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ALTII
AGENCY FOR MOBILITY AND EU PROGRAMMES
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ACTIVE LEARNING THROUGH IMPROVED INTERACTIVITY

User interfaces

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How would you explain what user interface is?

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http://161.53.64.78/

Lecturer Audience

1304

Start

A

B

C

D

E

Send text

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How would you explain what user interface is?

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Common myths

- user interface = visual design
- the job for graphic designers

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How would you explain
what is the difference between
user **interface** and user **experience**?

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UX (user experience) vs. UI (user interface)

- **UX -** user **experience**
  - user's holistic experience of a product
  - the was we perceive a „house"
  - is it warm or cold
  - noisy or quiet
- **UI -** user **interface**
  - elements there are in order for us to use or manage the tool
  - switches, faucets, knobs …
  - lights, ventilation, doors and windows
  - colors on the wall
- in software
  - what is the purpose (of SW)
  - how easy can I accomplish my task
- for software
  - page/screen organization
  - navigation
  - buttons
  - form fields
  - type-ahead

User interfaces

- it is NOT the visual design
  - although it is and integral part of UI
- but rather interaction of human and computer
- and the cognitive model of the system, above all

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What could a „cognitive model” be?

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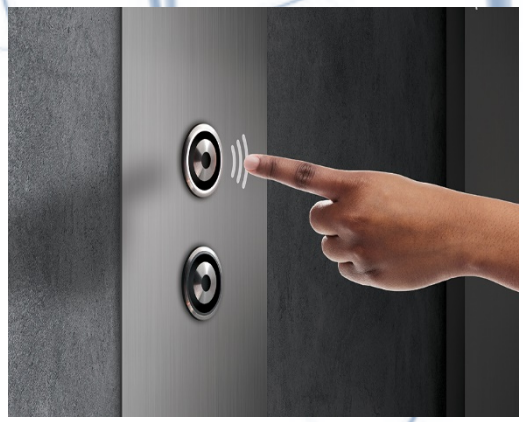
Cognitive (conceptual) model

- how do we **envision** a product/device/system
- **abstract** view on its structure
- of which **parts** it consists
- in what kind of **interaction** are they
- how we **control** them
- how do we know in which **state** they are
- which **processes** are going on



Examples of a cognitive model

- **elevator** – how do you
  - „call” it?
  - know whether it is responding to your call?
  - know where is the cabin right now
  - how do you know what is going on right now?

- **motorcycle** <-> **segway**
  - how do we change the speed?
  - how do we break?

- what do we control by setting up a **thermostat**?
  - is it the speed of heating/cooling
    - i.e. the speed and volume of streaming of the medium
  - or the point of turning on/off of the system
  - are you going to cool/heat the room faster if you set the thermostat ot the maximum?!

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Can you recall one example of a problem with cognitive model of some product, software?

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If an item for **every day's use**

needs a user manual to operate it

it only means **it was NOT properly designed**

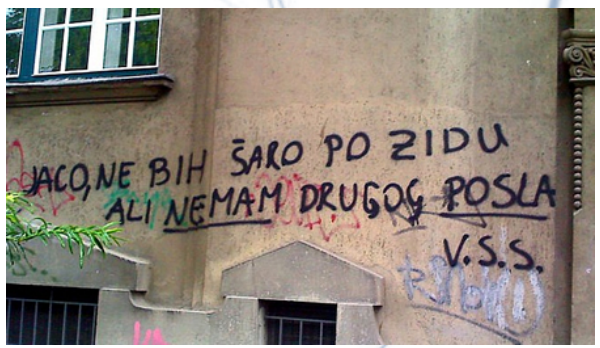
Don Norman

Primjer: Kako se otvaraju vrata

Affordance

- suitability of something …
  - surface
  - material
  - construction
  - position
  - ….

gives us **intuitive** hint,
even **before** we figure out
what the **designer wanted**



- … for some use, applicability to
  - write
  - sit
  - hold
  - put things on
  - …

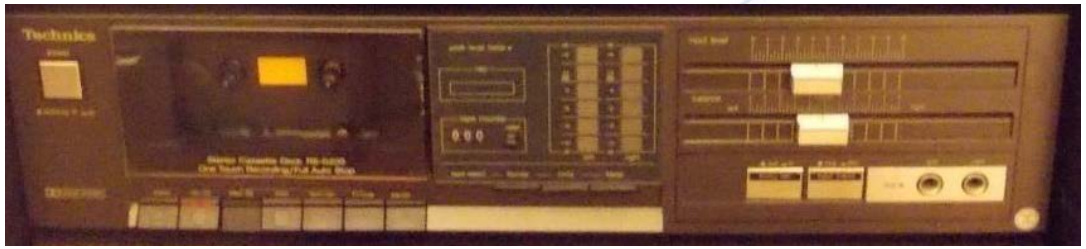
sometimes can be **misunderstood**

or designes **did not take into account users' immagination**

7 phases of (an user's) action

Signifiers

- **signalizing** to the user
  - which action, and where, they can take
  - in order to use the object
- signalizing the state
  - of the component or the whole system
  - working/not working/standby
  - on/off
  - normal/problem
- signalizing how to change
  - increase/decrease
  - coarse/fine
  - exact/approximate

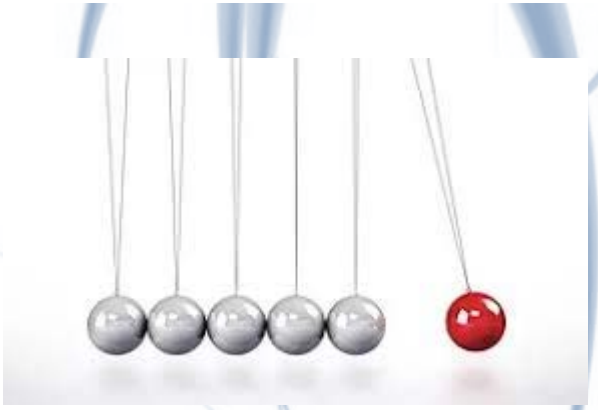


Mapping

- controls have to be intuitively mapped
- to activities and (desired) effect

- the feedback is crucial
  - to know that the command has been r
  - causality: what is activating what
  - timeliness:
    - otherwise the user will repeat the command
  - unobtrusive
  - prioritized

Action-reaction



- user **behavior depends** on
  - the goal
  - events
  - data
- from system's response, **user concludes** about
  - cause and consequence
- **delay** of response/feedback **causes**
  - user to believe the command has **not been received** and to
  - **repeat** the command
  - what will be the reaction of the system to repeated command ?
    - ignore ? cancel? accumulate?

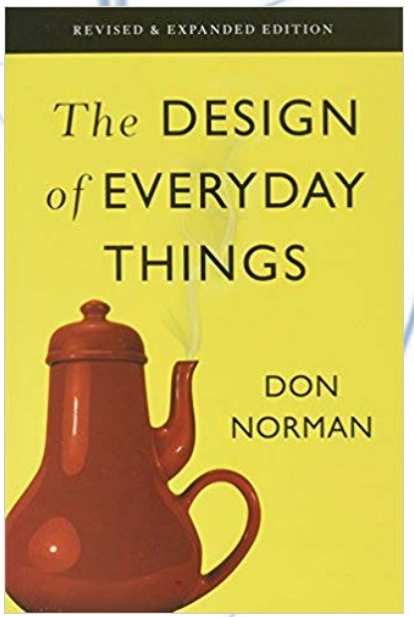
=> that needs to be **designed**

Accessibility

- **visual**
  - intensity
  - shades, contrast
  - colors
  - interference from the environment
- **tactile**
  - injuries
  - ekstreme temperatures
  - humidity/dirt
  - (protective) gloves
- **auditory**
  - intensity
  - frequencies
  - distinguishing intensity/frequency
  - interference from the environment
- **manipulating**
  - single handedly
  - number of fingers
  - size of hand, fingers
  - the same or legs and feet

Literature

- Don Norman: „**The Design of Everyday Things**”
  - Basic Books, 2013
  - **ISBN-13:** 978-0465050659
- **uxdesign.cc**



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