

How to be a UX Wizard



Who are we?



Anja Röpling

As a UX Engineer and Strategist I strive for bringing simplicity to the users.

With a human-centered design approach I create meaningful solutions, and inspire others in order to establish sustainable development processes which place the user at the center.



Elisabeth Tsechanksi

As a customer experience researcher and designer my passion is to facilitate empathy with customers.

My Mission is to create human centered services and products with highest value for customers.

What are we planning for today (& next time)?

TODAY 20th of June

Intro to UX

Getting Started with UX Process

- Listen
- Analyze
- Design

Exercise to apply knowledge



NEXT 27th of June

Discuss Exercise Results and Questions

Cover whole UX Process

- Make UX Iterative by Testing

Answer all your Questions

What is UX for you?

Please take a moment and enter keywords here:

<https://www.menti.com/4p746kmsv6>

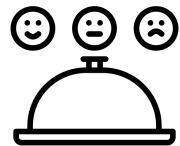
Passcode: **2130 6966**



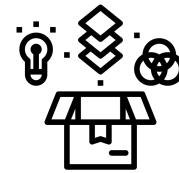
What is UX for you?



What is User Experience (UX)?

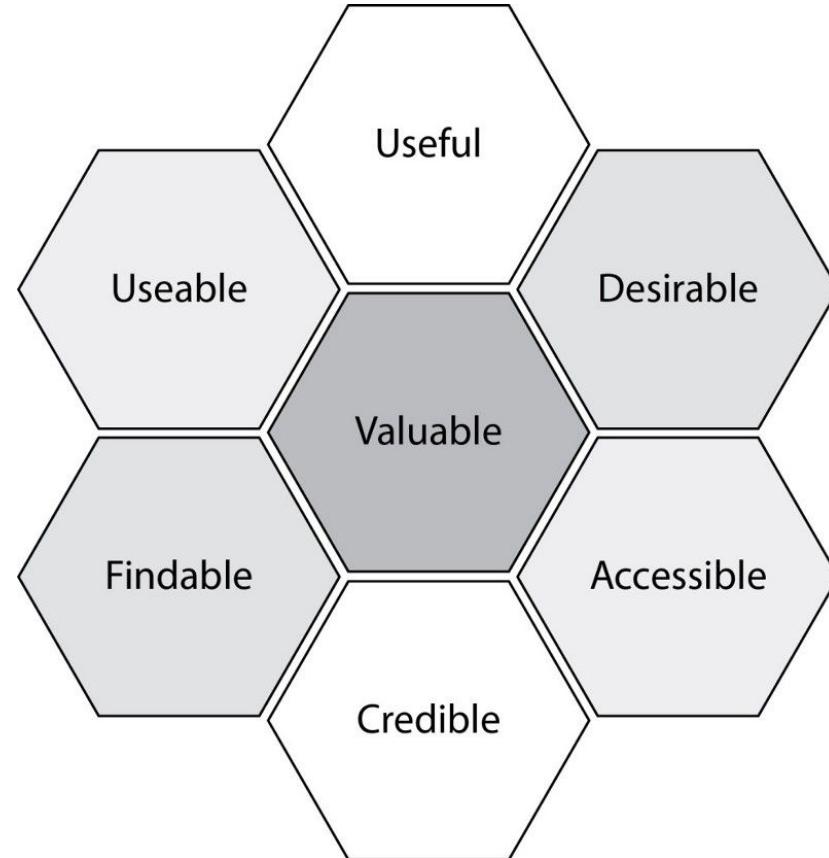


UX deals with the **experience** a user has with products and services.



The purpose of UX is to optimize that experience, by **understanding and forming** it.

UX can make products & services...



So - How to create valuable services & products?

Experience arises from interaction with a service or product and its User Interface (UI).



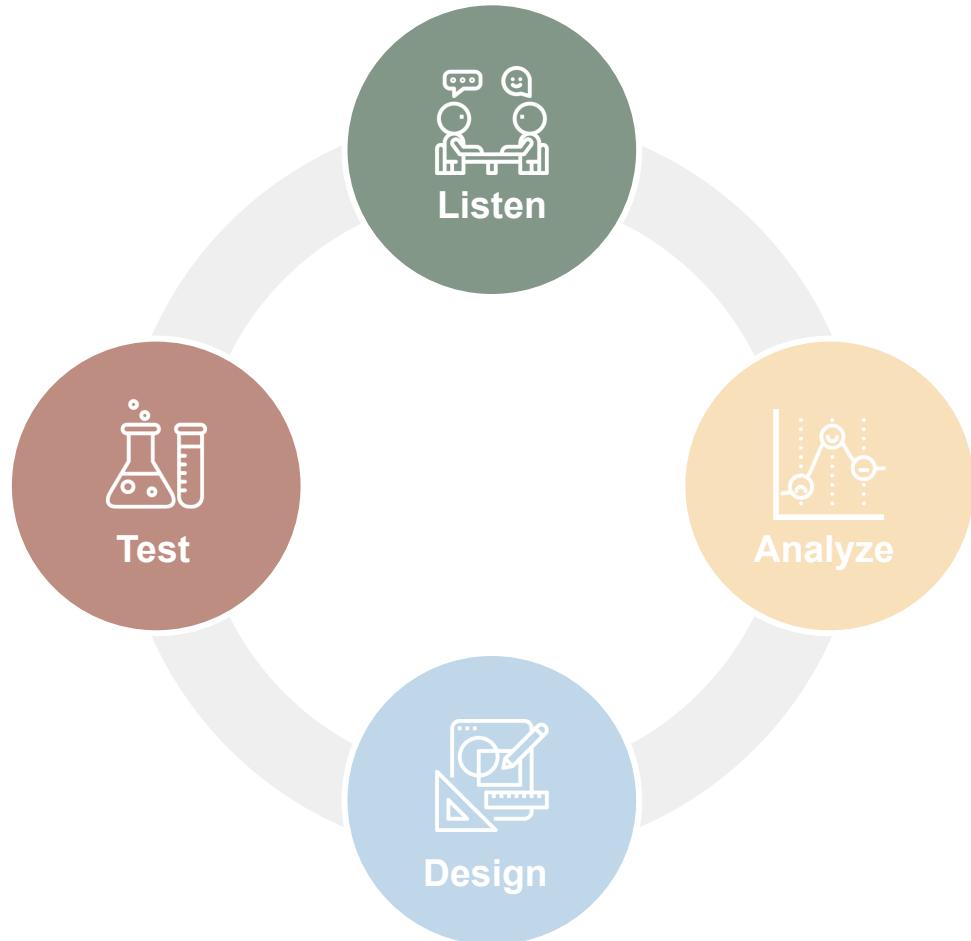
Thus for every product “good UX” and “good UI” is different, such as users and their situations.



We use the UX process to identify the best solution

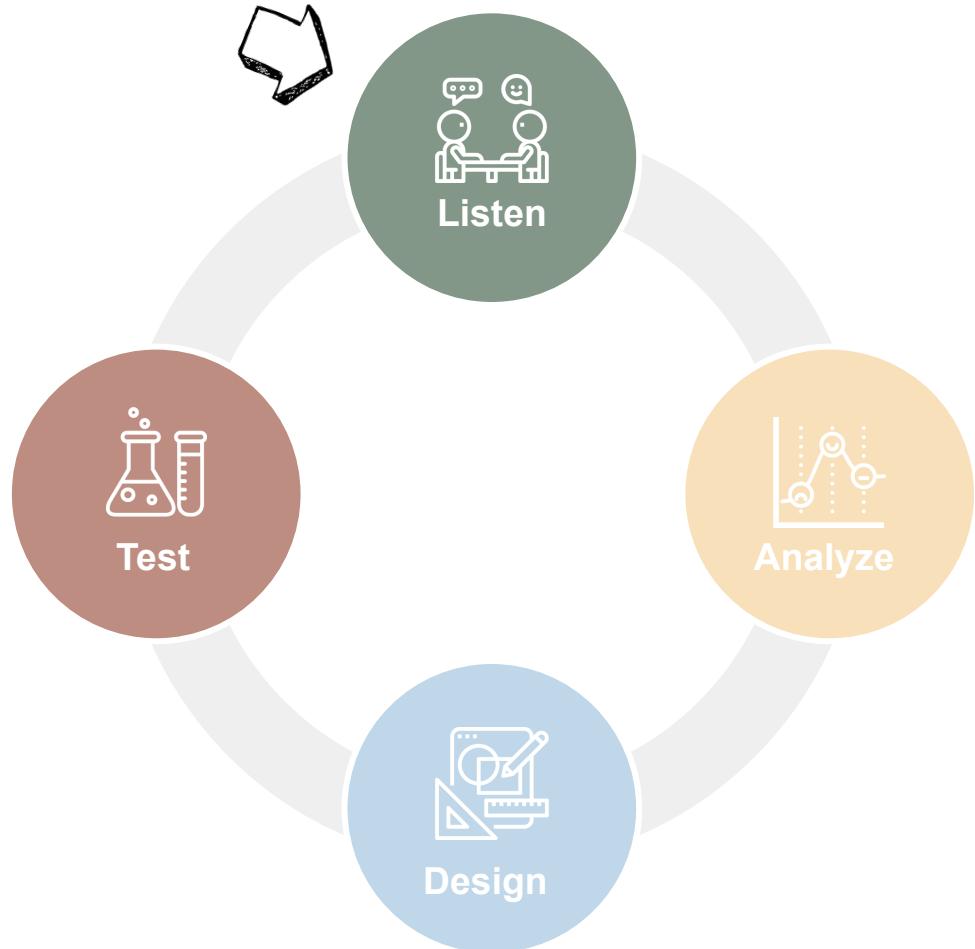
UX Process

4 Phases to build
Services & Products
with great UX



UX Process

4 Phases to build
Services & Products
with great UX





Goal: You know your user and his/her use context
& You know what motivates your users

Listen & Observe



Listen



Mindset



Surgeon



Worker



Farmer



Teenager





Listen



Mindset

Be open for new input.

You are not like your user.

Users are different.



Listen



How - Methods

Observe your user



- Join & watch
- What the user does ≠ What the user says

Ask your user



- About his/her goals
- About current challenges
- About what he/she would like to change



<https://newcastleclinic.co.uk/10-inspiring-examples-child-friendly-mri-scanners/>



Listen



How - Choosing the right questions

- **Who is your user?**
- **What is the user's goal/motivation?**
- **What are sources of information?**
- **Which technology does the user know?**
- **What are the typical tasks?**
- **What is important for the tasks?**



Listen

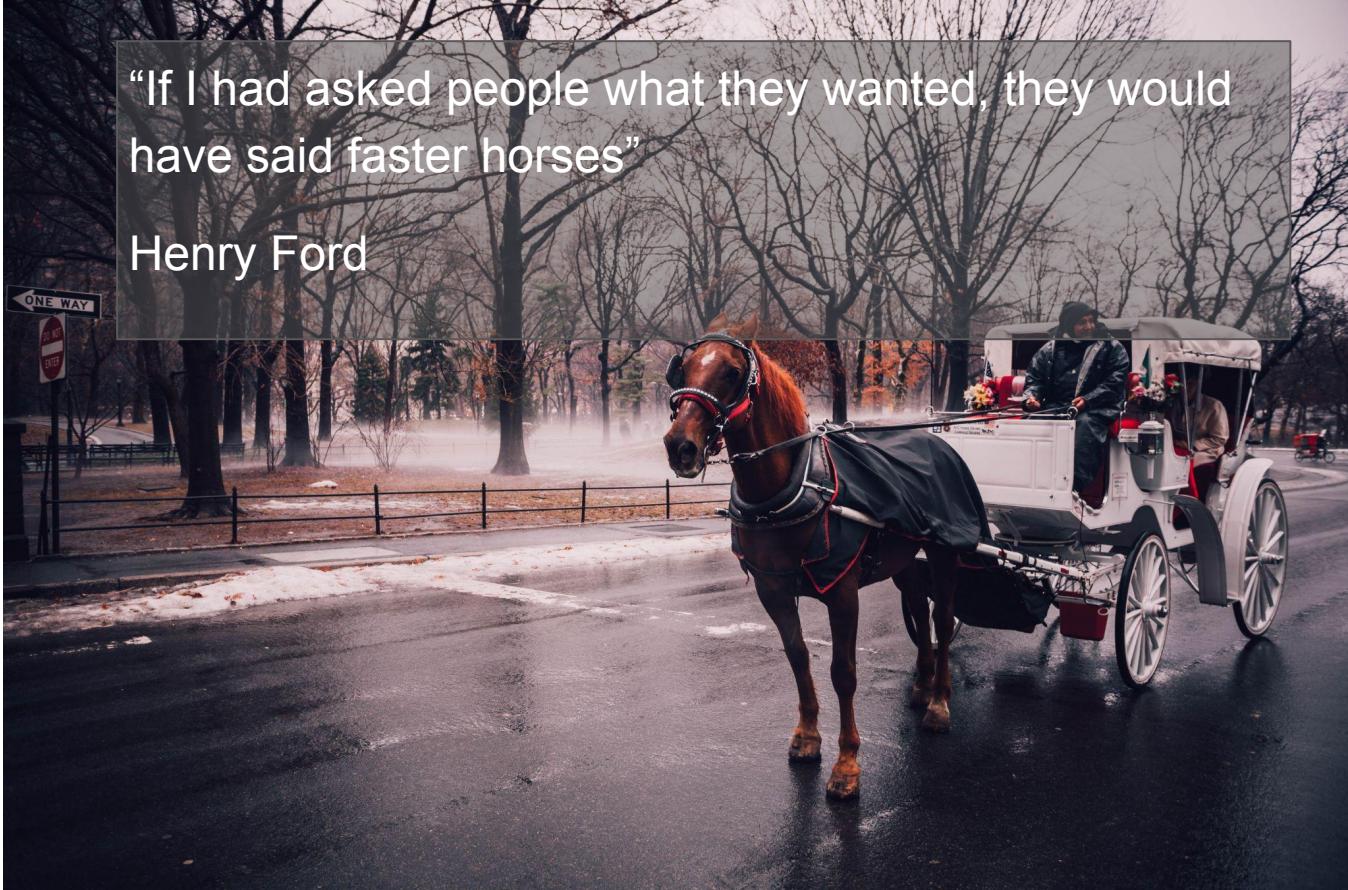


Mindset

“If I had asked people what they wanted, they would have said faster horses”

Henry Ford

Don't ask the user about the solution





Listen



Exercise 1: Challenge your knowledge about your user

Have you already talked to your users?

What did you find out?

What surprised you? What did you not know before?

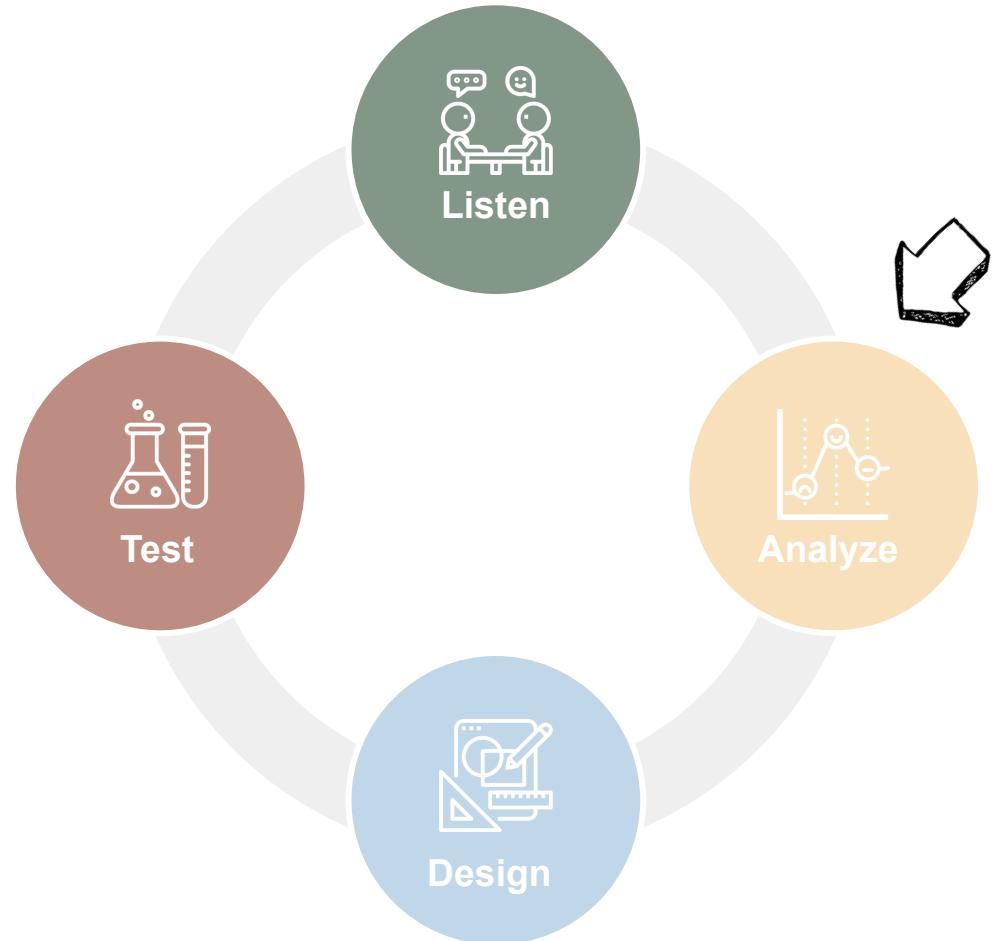
What is still not clear to you?

Try to fill the gaps:

- Schedule interviews with a representative user
- Observe a user (just ask if you can join the user for a while and observe everything he/she does)
- Ask experts who know your user and their problems well

UX Process

4 Phases to build
Services & Products
with great UX





Analyze



Goal: Structured overview of the collected information
& Understand the problems you can solve for the user

Analyze & Understand



Analyze



Mindset

**It is not what they do
but why they do it**

**The user always has a
clear goal**



Analyze

Imagine you
did some
research for a
new barbecue



How - Create personas to cluster goals & context



Title: The nature lover

Goal: Romantic barbecue in the woods

About:

- Age: 20 – 45
- Lives in big city
- Works in an office job – long hours
- Lives in small flat without garden

Equipment:

- Small barbecue which can easily be transported
- ...

Motivation:

- Tries to escape the rush of the city
- ...

Hurdles:

- Small barbecue is not suitable for steaks
- ...



Title: The social barbecuer

Goal: Have a good time with family & friends without having to move

About:

- Age: 35 – 65
- Lives in house with garden
- Has many friends or big family
- ...

Equipment:

- Newest technology
- High tech barbecue

Motivation:

- Enjoys to spend time with family & friends
- Does not bring all the stuff for the kids
- ...

Hurdles:

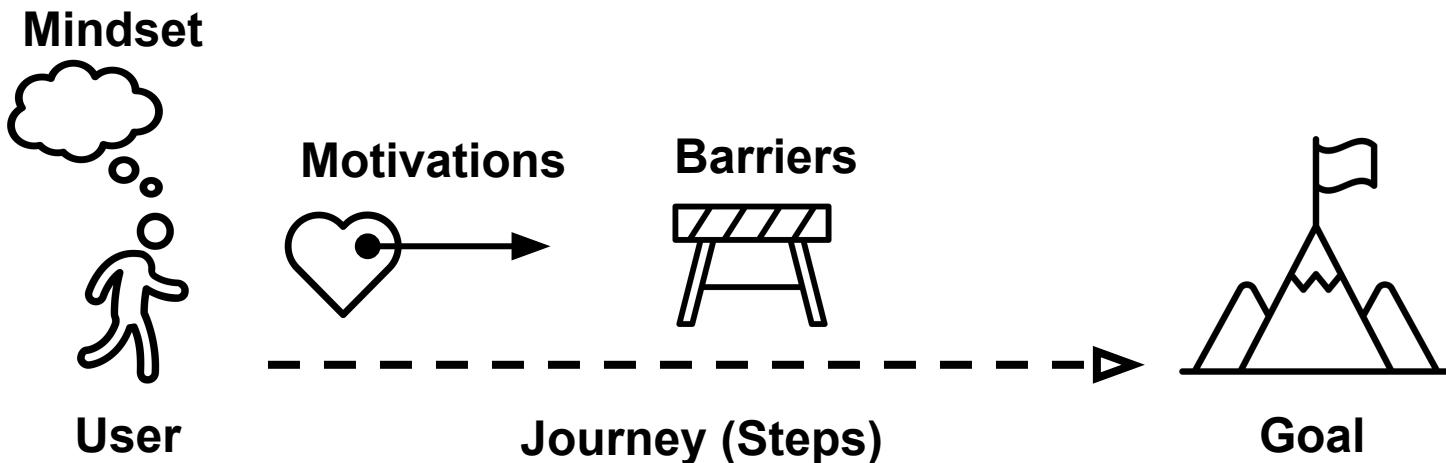
- It takes long to heat up the smoker...
- ...



Analyze



How - Create user journeys to cluster steps and needs





Analyze



Exercise 2: Analyze with Personas & Journeys

Analyze what you learned in
Exercise 1 (Listen) by

- Defining Personas of your Users
(Goal & Context)
- Understanding the Users
Journey (Steps & Needs)

**Now: Try to cluster your
learnings into personas
and their journeys**



User Persona: Who is the persona? Name, Age, Key Facts. Choose an image that helps you build empathy.



Mindset: What are the personas key characteristics and values? List relevant details e.g. demographic, work, behaviour, beliefs, ...



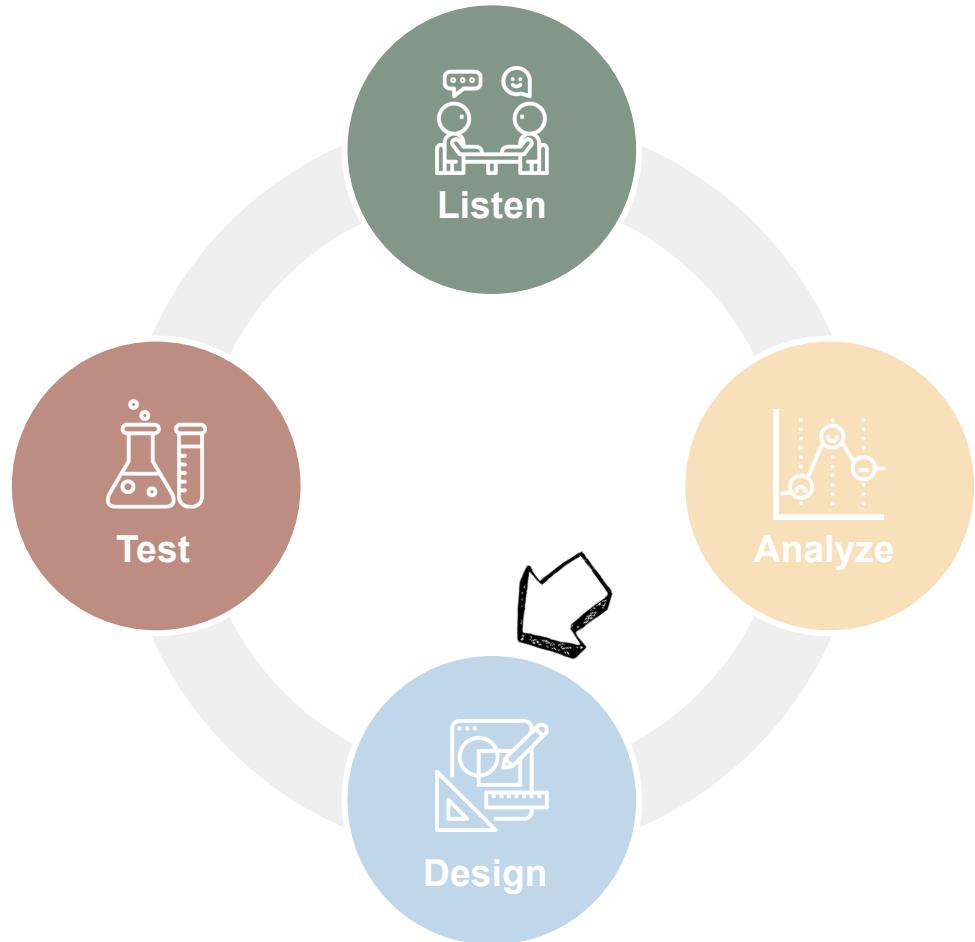
Goal: Why would the persona use your product? What benefit does the persona want to achieve? Which problem does the persona want to solve?

Step



UX Process

4 Phases to build
Services & Products
with great UX





Design



Goal: Find solutions to users needs
& prototype your product

Design & Prototype



Design



Mindset

Keep the user needs & problems on top of your mind

Everyone can design & everything is design



Design



How - Everyone can Prototype & Design

A Prototype?



...depends on state of development & process

Low Fidelity Prototyping

Mid Fidelity Prototyping

High Fidelity Prototyping



Design



How - Principles & Norms help to ensure high usability

e.g.

10 Usability Heuristics for User Interface Design
(Jacob Nielsen, 1994)



1 Visibility of System Status

Definition The design should **always keep users informed** about what is going on, through appropriate feedback within a reasonable amount of time.



Knowing what the current system status is can help users learn the outcome of their prior interactions and determine next steps.

Predictable interactions create trust in the product as well as the brand.

Tip: Communicate clearly to users what the system's state is — no action with consequences to users should be taken without informing them.

Tip: Present feedback to the user as quickly as possible.

Tip: Build trust through open and continuous communication.

1 “You Are Here” maps

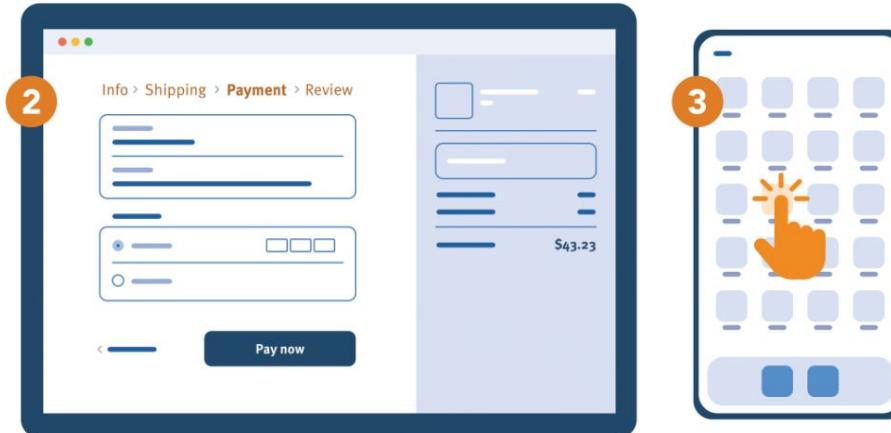
Interactive mall maps have to show people where they currently are, to help them understand where to go next.

2 Checkout flow

Multistep processes show users which steps they've completed, they're currently working on, and what comes next.

3 Phone tap

Touchscreen UIs need to reassure users that their taps have an effect — often through visual change or haptic feedback.





2 Match between System and the Real World

Definition The design should speak the users' language. Use words, phrases, and concepts **familiar to the user**, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.



The language you should use depends very much on your specific users.

Tip: Ensure users can understand meaning without having to go look up a word's definition.

Tip: Never assume your understanding of words or concepts will match those of your users.

Tip: User research will help you uncover your users' familiar terminology, as well as their mental models around important concepts.

1 *Stovetop controls*

When stovetop controls match the layout of heating elements, users can quickly understand which control maps to each heating element.

2 “Car” vs. “automobile”

If users think about this object as a “car,” use that as the label instead.

3 *Shopping cart icon*

A shopping cart icon is easily recognizable because that feature serves the same purpose as its real-life counterpart.





3 User Control and Freedom

Definition Users often perform actions by mistake. They **need a clearly marked "emergency exit"** to leave the unwanted action without having to go through an extended process.



When it's easy for people to back out of a process or undo an action, it fosters a sense of freedom and confidence.

Exits allow users to remain in control of the system and avoid getting stuck and feeling frustrated.

 **Tip:** Support Undo and Redo.

 **Tip:** Show a clear way to exit the current interaction, like a "Cancel" button.

 **Tip:** Make sure the exit is clearly labeled and discoverable.

1 **Exit sign**

Digital spaces need quick “emergency” exits, just like physical spaces do.

2 **Undo and redo**

These functions give users freedom because they don't have worry about their actions — everything is easily reversible.

3 **Cancel button**

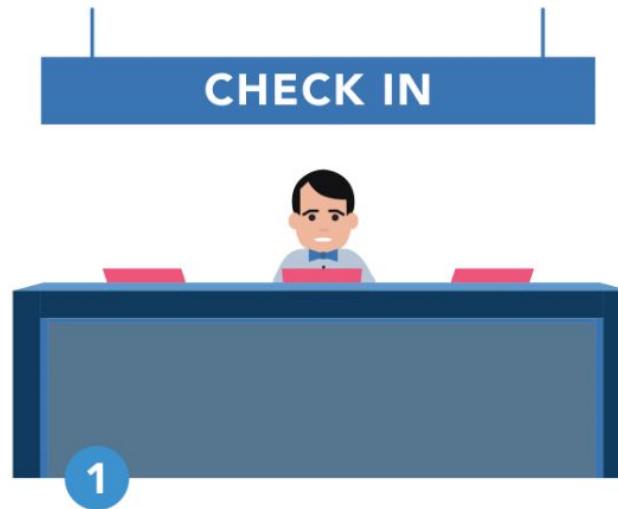
Users shouldn't have to commit to a process once it's started — they should be able to easily cancel and abandon.





4 Consistency *and Standards*

Definition Users should not have to wonder whether different words, situations, or actions mean the same thing. **Follow platform and industry conventions.**



Jakob's Law states that people spend most of their time on products other than yours. Failing to maintain consistency may increase the users' cognitive load by forcing them to learn something new.

 **Tip:** Improve learnability by maintaining *both* types of consistency: internal and external.

 **Tip:** Maintain consistency within a single product or a family of products (*internal consistency*).

 **Tip:** Follow established industry conventions (*external consistency*).

1 Check-in counter

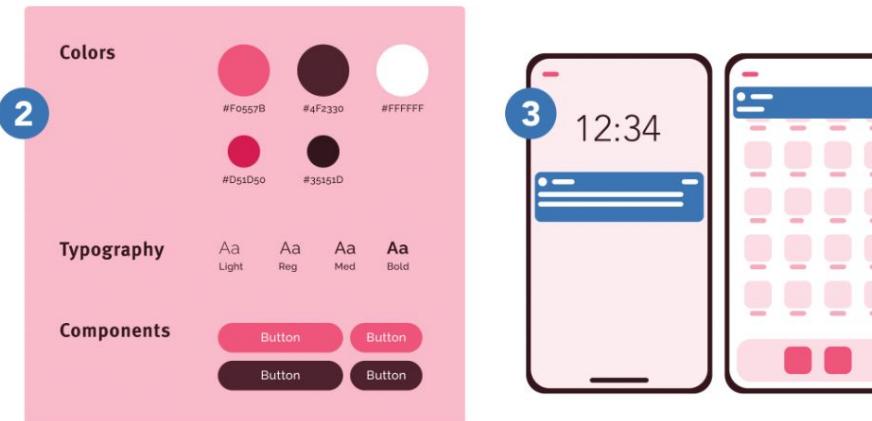
Check-in counters are usually located at the front of hotels. This consistency meets customers' expectations.

2 Design system

Using elements from the same design system across the product lines lowers the learning curve of users.

3 Notifications

A standardized notification design provides a similar but distinguishable look and feel for different app pop-ups.



Standards - Good or Bad?

Using these icons to differentiate between the ladies & gentleman bathroom:



**Keep in Mind -
Standards only
work for those
who are in the
same peer
group**



5 Error Prevention

Definition Good error messages are important, but the best designs **carefully prevent problems** from occurring in the first place. Either eliminate error-prone conditions, or check for them and present users with a confirmation option before they commit to the action.



There are two types of errors: slips and mistakes.

Slips are unconscious errors caused by inattention.

Mistakes are conscious errors based on a mismatch between the user's mental model and the design.

 **Tip:** Prioritize your effort:
Prevent high-cost errors first, then little frustrations.

 **Tip:** Avoid slips by providing helpful constraints and good defaults.

 **Tip:** Prevent mistakes by removing memory burdens, supporting undo, and warning your users.

1 Guard rails

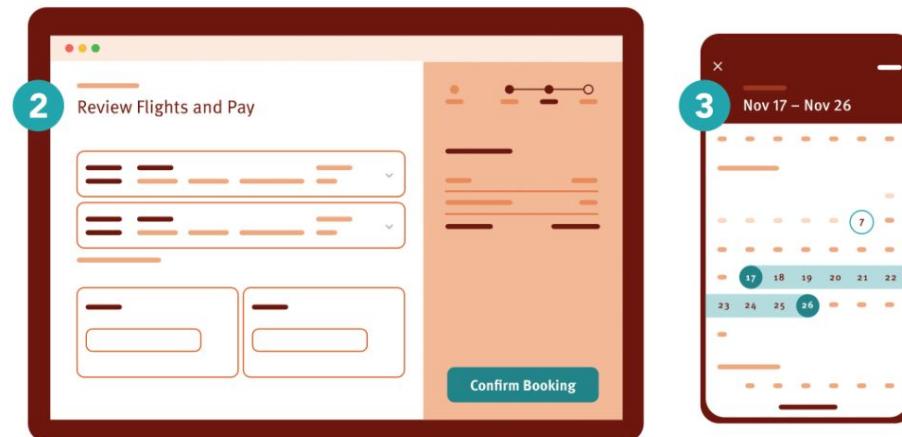
Guard rails on curvy mountain roads prevent drivers from falling off of cliffs.

2 Airline confirmation

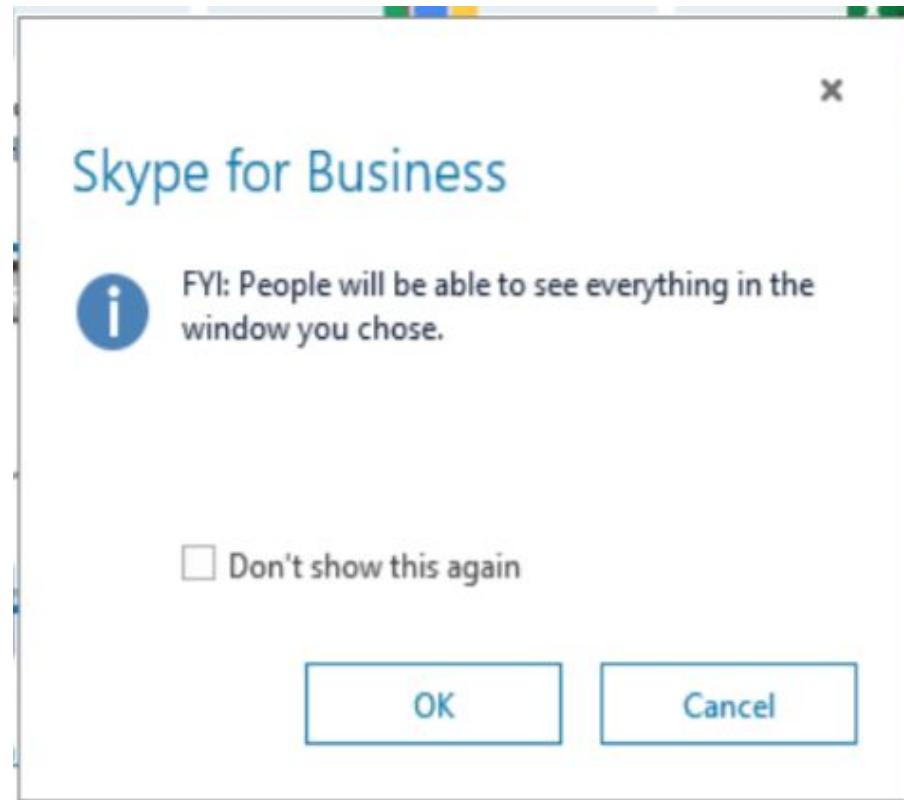
The confirmation page before checking out on airline websites gives users another chance to review the flight details.

3 Date selection on calendar

Offer good defaults and set boundaries when people book services by dates.
Grey out unavailable options.



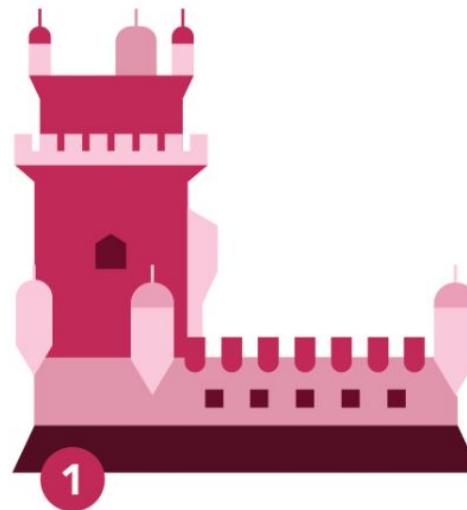
Error prevention - Good or Bad?





6 Recognition Rather Than Recall

Definition Minimize the user's memory load by making elements, actions, and options visible. The user should **not have to remember information** from one part of the interface to another. Information required to use the design should be visible or easily retrievable when needed.



Humans have limited short-term memories. Interfaces that promote recognition reduce the amount of cognitive effort required from users.

 **Tip:** Let people *recognize* information in the interface, rather than having to remember (“recall”) it.

 **Tip:** Offer help *in-context*, instead of giving users a long tutorial to memorize.

 **Tip:** Reduce the information that users have to remember.

1 *Lisbon*

People are more likely to correctly answer the question “Is Lisbon the capital of Portugal?” rather than “What’s the capital of Portugal?”

2 *Comparison table*

Comparison tables list key differences so that users don’t need to remember them to make comparisons.

3 *Search*

Search queries are presented together with the results as a reference.





7 Flexibility and Efficiency of Use

Definition Shortcuts – hidden from novice users – may speed up the interaction for the expert user such that the design can **cater to both inexperienced and experienced users.** Allow users to tailor frequent actions.



Flexible processes can be carried out in different ways, so that people can pick whichever method works for them.

 **Tip:** Provide accelerators like keyboard shortcuts and touch gestures.

 **Tip:** Provide personalization by tailoring content and functionality for individual users.

 **Tip:** Allow for customization, so users can make selections about how they want the product to work.

1 Shortcuts

Regular routes are listed on maps, but locals with more knowledge of the area can take shortcuts.

2 Keyboard shortcut

Keyboard shortcuts for complex products can help expert users finish their tasks more efficiently.

3 Tap to like

Social apps allow two ways to like posts. Experienced users can tap to like because it speeds up their browsing.



Flexibility & Efficiency of Use - Good or Bad?





8 Aesthetic and Minimalist Design

Definition Interfaces should not contain information which is irrelevant or rarely needed. Every extra unit of information in an interface **competes** with the relevant units of information and diminishes their relative visibility.



This doesn't mean you have to use a flat design – it's about making sure you're keeping the content and visual design focused on the essentials. Ensure that the visual elements of the UI support the user's primary goals.

- ✍ **Tip:** Keep the content and visual design of UI focus on the *essentials*.
- ✍ **Tip:** Don't let unnecessary elements distract users from the information they really need.
- ✍ **Tip:** Prioritize the content and features to support primary goals.

➊ **Ornate vs. simple teapot**
Excessive decorative elements can interfere with usability.

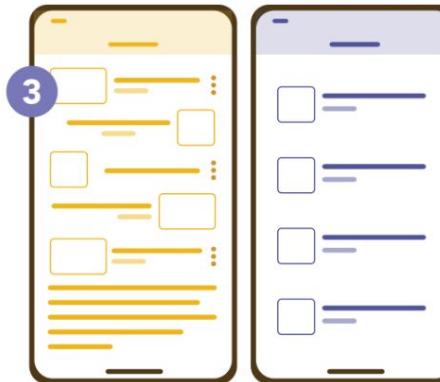
➋ **Communicate, don't decorate**
Over-decoration can cause distraction and make it harder for people to get the core information they need.

➌ **Messy vs organized UI**
Messy UI increases the interaction cost for users to find their desired content; Organized UI lowers the cost.

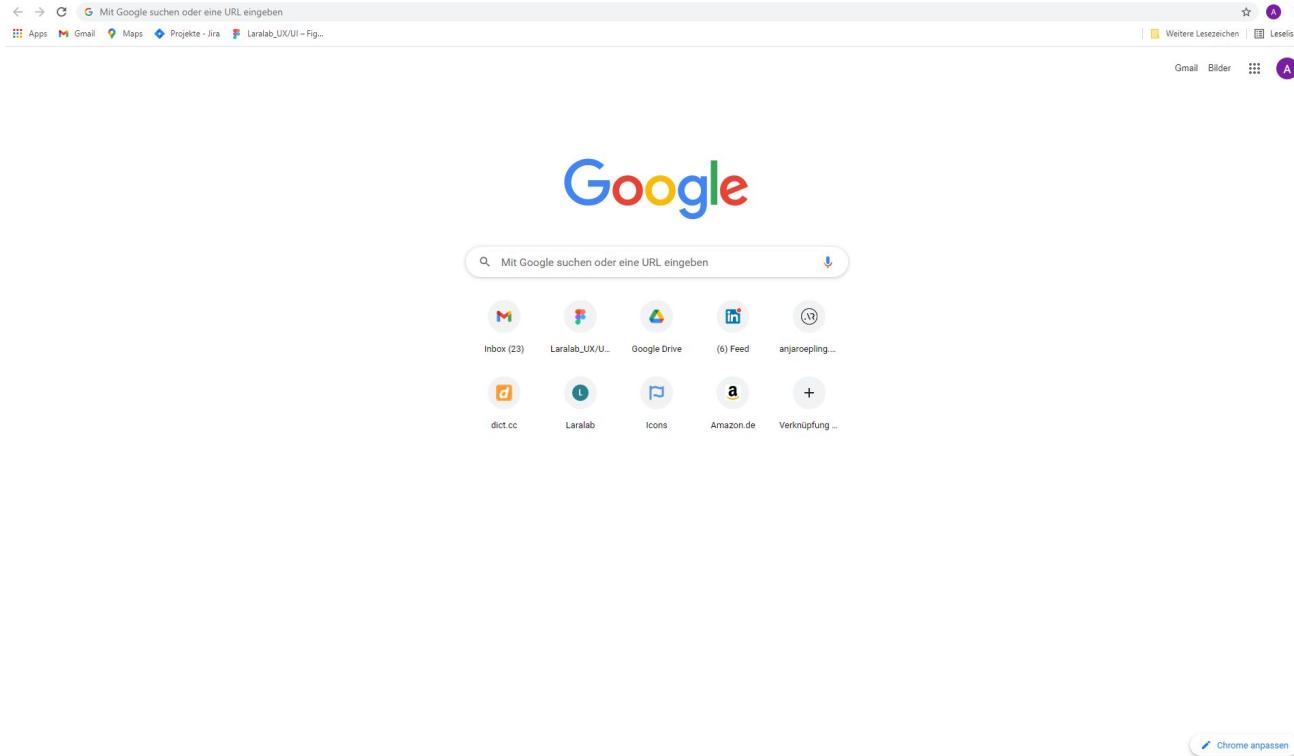
2

COMMUNICATE, DON'T DECORATE

One of our favorite slogans



Minimalistic Design - Good or Bad?





9 Help Users Recognize, Diagnose, and Recover from Errors

Definition Error messages should be expressed in **plain language** (no error codes), precisely indicate the problem, and constructively suggest a solution.



Error messages should be presented with visual treatments that will help users notice and recognize them.

Tip: Use traditional error message visuals, like bold, red text.

Tip: Tell users what went wrong in language they will understand — avoid technical jargon.

Tip: Offer users a solution, like a shortcut that can solve the error immediately.

1 Wrong way sign

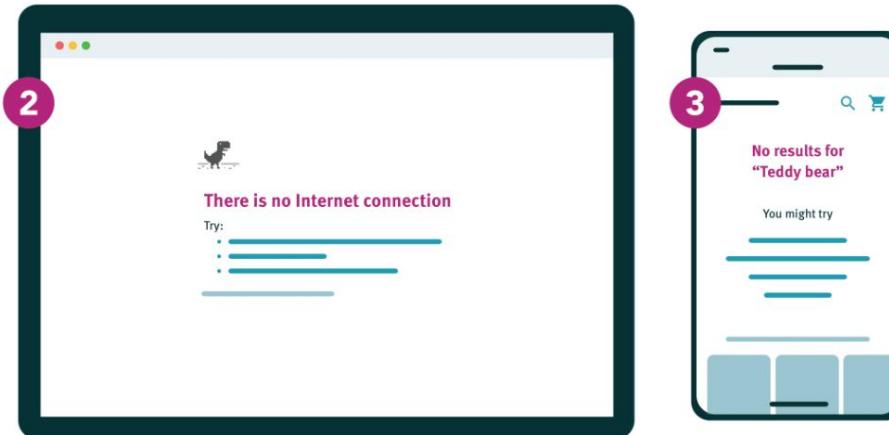
Wrong-way signs on the road remind drivers that they are heading in the wrong direction and ask them to stop.

2 Internet connection error

Good internet connection error pages show what happened and constructively instruct users on how to fix the problem.

3 No search results

Provide useful help when people encounter search-result pages returning zero results, such as popular topics.





10 Help and Documentation

Definition It's best if the design **doesn't need** any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.



Help and documentation content should be easy to search and focused on the user's task. Keep it concise, and list concrete steps that need to be carried out.

Tip: Ensure that the help documentation is *easy* to search.

Tip: Whenever possible, present the documentation in-context right at the moment that the user requires it.

Tip: List *concrete* steps to be carried out.

① **Airport information center**

Information kiosks at airports are easily recognizable and solve customers' problems in context and immediately.

② **Frequently asked questions**

Good frequently-asked-question pages anticipate and provide the helpful information that users might need.

③ **Information icon**

Information icons reveal tooltips to explain jargon when users touch or hover over them, which provides contextual help.





Design



Exercise 3: Heuristics

How to apply?

Look at your prototypes through the eyes of your users.

Mark all the potential Heuristic mistakes.

Then find ways to overcome them.

1 Visibility of System Status

Designs should keep users informed about what is going on, through appropriate, timely feedback.



Interactive mall maps have to show people where they currently are, to help them understand where to go next.

2 Match between System and the Real World

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon.



Users can quickly understand which stovetop control maps to each heating element.

5 Error Prevention

Good error messages are important, but the best designs carefully prevent problems from occurring in the first place.



Guard rails on curvy mountain roads prevent drivers from falling off cliffs.

8 Aesthetic and Minimalist Design

Interfaces should not contain information which is irrelevant. Every extra unit of information in an interface competes with the relevant units of information.



A minimalist three-legged stool is still a place to sit.

9 Recognize, Diagnose, and Recover from Errors

Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.



Wrong-way signs on the road remind drivers that they are heading in the wrong direction.

3 User Control and Freedom

Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action.



Just like physical spaces, digital spaces need quick "emergency" exits too.

6 Recognition Rather Than Recall

Minimize the user's memory load by making elements, actions, and options visible. Avoid making users remember information.



People are likely to correctly answer "Is Lisbon the capital of Portugal?".

7 Flexibility and Efficiency of Use

Shortcuts — hidden from novice users — may speed up the interaction for the expert user.



Regular routes are listed on maps, but locals with more knowledge of the area can take shortcuts.

10 Help and Documentation

It's best if the design doesn't need any additional explanation. However, it may be necessary to provide documentation to help users complete their tasks.



Information kiosks at airports are easily recognizable and solve customers' problems in context and immediately.

Nielsen Norman Group

Jakob's Ten Usability Heuristics



Design



Exercise 3: Example

What are the heuristic mistakes here?



1 Visibility of System Status

Designs should keep users informed about what is going on, through appropriate, timely feedback.

Interactive mall maps have to show people where they currently are, to help them understand where to go next.

2 Match between System and the Real World

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon.

Users can quickly understand which stovetop control maps to each heating element.

5 Error Prevention

Good error messages are important, but the best designs carefully prevent problems from occurring in the first place.

Guard rails on curvy mountain roads prevent drivers from falling off cliffs.

8 Aesthetic and Minimalist Design

Interfaces should not contain information which is irrelevant. Every extra unit of information in an interface competes with the relevant units of information.

A minimalist three-legged stool is still a place to sit.

Nielsen Norman Group

Jakob's Ten Usability Heuristics

3 User Control and Freedom

Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action.

Just like physical spaces, digital spaces need quick "emergency" exits too.

4 Consistency and Standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

Check-in counters are usually located at the front of hotels, which meets expectations.

6 Recognition Rather Than Recall

Minimize the user's memory load by making elements, actions, and options visible. Avoid making users remember information.

People are likely to correctly answer "Is Lisbon the capital of Portugal?".

10 Help and Documentation

It's best if the design doesn't need any additional explanation. However, it may be necessary to provide documentation to help users complete their tasks.

Information kiosks at airports are easily recognizable and solve customers' problems in context and immediately.



Design



How - Principles of Accessibility

Accessibility =

Interfaces and environments should be designed to be
usable without modification, by as many people as
possible, regardless of abilities and limitations.

Perceptibility

Operability

Simplicity

Forgiveness



Design



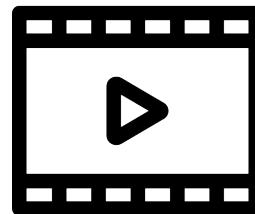
How - Principles of Accessibility

Perceptibility = Everybody can perceive the design



TEXT

Icon + Text



Videos



Language



Voice instead
of text



Design



How - Principles of Accessibility

Operability = Everybody can use the design



Button



Size of controls



Body size

Physical strength



Design



How - Principles of Accessibility

Simplicity = Everybody can understand the design

Only show **relevant**
information

The user does not have to
understand the software, but only
needs to **understand how to use it.**



Design



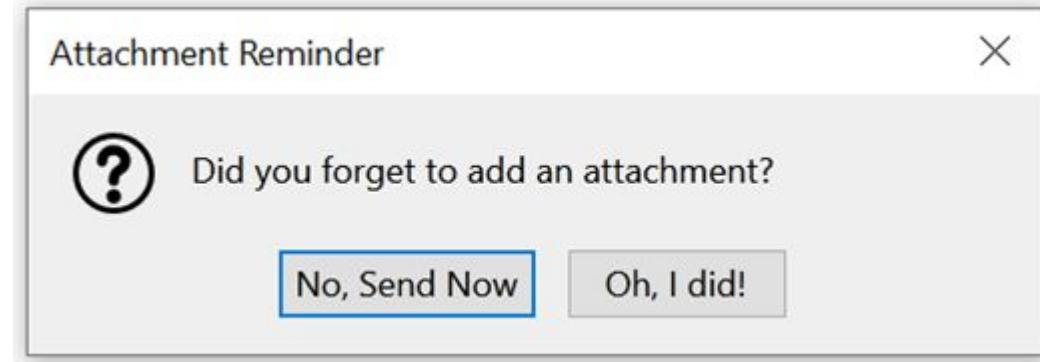
How - Principles of Accessibility

Forgiveness = Effects of errors are minimal



Switch - Flip

Affordance & constraints



Detection & confirmation



Design



How - Principles of Accessibility - Example

From historically driven,
readable for experts



To accessible and
usable for everyone





Design



How - Some Resources

UX Research & Design Theory:

<https://www.nngroup.com/>

Open Source system of guidelines, components, and tools that support the best practices of user interface design - Backed by open-source code:

<https://material.io/>

Open Source Icons:

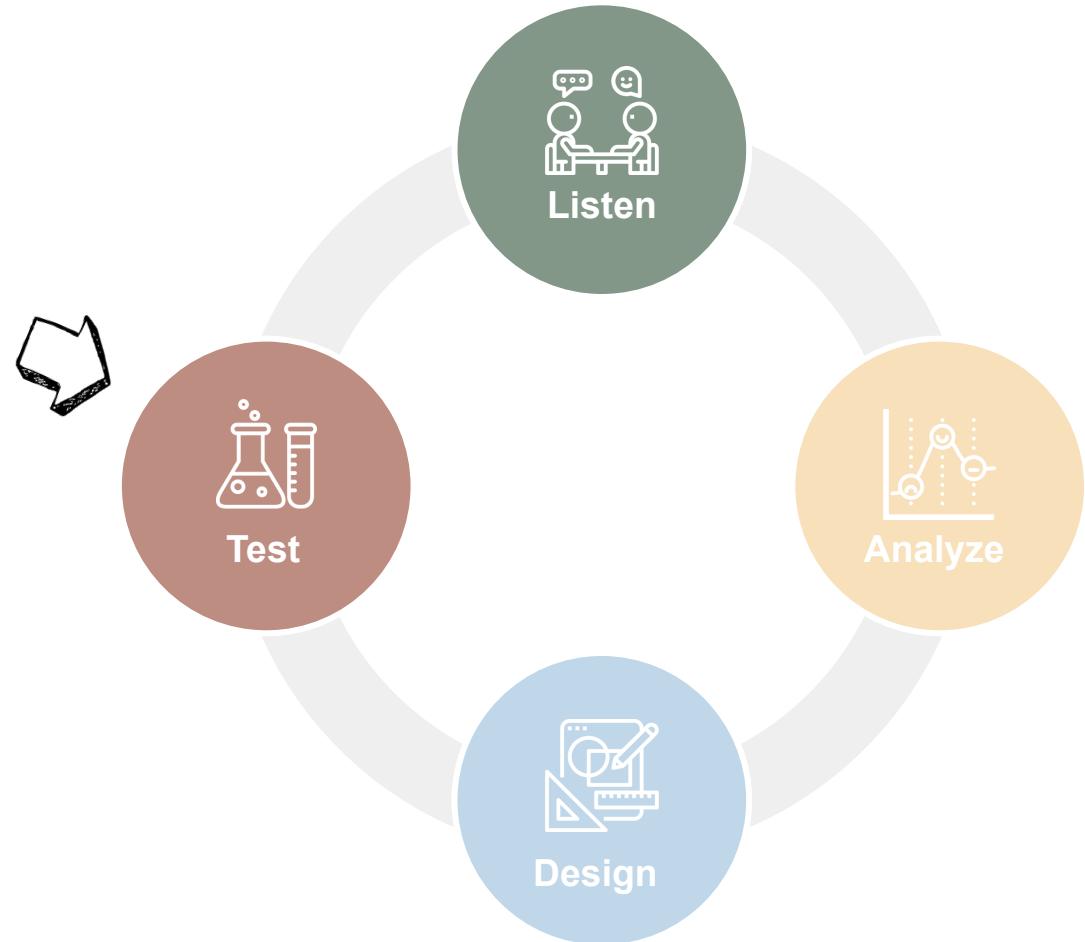
<https://fontawesome.com/>

Freely usable Images:

<https://unsplash.com/>

UX Process

4 Phases to build
Services & Products
with great UX



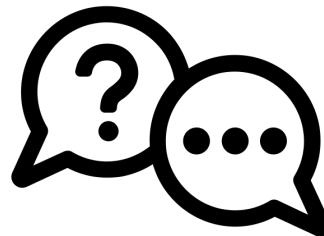
NEXT 27th of June

- Discuss Exercise Results and Questions
- Make UX Iterative by Testing
- Answer all your Questions

Thank you!



Any question now?



Or bring your questions
with you to the next
session