MMI 1
Different User Needs

INTERACTION DESIGN

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Phase 1
User Research

Field Research

Desk Research

Phase 2
Analysis and Concept
Generation

Concepts

Phase 3
Paper Prototyping

Prototyping

Phase 4
Usability Testing

LO Fidelity

HI Fidelity

Phase 5
Implementation

Video Prototype

Purpose of this lecture:
A basic understanding of the user centered design process plus how different contexts and user needs have a massive impact on the solution.

What are the different types of users and usage context?

Some of the most relevant:

External context:
Surroundings

Personal context:
Novice or expert
Frequent or infrequent usage
Physical or psychological limitations

Modal context:
Lean forward or lean backward
Search or browse
Front of attention or minimal attention

Most of these might be obvious, but it's always important to keep them in mind when designing your solution...

The external context
the surroundings

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ALSTOM
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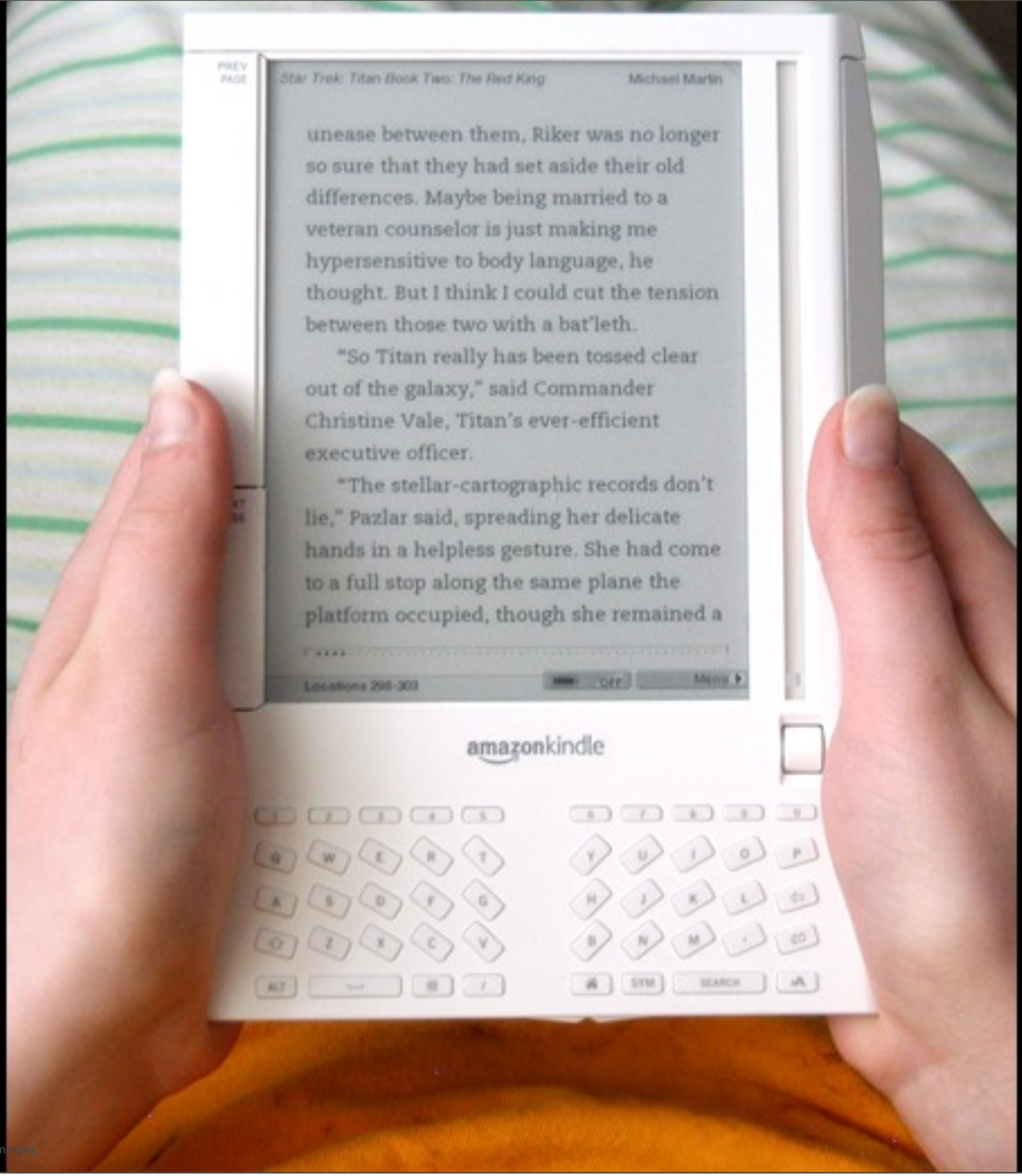

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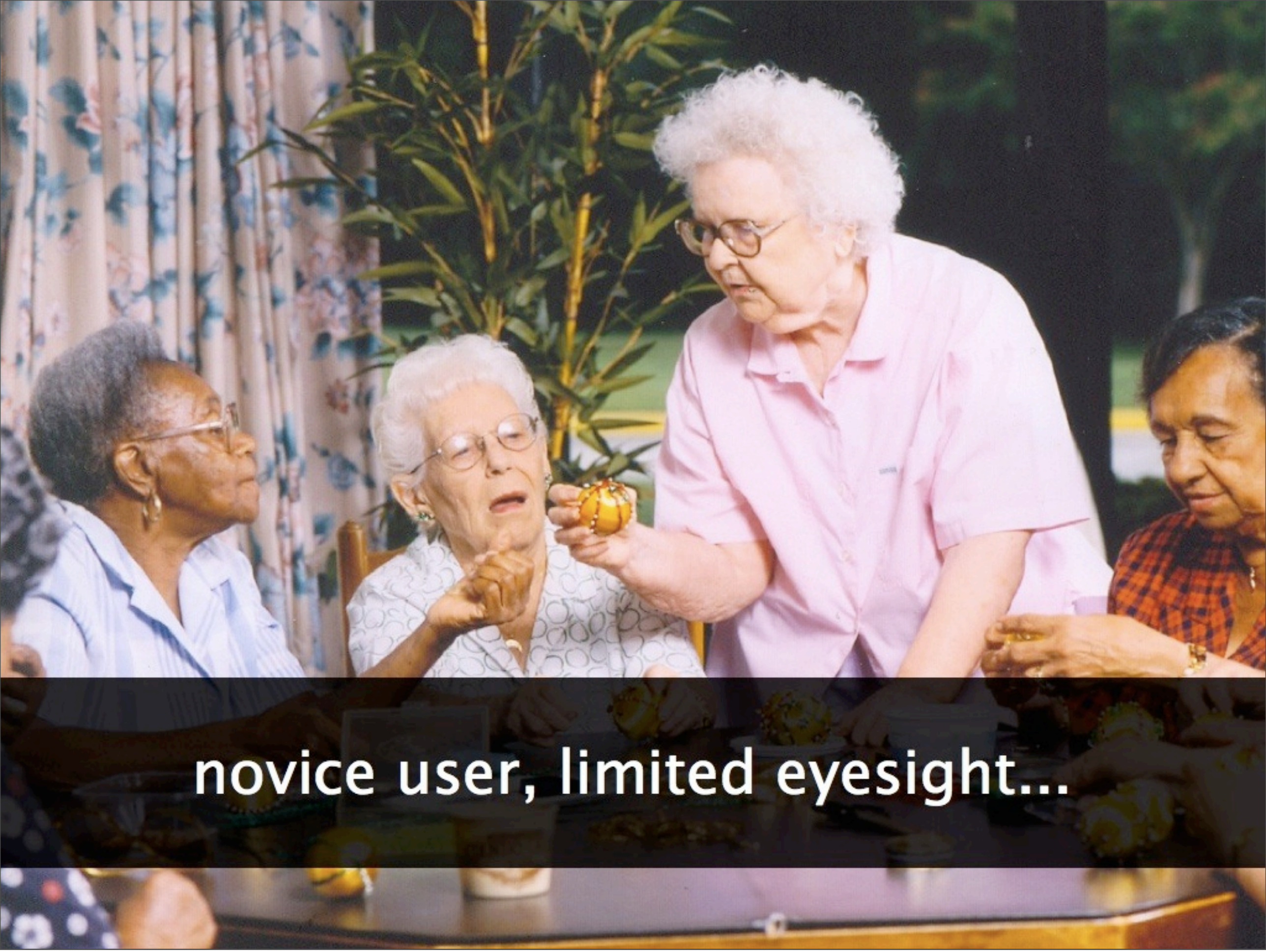
The external context will effect not only the physical device, but also the mindset of the user...

The personal context

novice user
vs.
expert user


novice user, limited eyesight...

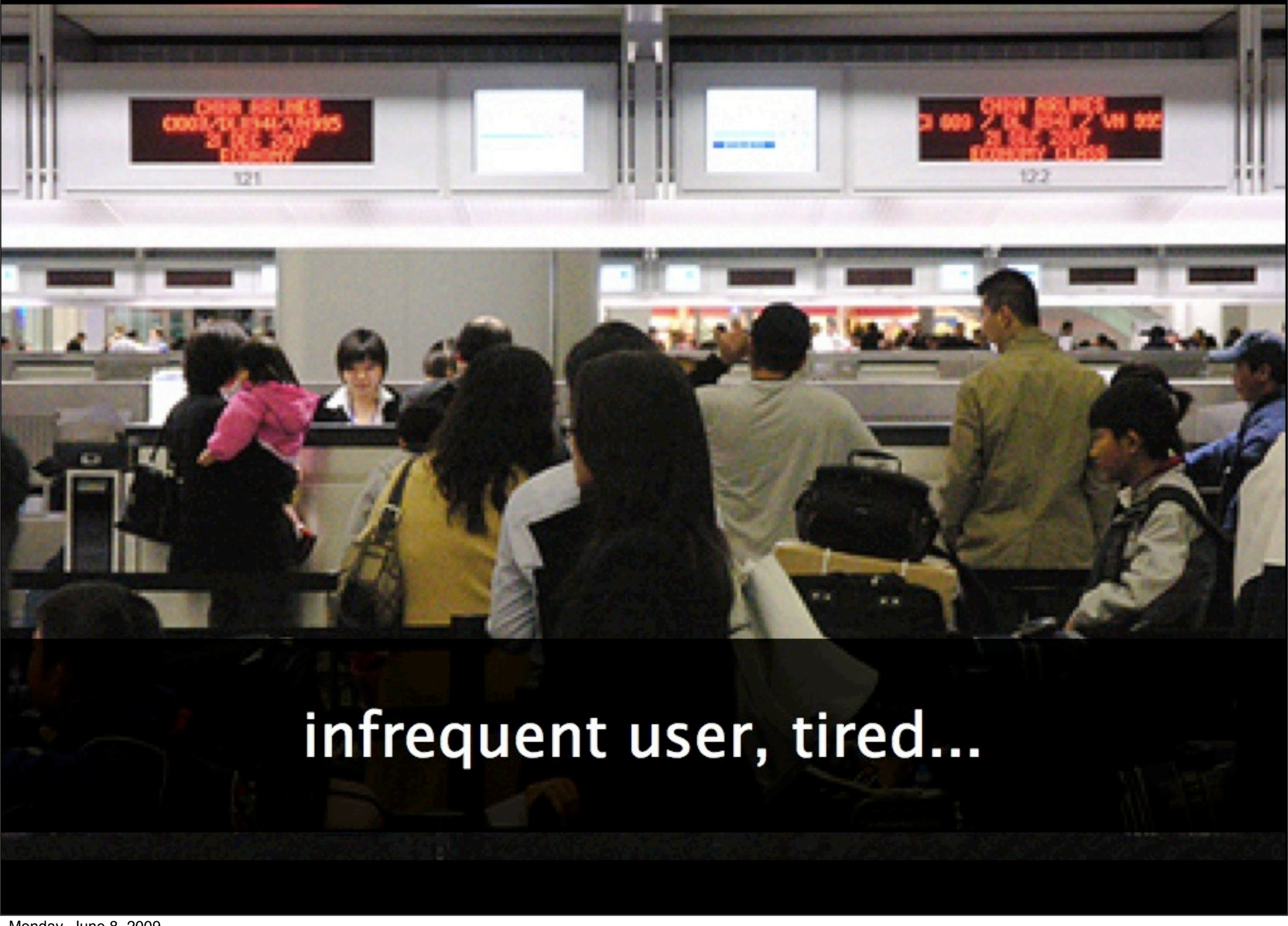
expert user, high stress...

HYDRAULIC POWER
AILERON
SPOILER
ELEVATOR
RUDDER
STALL WARNING
FLIGHT RECORDER
SECAL SELECTOR
SECAL
000000
YAW DAMPER
UPPER
LOWER
FLT CONTROL WARNING TEST
SAFETY RELAY BYPASS
APD BYPASS
PASSENGER ADDRESS
VOLUME LEVEL
MONITOR SPEAKER
MAIN GEAR ANTI - SKID
ANTI - SKID TEST
LEFT
RIGHT
ALT HI
VERTICAL GYRO
CDI SELECT
RAIN REPELLENT
WINDSHIELD WIPER
EMERGENCY EXIT LIGHTS
CONTINUOUS IGNITION
ENGINE START
ALTERNATE FLAPS
000000
CABIN ATTENDANT
NO SMOKING
GROUND CREW CALL
FASTEN SEAT BELTS
TEST
ERASE
HEADSET
WINDOW HEAT
ANTI-ICE
DUCT TEMP
WING
ENG 1
ENG 2
VALVE POS
COWL
CLOSE
ENG 1
ENG 2
ENG 3
ENGINE INLET
PITOT STATIC HEAT
LEFT
RIGHT
PITOT STATIC TEMP PROBE ELEV PITOT
HEATER OFF
MAP
LEFT FWD & SIDE PANEL
CENTER FWD PANEL
FWD PANEL BACKGROUND
FWD PANEL FLOOR
OVERHEAD PANEL
CONTROL STAND
RED
WHITE
LIGHT OVERRIDE
ALL WHITE
RIGHT FWD & SIDE PANEL
MAP
COMPASS
EXTERIOR LIGHTING
LANDING
TAXI
RUNWAY TURNOFF
NAVIGATION
FLASH
STEADY
BEACON
WING
WHEEL WELL
DOME RED
DOME WHITE

frequent usage

vs.

infrequent usage


121
122
infrequent user, tired...

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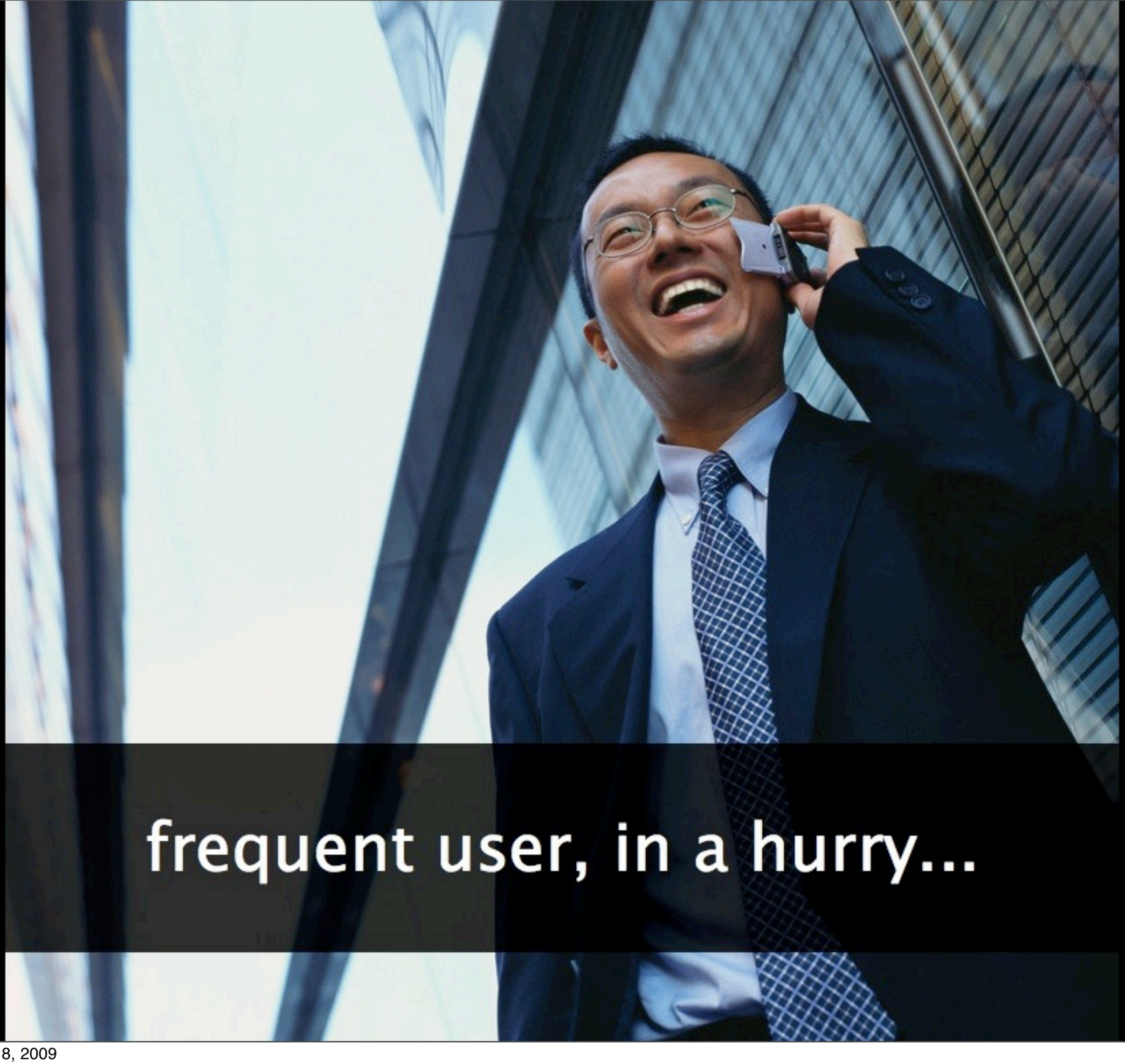

frequent user, in a hurry...

photo copyright: RIM

Different user types and usage frequency will require dedicated solutions.

User modes

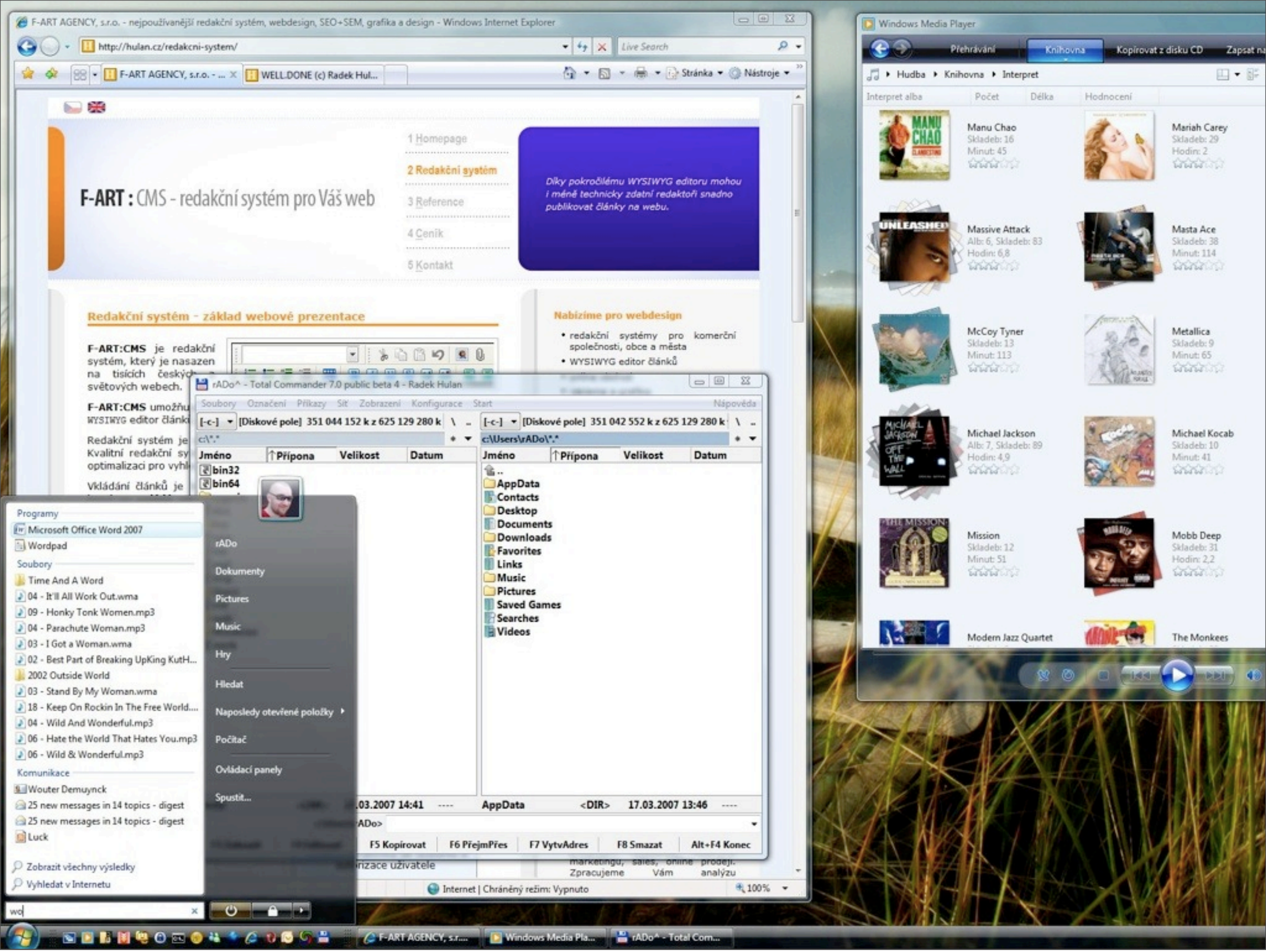
lean forward
vs.
lean backward

TV - Lean backward

Typically a TV viewer is "leaning back" in their sofa, using only a Remote Control or a game controller as a means of interaction.

PC - Lean forward

While a PC user is 2ft or 3ft from his high resolution screen using a mouse and keyboard.



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10:27 PM

MediaCenter

Start

Online Spotlight

My Videos

My Pictures

My TV

My Music

More Programs

Settings

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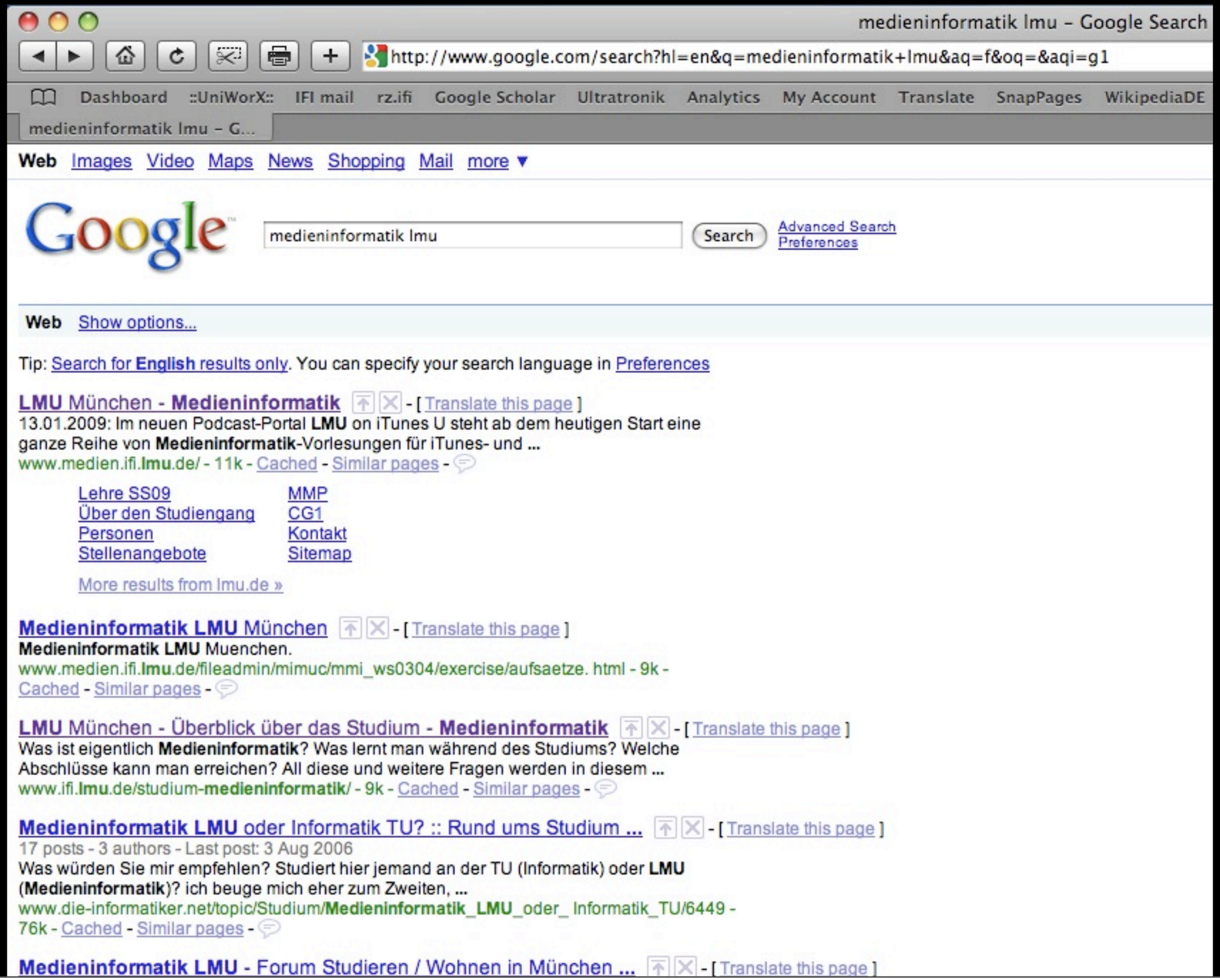
The demands of distance, user input devices, and user mode - requires the application's UI to be designed accordingly.

search
vs.
browsing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http://www.google.com/search?hl=en&q=medieninformatik+lmu&aq=f&oq=&aqi=g1
Dashboard ::UniWorX:: IFI mail rz.ifi Google Scholar Ultratronik Analytics My Account Translate SnapPages WikipediaDE
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Web Images Video Maps News Shopping Mail more ▼
Google
medieninformatik lmu
Search
Advanced Search
Preferences
Web Show options...
Tip: Search for English results only. You can specify your search language in Preferences
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13.01.2009: Im neuen Podcast-Portal LMU on iTunes U steht ab dem heutigen Start eine ganze Reihe von Medieninformatik-Vorlesungen für iTunes- und ...
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17 posts - 3 authors - Last post: 3 Aug 2006
Was würden Sie mir empfehlen? Studiert hier jemand an der TU (Informatik) oder LMU (Medieninformatik)? ich beuge mich eher zum Zweiten, ...
www.die-informatiker.net/topic/Studium/Medieninformatik_LMU_oder_ Informatik_TU/6449 - 76k - Cached - Similar pages -
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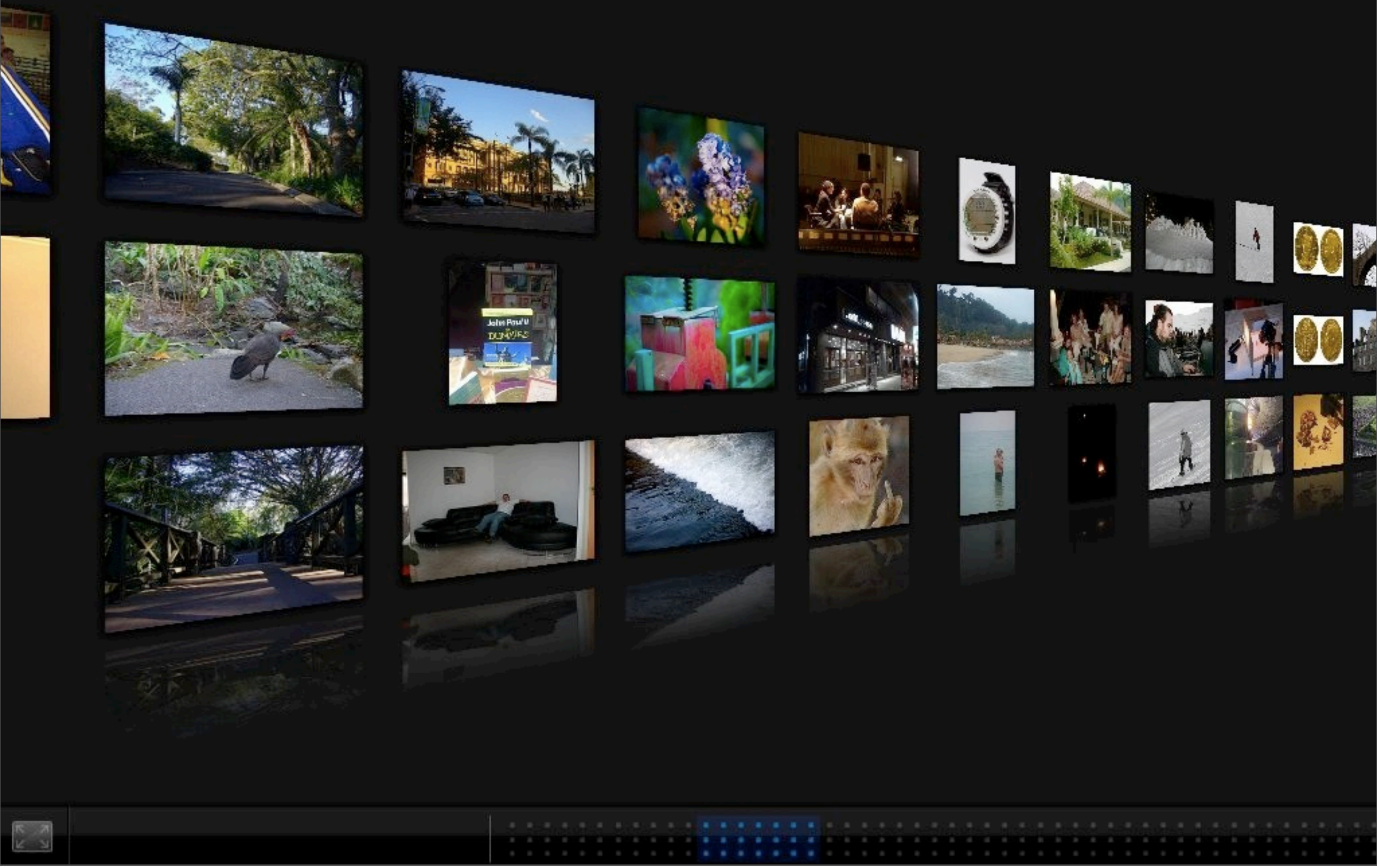
PicLens™ view for flickr

Search



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This is especially interesting for retailers. The internet lent itself so far quite well for comparative purchases - I know what I want, where can I get it cheap?

But what about impulse shopping behaviors?

garmin 450 - Google Product Search

http://www.google.com/products?hl=en&q=garmin+450&scoring=pd

pictlens

Web Images Maps News **Shopping** Gmail more ▼ My Shopping List

Google garmin 450 Search Products Search the Web Advanced Product Search Preferences

Products

Results **1** - **10** of about **1,506** for **garmin 450**. (**0.11** seconds)

Sponsored Links

Garmin GPS Online Store
Garmin.PremiumStore.com **Garmin** Auto | Outdoor | Marine | and Accessories. Free Shipping!

Garmin zumo **450** $299
www.Everyprice.com Find the Right Price! Compare Shops & Purchase Online - Quick & Easy.

Show Google Checkout items only **Showing all items** Show grid view Sort by price: high to low

Garmin zumo **450** - Motorcycle GPS receiver - LCD - 320 x 240 - color
10.6 oz, 4.8 " x 1.6 " x 3.9 ", 500 WPs
Rugged and ready to ride, the zūmo **450** is your faithful guide to the open road. With glove-friendly, left-handed controls, preloaded street maps and a sunlight-readable screen, ...
6 reviews - Add to Shopping List - Google Checkout

$349 to $1,184
from 241 sellers
Compare Prices

GARMIN 010-00567-05 Zumo **450** GPS Receiver
... mount with standard 4-hole AMPS pattern for mounting anywhere Includes **Garmin** Lock anti-theft feature Waterproof: IEC 60529 IPX7 standards (submersible ....
3 reviews - Add to Shopping List

$799.99
GrabCart
9 seller ratings

GARMIN ZUMO **450** MOTORCYCLE GPS, GPS Units, Navigation, Marine/ ...
... WTE-GAR0100056705 zumo **450**: The navigator that's born to ride zumo **450** ... 4-hole AMPS pattern so you can mount it anywhere Includes **Garmin** LockT, ...
5 reviews - Add to Shopping List

$791.99
ATAFA Sporting Goods...
2 seller ratings

garmin zumo **450** motorcycle gps
GARMIN ZUMO **450** MOTORCYCLE GPS Rugged and ready to ride zūmoT **450** is your faithful guide to the open road. With

$763.95
Claude Decembre

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Garmin 450
Free Shipping on GPS Units and Accessories Over $50. Shop Today!
www.RadioShack.com
Google Checkout

Garmin® GPS at Dell
Shop **Garmin**, eTrex & Forerunner GPS Systems at Dell Official Site Here!
www.Dell.com

Garmin 450
Bargain Prices. Smart Deals. Save on **Garmin 450**!
Shopzilla.com

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Motorcycle Navigator GPS Free US Shipping Available.
www.amazon.com

Garmin Zumo Summer Sale
Garmin Zumo **450** Motorcycle GPS In Stock & Free UPS Ground Shipping
www.TigerGPS.com

Garmin 500
Free Shipping on **Garmin** 500 BuyDig- Your Online GPS Superstore!
www.BuyDig.com/GPS

Garmin at Walmart
Get low prices on **Garmin** & save

Amazon Windowshop Beta

http://windowshop.com/

amazon windowsho

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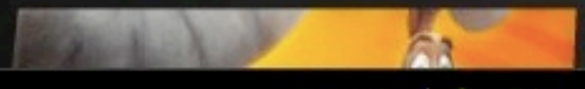
Bestselling Video Games

November 2008

New Music Tuesd

October 28, 200

Help



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Different modes can require radically different solutions...

80/20 rule

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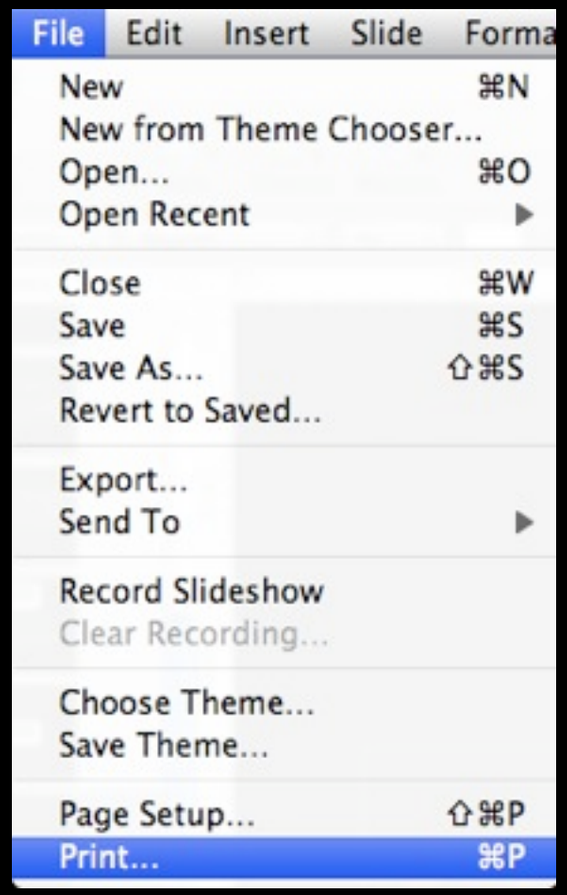

80/20 rule

A principle for setting priorities: users will use 20% of the features of your product 80% of the time. Focus the majority of your design and development effort (80%) on the most important 20% of the product.

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How to Perform a Requirements Analysis?

- General methods, before knowing user community in detail:
  - Surveys, opinion polls
  - E.g. Internet polls
- Methods applicable when user groups are roughly known:
  - Focus groups
  - Interviews
  - Diary studies
- Methods targeting very specific user groups:
  - Ethnographic observation
  - Task analysis

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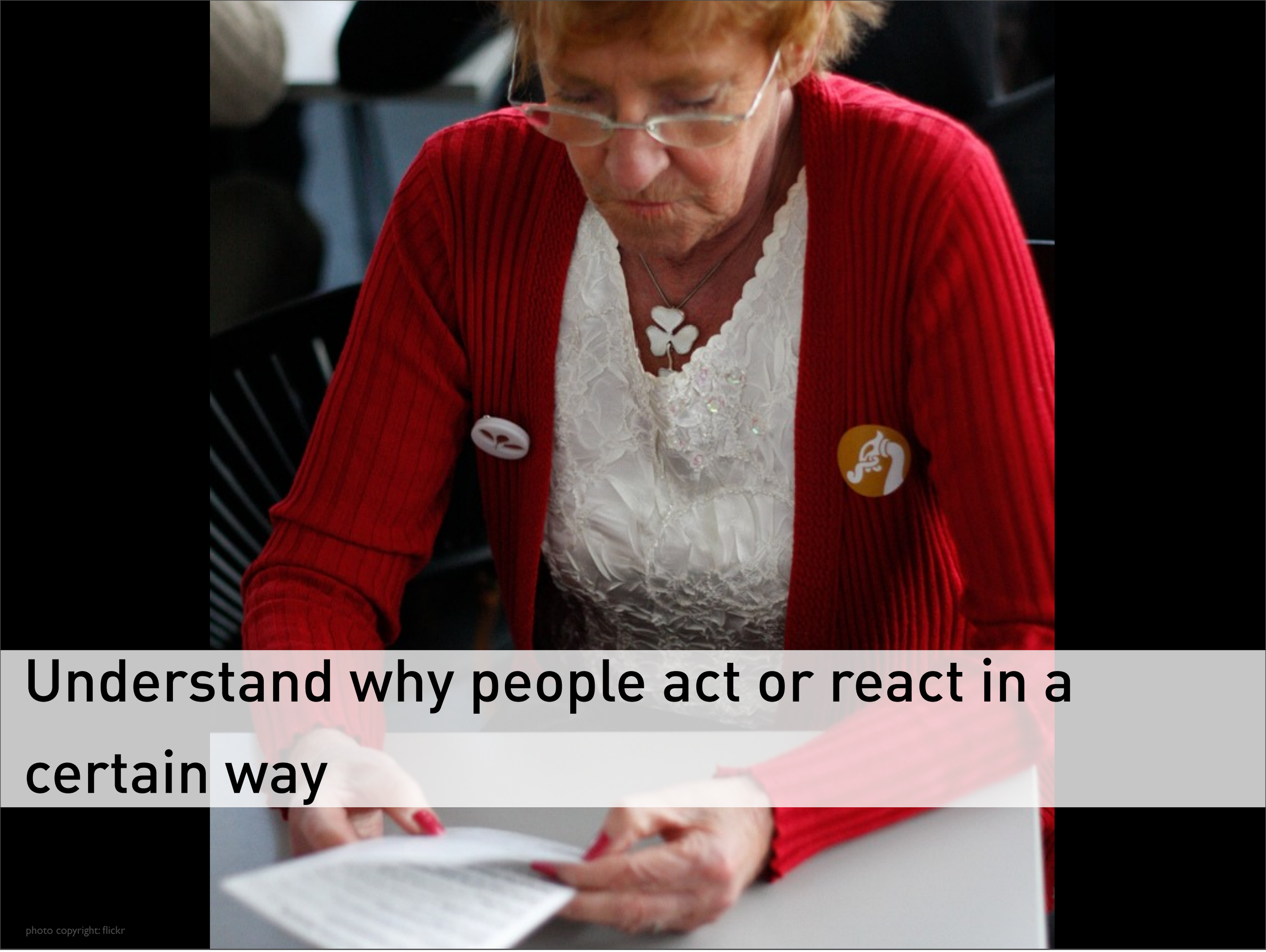
Focus Group Basics

informal group gathering 6-8 people

focus on a specific topic

get indication how people think and feel

Collecting opinions, attitudes, feelings, perceptions, and ideas



Understand why people act or react in a certain way

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Advantages

- Wide range of information
- In-depth information (Why user ...)
- Possibility to explore related topics or go into more detail
- Cheap and easy to do

Disadvantages

- The moderator plays a significant role and can influence the results
- No quantitative information can be gathered
- Findings can not be easily generalized

photo copyright: flickr

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User Research with Interviews and Questionnaires

photo copyright: Alexander Wiethoff

User questionnaires

photo copyright: Alexander Wiethoff

Informal gathering of qualitative user data

photo copyright: Alexander Wiethoff

Cheap and easy

photo copyright: Alexander Wiethoff

Creates a lot of data, potentially expensive to analyze

Good for review / discussion with the user

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Example: User Research in an elderly home

photo copyright: CIID

daily routines

photo copyright: CIID

caretakers tasks

photo copyright: CIID

caretakers tasks

photo copyright: CIID

vs. elderly tasks

photo copyright: CIID

daily routines

photo copyright CIID

daily routines

photo copyright: CIID

elderly´s devices

photo copyright: CIID

caretaker´s device

photo copyright: CIID

elderly´s device

photo copyright: CIID

elderly tasks

photo copyright: CIID

elderly tasks

photo copyright CID

caretaker´s screens

photo copyright: CIID

elderly´s devices

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data extraction & analyzation

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hierarchies of main findings

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Brainstorming and Concept Generation
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„Post-IT“ Version

Clustering or creative writing

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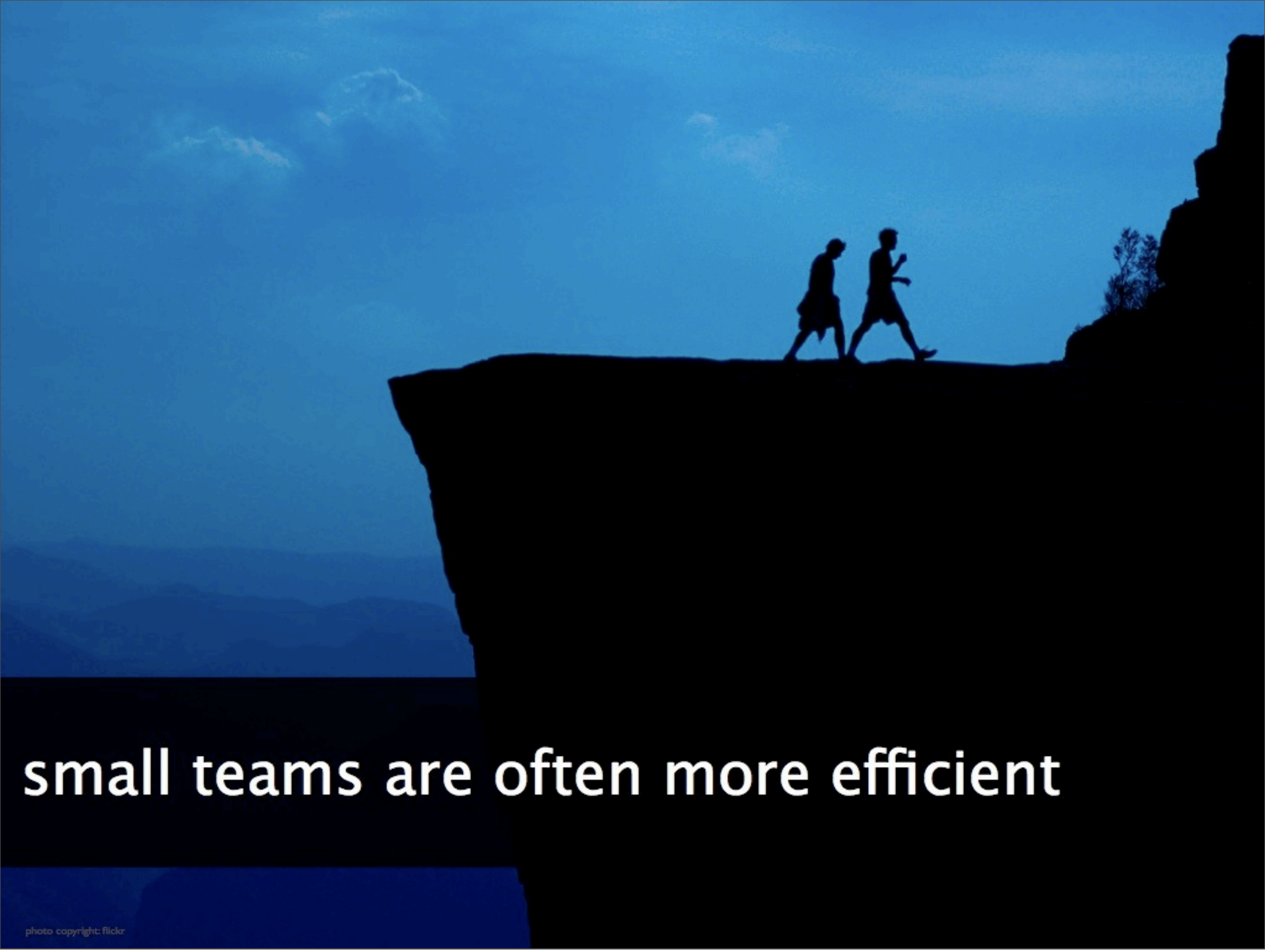
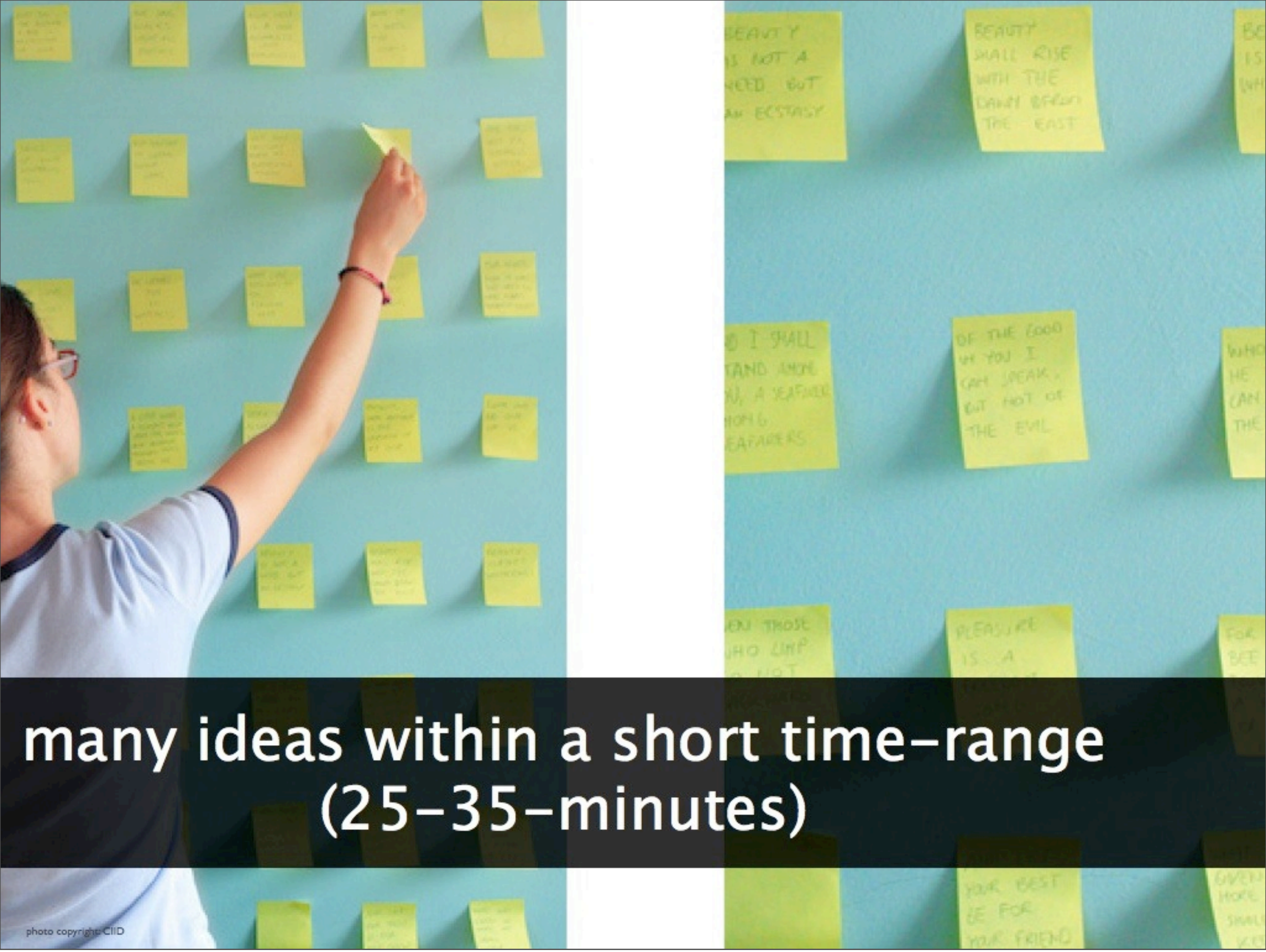
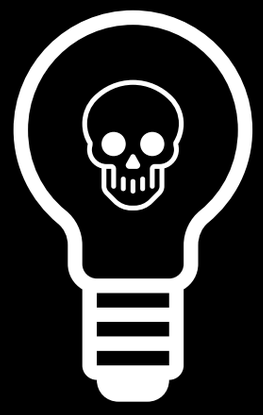
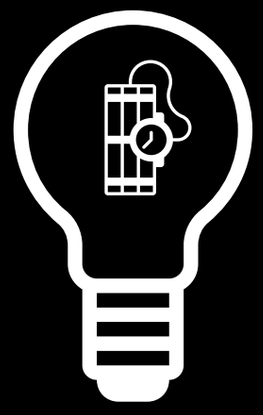

small teams are often more efficient
photo copyright: flickr


many ideas within a short time-range
(25-35-minutes)
photo copyright CIID



No early judgement
(there are no “bad” ideas at this point)



Also bringing in “crazy ideas”
(sometimes crazy ideas can make a
breakthrough)

Constantly focused on the theme

feel understod
VALIDATED

CONTEXT NEEDS

POWER IMBALANCE
Need to feel helpful, not helpless w/my situation

Need to feel like I have some power in this relationship.

Need to feel time well spent.

Need to be treated professionally enough, but personally, idiosyncratically

are unique
it shouldn't be
part of a ser
I need to feel unique

NEED TO TALK TO A PERSON
(not machine, not person feeding me scripts)

Need to be/feel productive
(when not actively working on issue)

ACTIVITY NEEDS

Need to not feel chained to the phone.
(esp w. iPhone)
Need to be free of my phone

Need to feel respected — minimize your time & energy on phone.

Need to feel natural engagement w/caller

Need to feel like I'm listened to.

I NEED TO FEEL LIKE I HAVE SOME CONTROL.
(not just operator)
I have no choice in many things.

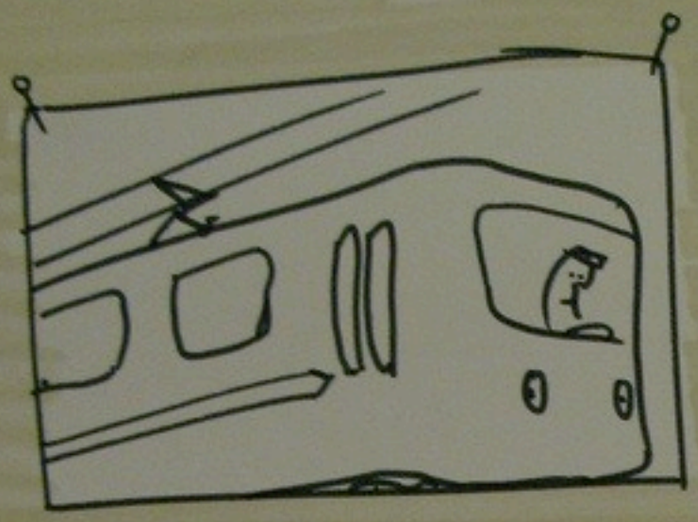
QUALIFIER NEEDS

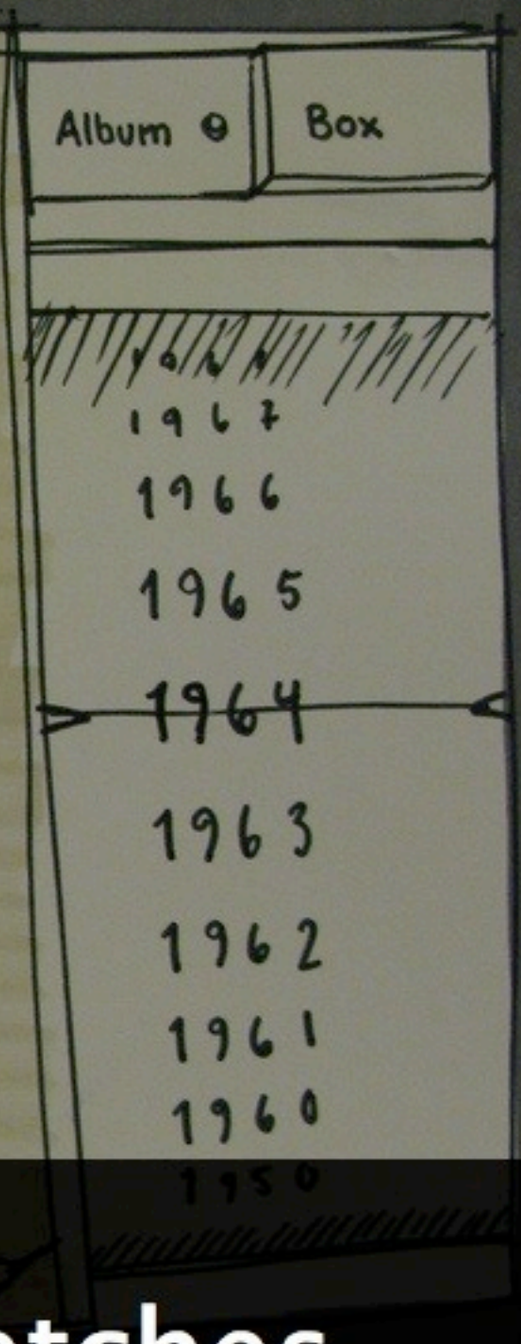
Need to not have to repeat myself

Silent voting of best Ideas

Scenarios and personas

photo copyright: CIID





First details and interface sketches

On the ~~left~~ right side of the screen is something that looks like a big wheel. Helga puts her hand on the screen, where the wheel is, and moves it up. The wheel starts rolling and numbers representing years start moving. When the year 1964 is centered, she removes her hand.

5

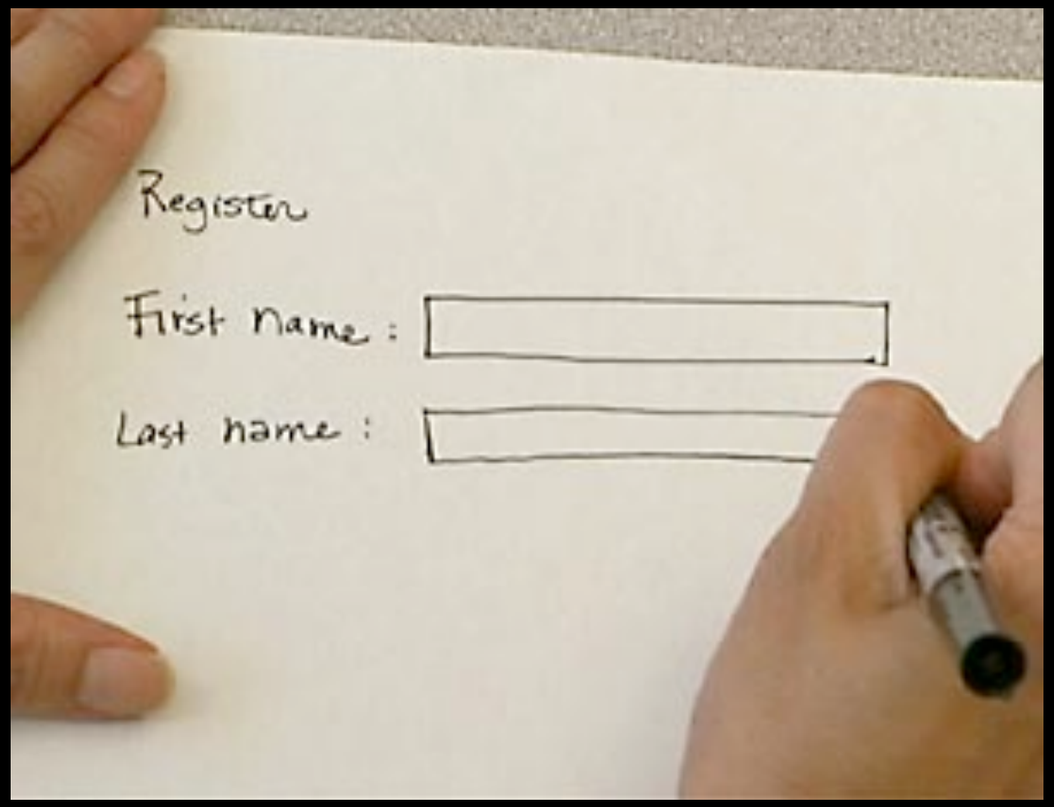
photo copyright: CIID

„Low Fidelity“ paper prototypes

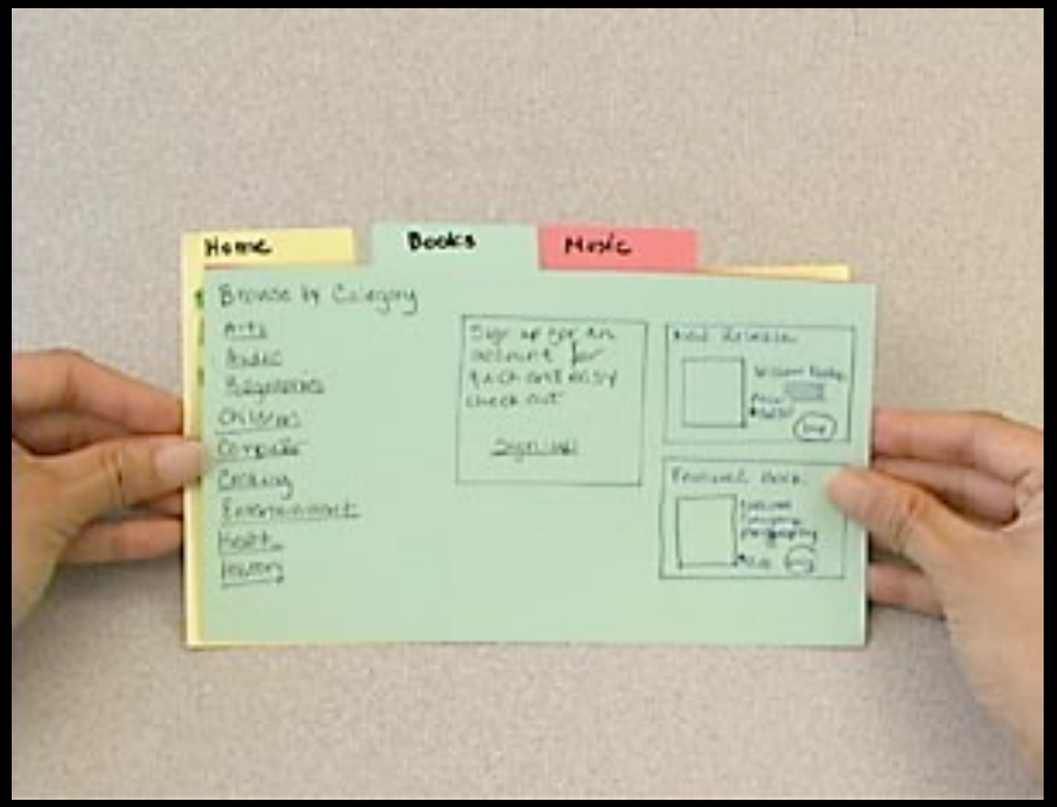
photo copyright: Guerrilla Usability Testing

History of Paper Prototyping

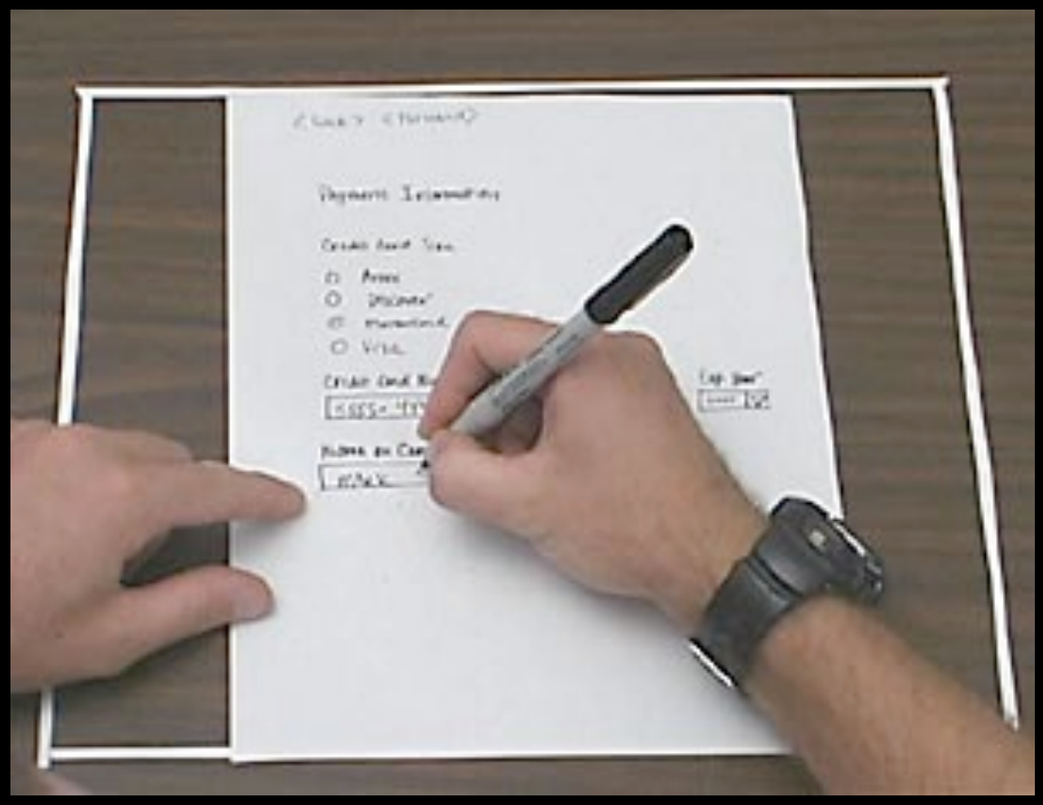
Paper prototyping started in the mid 1980s and then became popular in the mid 1990s when companies such as IBM, Honeywell, Microsoft, and others started using the technique in developing their products.



Paper prototype of a typical form-filling screen



Paper prototype of a tabs-based design



User test of a low-fidelity paper prototype of a website

Typical set-up of the usability laboratory for a test session with a paper prototype

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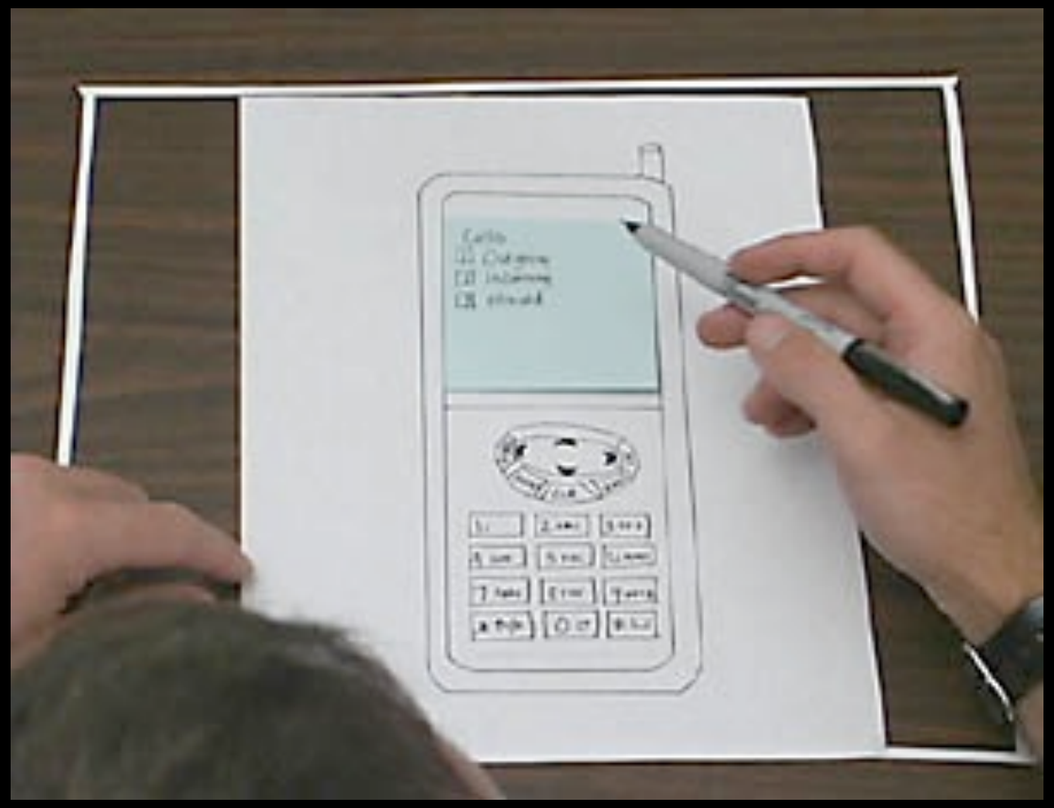

User test of a paper prototype of a device-based interaction

User test of a high-fidelity paper prototype of a homepage.

Testing hardware user interfaces: mockup of a kiosk.

photo copyright: nielsen norman group

Example:
Video Prototype (Low Fidelity)

photo copyright: Guerrilla Usability Testing

photo copyright: Guerrilla Usability Testing

It’s really hard to design products by focus groups. A lot of times, people don’t know what they want until you show it to them.

Steve Jobs

„High Fidelity“ Prototype Usability Test Sessions

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Like all forms of design, visual design is about problem solving, not about personal preference or unsupported opinion.

Bob Baxley

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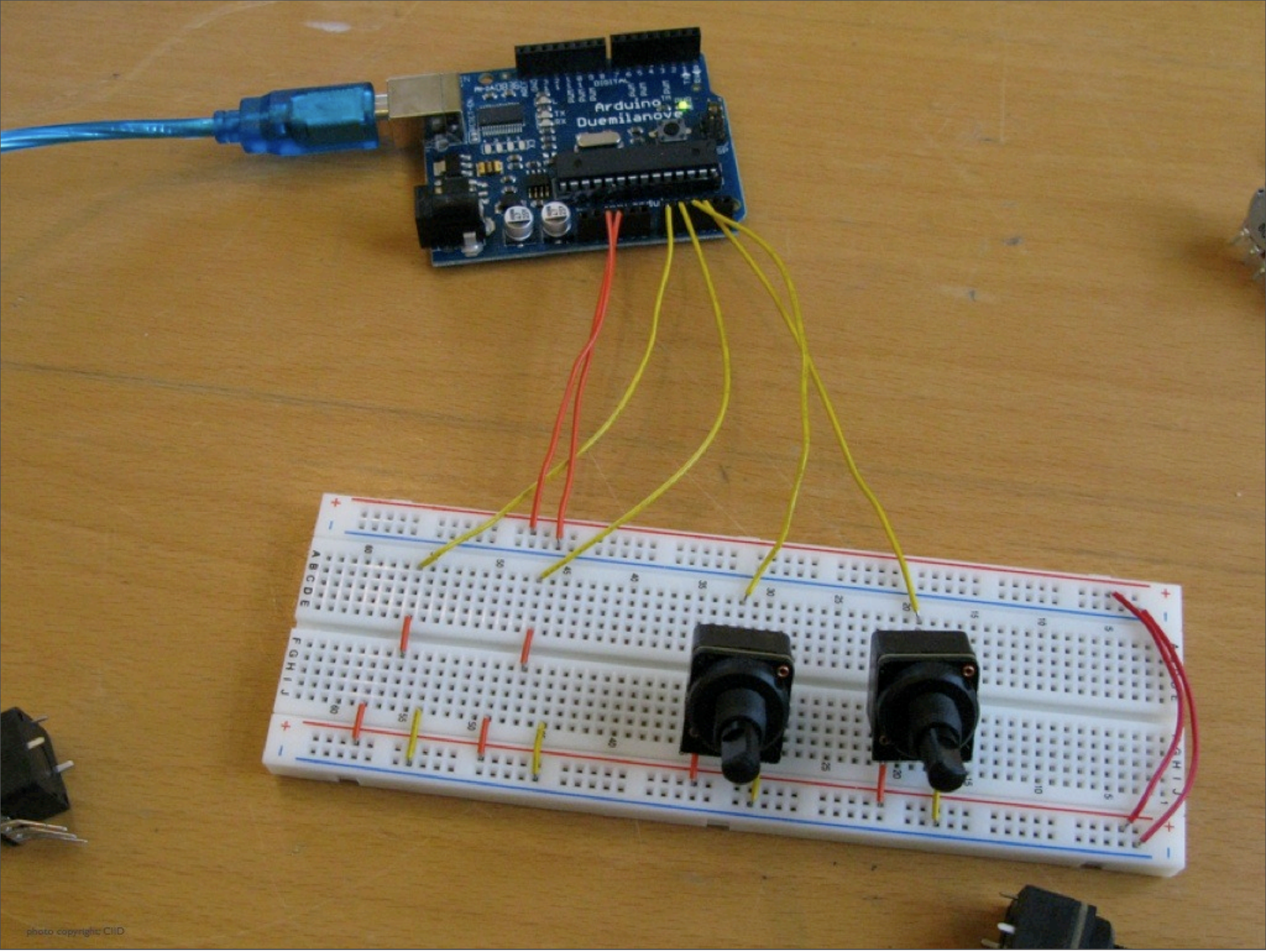
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Duemilanove
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Viseaften

Journalistforeningen

1968, Music

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Favorites

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Publisher: The MIT Press; 1 edition (October 1, 2007)

Language: English

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Language: English

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ISBN-10: 0133033899

links: www.dkds.ciid.dk

www.arduino.cc

http://www.useit.com/papers/guerrilla_hci.html