed.). San Francisco, CA: Jossey-Bass, A Wiley Imprint (John Wiley & Sons, Inc.).

VIEWS & APPROACH

- Positivist ┈┈┈┈> Practitioner as **Expert**: *gather info & advice*
  What do we know? What is the aim?
  How can we get there? Measurable?

- Critical ┈┈┈┈> Practitioner as **Agent** *question & influence* NO!
  Who said what? Why? What is left out?
  Other viewpoints? Is this the right aim?

- Constructivist ┈┈┈┈> Practitioner is **Negotiator** *understand & co-create*
  Who are the stakeholders and users?
  Priorities? How can we collaborate?

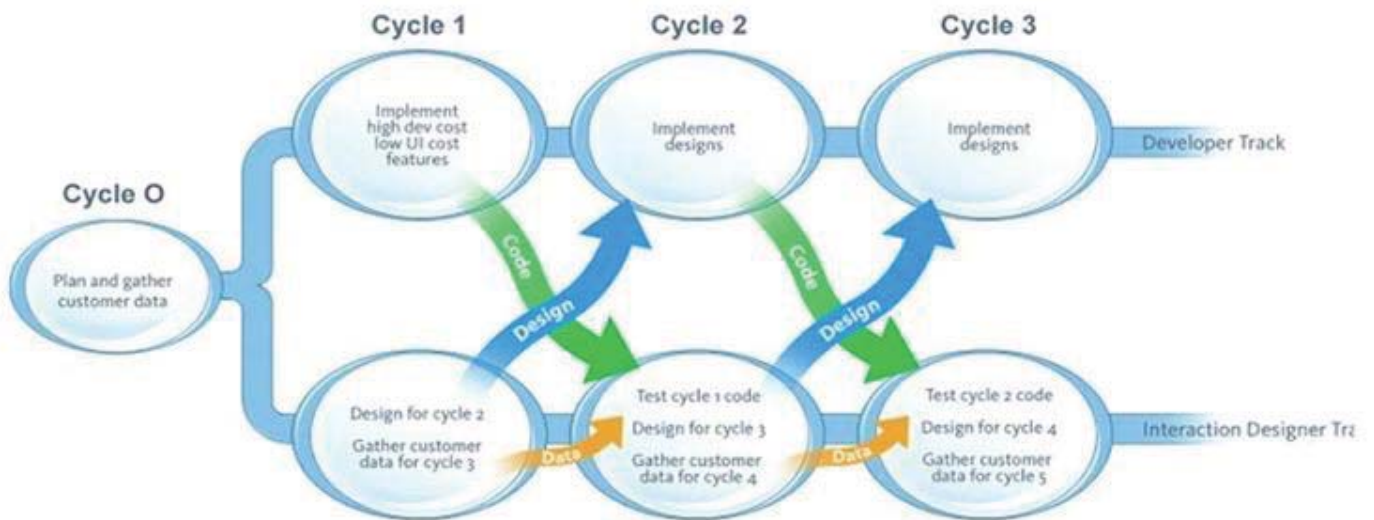*understand & co-create*

question & influence

gather info & advice

You find all **3** research paradigms & practitioner stances in UCD

6. UX + AGILE

Example of cycle flow from Desirée Sy's article

Sy (2007) Adapting Usability Investigations for Agile User-centered Design, Journal of Usability Studies 2(3), 112-132.
https://uxpa.org/sites/default/files/agile-ucd_0.pdf

KEY CHALLENGES

Make room for UX.

Not reduce to UI.

- UI and UX are NOT the same.

- Feature and Code focus.

- Weak team collaboration undermine UX efforts

Capturing, communicating & keeping track of user requirements.

- Requirements are hard to elicit, especially for "edge-case" users

- User need overview is limited

- Back-log focus on features

Balance time spent on user-involved activities with development efforts (and in a non-disruptive manner).

- User-centered activities take time

- Quality assurance takes time

- Parallell process not always fitting.

- Satelite models are problematic.

understand & co-create

question & influence

gather info & advice

User **Stories** vs. User **Hypotheses**

understand & co-create

question & influence

gather info & advice

UX-designer as a UX **mentor** vs. UX **responsible**

understand & co-create
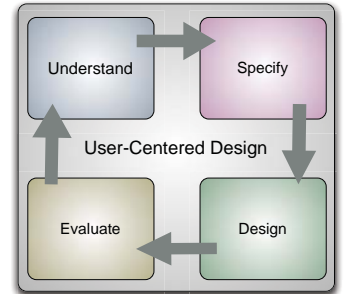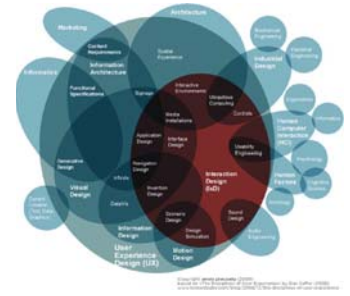
question & influence

gather info & advice

More UX power & responsibility to the agile team full members:

- **developers** does usability testing -
- the **team** prioritize needs & discuss design solutions -

NTNU – Trondheim
Norwegian University of
Science and Technology

THANK
YOU!

Understand → Specify
User-Centered Design
Evaluate ← Design

UX-designer

miriam.begnum@ntnu.no