UX, part 2

Daniel Jackson & Arvind Satyanaryan
purposes

after this lecture you should
be aware of heuristics at different levels
know about general cross-level heuristics
be familiar with mapping and affordances
be conscious of dark patterns
know what wireframing is
linguistic level
speak the user’s language

heuristics:
use simple terms
word very carefully
never blame the user

infamous HP printer error

a helpful and informative message
crash messages

Software Failure. Press left mouse button to continue.
Guru Meditation #0000004.0000AAC0

Commodore Amiga crash

Sorry, a system error occurred.

early Apple Macintosh crash

Windows blue screen of death
consistent naming & icons

heuristic:
be consistent;
same name or symbol for a function throughout

icons shown in Google Drive
parts of speech

heuristic:
use verbs/nouns for actions/queries
be consistent
recognition vs. recall

**Unix shell**: have to *recall* command and options to list directory by modification date

heuristic: let the user recognize don’t force remembering

**Mac finder**: just have to *recognize* symbol for organize, and then *recognize* selector for modification date
information scent

heuristic:
give good scent to aid information ‘foraging’

amazon.com
target.com
information scent example
follow conventions

heuristic: follow conventions of app, platform, culture

why is ‘History’ greyed out?
navigational level
where am I?

heuristic: make user’s location (and state) visible

pagination

a breadcrumb from http://www.loc.gov

filters from http://www.loc.gov

tabs from Adobe Lightroom
accelerators

heuristic: provide ‘accelerators’ for expert users

Google search bar autocompletion

Textmate shortcuts

Gmail aggregation
discussion: accelerators

what other accelerators have you used? which work well? which are learnable?
anticipation & context

heuristic: put together all the things the user is expected to need; make available actions appropriate for context
short paths

heuristic:
minimize number of steps
to reach common functions

home

local
weather

politics

business

The New York Times: weather on front page
undo & cancel

heuristic: provide undo for all actions and cancel for all long operations

Adobe Lightroom: undo view op

Apple Keynote: progress + cancel
all-level heuristics
all-level heuristics

**visibility**
- of functions, state, feedback

**consistency**
- within app, platform, domain, culture

**constraints**
- to prevent errors
more sources of heuristics

Jakob Nielsen
10 Usability Heuristics

Don Norman
Design of Everyday Things

Ben Shneiderman
8 Golden Rules

Bruce Tognazzini
First Principles of Interaction Design
Heuristic evaluation is an informal method of usability analysis where a number of evaluators are presented with an interface design and asked to comment on it. Four experiments showed that individual evaluators were mostly quite bad at doing such heuristic evaluations and that they only found between 20 and 51% of the usability problems in the interfaces they evaluated. On the other hand, we could aggregate the evaluations from several evaluators to a single evaluation and such aggregates do rather well, even when they consist of only three to five people.
exercise:
has Apple
gone rogue?
invisible controls
What’s New in Keynote

- New “view only” setting lets you share presentations you want others to view but not edit
- Improved Presenter Display layouts and labels
- New transitions and builds: Object Revolve, Drift and Scale, and Skid
- Apply motion blur to animations
- Improved Magic Move including text morphing
- Show rulers as a percentage of document size
- Improved Instant Alpha image editing
- Media Browser Improvements, including search
- Directly specify start and end points of movies
- Create custom data formats

Continue
ambivalent scrollbars
what are you waiting for?
exercise: applying heuristics

select one UI feature that chooses ‘beauty over usability’ from the examples I’ve just given (invisible controls, ambivalent scrollbars, hidden progress)

identify one or more heuristics that it violates and suggest how it might be fixed

Use Fitts’s Law
Perceptual fusion
Gestalt principles of grouping
Speak the user’s language
Consistent naming & icons
Information scent
Follow conventions
Show location & structure
Accelerators
Keep paths short
Undo & cancel
Recognition vs recall
Anticipation & context
Visibility & feedback
Consistency
Constraints

yellkey.com/table
How Apple Is Giving Design A Bad Name

For years, Apple followed user-centered design principles. Then something went wrong.

https://www.fastcodesign.com/3053406/how-apple-is-giving-design-a-bad-name
affordances
Donald Norman

The Design of Everyday Things
previously published as The Psychology of Everyday Things

Donald A. Norman
James Gibson (1977): “action possibilities” latent in environment

Donald Norman (1988): action possibilities that are perceivable
a door with good affordances

“affords pushing”

“affords pulling”
“norman doors”

push or pull?

conflicting instructions

door with user manual
mapping & consistency
mapping

from: *The Design of Everyday Things*, Donald Norman
did the book designer read the book?
exercise

pick one of these websites
    http://art.yale.edu/
    http://www.alfredsong.com/
    https://www.uat.edu/
    http://paradisewithaview.com/

find one design flaw
and explain it using one or more heuristics
dark patterns
Get the best of the web with Yahoo!

Get a Yahoo homepage and new tab page on Safari and Chrome.

Yahoo [Terms and Conditions] and [Privacy Policy].
Daniel N. Jackson, why wait for delivery? Get **FREE One-Day Delivery** on this order
Start your 30-day free trial of Amazon Prime

<table>
<thead>
<tr>
<th>Standard Delivery</th>
<th>FREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Day Delivery</td>
<td>FREE</td>
</tr>
<tr>
<td>Same-Day Delivery (in select residential postcodes) Details</td>
<td>FREE</td>
</tr>
</tbody>
</table>

Amazon Prime includes:
- ✔ FREE One-Day Delivery on millions of items
- ✔ Unlimited deliveries with no minimum order size
- ✔ Share your delivery benefits with one other adult

Continue and don't gain Amazon Prime benefits

By signing up, you acknowledge that you have read and agree to the Amazon Prime Terms and Conditions and you authorise us to charge your payment card (Visa/Delta/Electron ****-8334) or another available card on file after your 30-day free trial. Learn more about other Prime pricing options. Your Amazon Prime membership continues until cancelled. If you do not wish to continue for £7.99/month, you may cancel anytime by visiting 'Your Account' and selecting "Do not continue" in your membership settings. If you cancel your Prime membership during your free trial, you will not be charged.
dark patterns

what are they?
user interfaces design to trick people

whose idea is this?
Harry Brignull, a British UX designer

where are the patterns?
http://darkpatterns.org/
bait and switch

The user sets out to do one thing, but a different, undesirable thing happens instead.

(click here to start install)
how the press responded
forced continuity

Signing up for a product includes automatic renewals, and canceling is made hard.

good luck getting through
How do I close my Skype account?

We’re sorry you’re thinking of closing your account. Please tell us below why you want to close it. If you’re dissatisfied with a product or feature, we’ll try to help you resolve your issue. If we’re unable to help you and you still want to close your account, we’ll take you through to our customer service team.

Do you sign in to Skype with an email address? If you use an email address and password to sign in and you wish to close your account, visit how to close your Microsoft account.
hidden costs from digg.com

Eric Clapton
DTE Energy Music Theatre, Clarkston, MI
Sat, Jul 3, 2010 07:30 PM

$27.00 for Clapton. I'm there!
I understand this I guess...
What the fucking fuck!?!?

OMFG you stupid sons of bitches!!!!!!
trick questions

User is required to respond to a question that doesn’t mean quite what they think...

☐ Sky may contact you about products and services you may like unless you click to opt out

Create Sky ID

oops!
price comparison prevention

Functionality is crippled to make it hard to compare prices

2014: no copy + paste on whole site!

2016: popup when you copy
fun
with unix
$ ls
a  b  d
$ mv d c
$ ls
a  b  c
$ mv a b
$ ls
b  c
$ mv b c
$ ls
b
$ ls c
$ ls c
b

mv = rename

mv = clobber

mv = move
$ ls
f1.c f2.c ... f1.o f2.o ...
$ rm * >o

look at where > is on keyboard

$ mv a *
$ ls
*
$ rm *

See: The Unix Hater’s Handbook
prototyping & user testing
why prototype?

find design flaws before complete implementation & deployment

even with great design you can
forget something important
misunderstand your user
make a hidden assumption
what kinds of prototyping?

a spectrum of fidelity
paper prototypes
wireframes
visual design mockups
functional prototypes

“Wizard of Oz” experiments
test participant thinks it’s a functional system
but the experimenter is in the loop, faking behavior
wireframing tools

typical features
quick construction of UI
palettes of common widgets
different form factors
flow: links & transitions
palettes of widgets (in Adobe XD)
wireframes (in Adobe XD)
linking to create a prototype
user testing

1. create a prototype
2. formulate a task or goal
3. ask user to try to do it
4. watch carefully