



## PREREQUISITES

- Know your end users
- Something to test
- Creativity

## TIME

5-25 min

## WHAT

Empathy Tools is a term used to describe **physical objects** and **cognitive or social techniques** that provide designers with a feeling and deeper understanding of users with **various abilities**. With **inclusive design** it is possible to gain more empathy and understand better other user's capabilities, by experiencing a product in a way that an end user with certain disabilities would.

It can be used to better understand target user's needs and context in the research phase, but also in the prototyping phase it can help to ensure that the product meets the needs of users with various abilities while testing.

## WHY

Empathy Tools are used to develop an "**informed intuition**" for users with special conditions. Instead of just imagining the differing conditions it helps a lot to actually live them by using tools that allow you to experience a similar condition, as it is difficult to empathise with users that have different abilities or live in a different personal or social situation.

Especially in the field of software development it is crucial to see the differing abilities in using technical devices: While the team developing the software has mostly very advanced and from most non-developers differing abilities, their end-users mostly just have basic abilities. And people with minimal or almost no technical abilities are still common. Here empathy tools can serve as a good countermeasure to develop more human centered software by gaining insights from these extreme users.

Finally when thinking about how well something can be used we should also focus on how inappropriate design can even further disable some people from using your product.

## HOW TO

Empathy Tools is an informal method that has no defined process to be taken. In general first one has to think about the abilities and special conditions that the end users might have and then try to find a good way to simulate those.

**RESEARCH** Do some user research to find out which special conditions you need to take into account.

**DOMAIN** Do some further research on the domain to understand the specific situation of your users - e.g. there are different levels of poor eyesight like seeing a bit blurry, not seeing colors or not seeing at all.

**FOREKNOWLEDGE** The team has developed the product so it has specific knowledge that the real end user will not have - e.g. a blind user never had seen your product before.

**SIMULATION** Think of how you could simulate the special condition. The possibilities are nearly endless from simple physical objects (blindfold), specialized physical objects (that can simulate a specific eye weakness) to cognitive and social techniques (count backwards from 100 in steps of seven to simulate a bad mental condition).

**DOCUMENTATION** Have an observer taking notes or take a video of your experience. After finishing the simulation take some time for a period of reflection and taking your own notes.

Remember, although this exercise is a good way to empathise with extreme users, it does not replace speaking to real users!

## EXAMPLE

Empathy Tools are simple, quick and inexpensive ways of empathetic testing and should be used in any situation where applicable.

In software development Empathy Tools can be used in very different ways depending on the target device and target user group. This list has some possible topics and examples and should help to find cases for using Empathy Tools. Simulating the experience in most cases is very straightforward, in others some more creativity might be needed.

## **TECHNICAL ABILITIES**

- Ten vs. two vs. one finger typing
- Scrolling using the scrollbar, not the mouse wheel - or even not knowing it is possible to scroll
- Advanced operations
  - Software asking you to: "empty your local storage", "install driver xy", "format your disk", etc.
- Understand more complex UI
  - Open on hover or uncollapse by clicking on an icon
- Technical knowledge
  - Software asking you for: type of internet connection, ip address or some specific software internal identifiers

## **MOTORIC AND SENSORY ABILITIES**

- Shaking hands
  - Difficulties using mouse, keyboard or touchscreen
- "Big fingers"
  - Difficulties using touchscreen or touchscreen keyboard
- Hearing problems
  - Difficulties understanding voice output
- Bad eyes
  - Difficulties seeing output on screen
  - Not able to distinguish UI elements because they are too close
- Language difficulties
  - Difficulties understanding voice output
  - Language dialect not recognized by voice recognition

## **DEVICE ABILITIES**

- Device specs
  - Slower/faster CPU, higher/lower RAM, disk space, ...
- Screen
  - Small/big screen
- Type of device
  - Desktop, laptop, tablet, mobile, watch, ...
- Internet speed
- Device manufacturer
- Operating system

# EMPATHY TOOLS

*Foster Prototyping*

Some environments already help you with simulating different device abilities, like for example choosing different devices in mobile simulators, throttling internet speed or changing screen size in a browser.