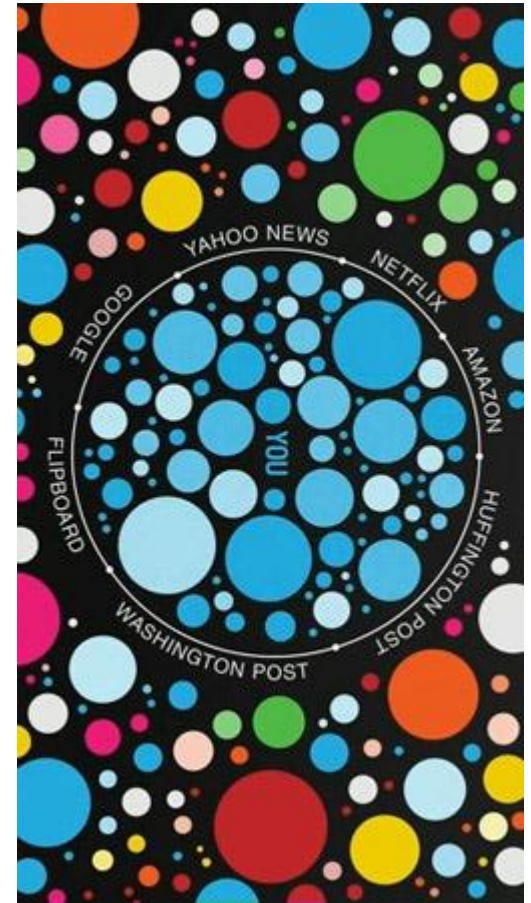# Think about it_
Find it_
and bring your favourite Interface!

It can be a webpage, a program, a game or something analogue like a milk carton.

Consider why the interaction works for you and what design choices might have been made to created the current shape.

What is your favorite interface?

Interface design: Introduction - 01.02.2016

Got a Master of Science in:

Digital Design, Anthropology and Ethnographic

Wrote a thesis on abstract duality and embodied perception in computer **interfaces**.

Schooled in the Scandinavia Participatory Design Tradition with focus on iterative design processes and user centred design.

Have worked with digital literacy, app design, marketing and customer and sales analysis. General interest in art.

Once went to a "cinema" in Lhasa, Tibet, and saw a pirate cam version of TRON with Russian subs. Price 5 kr.
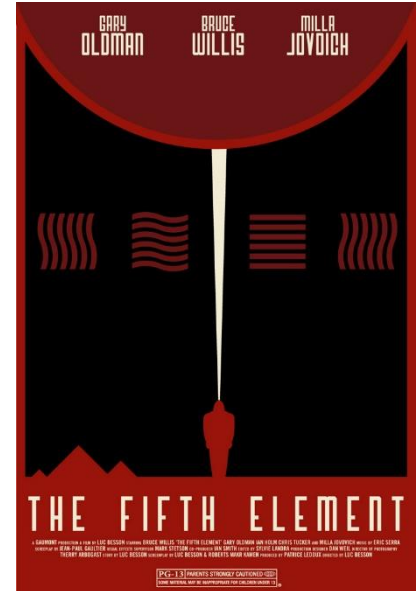
Mads Holst

Time	Activity
10.45	Introduction teacher and semester
11.10	Interface 101 + your favourite interface
11.40	Definition acrobatics
12.00	**Break**
12.30	Web design is dead… and alive again.
12.55	UX vs Usability and the history of HCI
13.30	One of them websites
13.50	Next time
14.00	**Break**
14.10	Rapid prototyping
15.00	Done for today

Today's agenda

| Date	Lecture title	Content and exercise	Preparation
Lecture 1 **Friday 01/02** **Week 5**	The evolution of Interface design	Defining interfaces to understand what we are working with. The death and rebirth of web design as part of the history of HCI.	[Nouvel] [Dank] [Cooper] p. xiii – xxiv.
Lecture 2 **Friday 12/02** **Week 6**	Gathering information and inspiration. Class extended to 14.00	Quantitative and qualitative user research. When and why to do interviews, focus groups, field observation and contextual research such as benchmarking. A look at the design process.	[Cooper] p. 21 - 59 [Schneider] p. 122 – 129
Lecture 3 **Friday 19/02** **Week 7**	How to interpret data and use it to direct the design process.	Defining and building a user understanding with personas, scenarios and user segments, user journeys and the idea of wicked problems.	[Cooper] p. 61 – 119 [Nardi] [Rittel]
Lecture 4 **Friday 26/02** **Week 8**	Building a design on a base of knowledge about users. Mandatory assignment Hand out Class extended to 14.00	Important design principles and tools like Wireframes and Flowcharts, Mock-ups and Prototypes plus using metaphors in design. Working in Axure.	[Idler] [Norman] p 1 – 36 [Cooper] p. 299 – 322 [Anni] Video 2 hours Get to know these tools http://www.axure.com/
Lecture 5 **Friday 04/03** **Week 9**	Show off and Feedback - Mandatory Assignment Mandatory assignment Hand in	Presentation of mandatory assignment. Feedback and discussion.	

Course walkthrough

Date	Lecture title	Content and exercise	Preparation
Lecture 6 **Friday 11/03** **Week 10**	Journey Map workshop	Working with and defining behaviour, attitude, roles and critical points in user journeys.	[Cooper] p. 145 - 163
Lecture 7 **Friday 18/03** **Week 11**	Evaluating and adjusting	Quantitative and qualitative research and tests. Expert reviews with heuristics. A/B split test, Clickstream, heat map and Eye tracking analysis. User generated Usability testing and Surveys.	[Cooper] p. 139 – 143 [Unger] p. 281 - 310 [Snyder] p. 138 – 154 Check out: [Schneider] 8 principle [Nielsen] 10 principles
Week 12	Easter break		
Lecture 8 **Friday 01/04** **Week 13**	Moving to other platforms. Mobile restrictions and benefits. Class extended to 14.00	Responsive and adaptive web development. Native apps and Mobile first plus basic and advanced navigation. How to design Forms.	[Cooper] p. 218 – 230 [Wroblewski] p. 7 - 17 [Krug] p. 143 – 163 (easy) Check the example in: [Frost] Text 1 [Frost] Text 2
Lecture 9 **Friday 08/04** **Week 14**	Communication strategy, content, context and the art of visualizing data.	Understanding primary site structure and communication strategy, plus how to work with content priority. Data visualization and content audits as tools.	[Cunningham] [McCandless] video 18 min [Weinsberg]

| Date	Lecture title	Content and exercise	Preparation
Lecture 10 **Friday 09/11** **Week 15**	Understanding User Experiences	Understanding temporal and spatial elements of user experience. Looking at two experiential qualities: Pliability and fluency.	[Anderson] [Löwgren # 1] [McCarthy]
Week 16			
Lecture 11 **Friday 16/11** **Week 17**	Designing User Experiences	Working with user experience and behavioural, visceral and reflective perception. Looking at other experiential qualities: Enchantment and Peepholes to create Engagement and Inquiry.	[Norman] Video 13 min. [Löwgren # 2] [Dalsgaard]
Week 18			
Week 19	Interdisciplinary Mandatory assignment: Handed out on: Monday 09/05/16.		
Week 20	Work on mandatory		
Week 21	Mandatory handed in: Tuesday 24/05/16 (no later than 23.59 o'clock) Examination and feedback Friday. Schedule to be announced		
Lecture 12 **Friday 03/06** **Week 22**	Semester recap and exam preparations.	Recap and preparation for examination.	
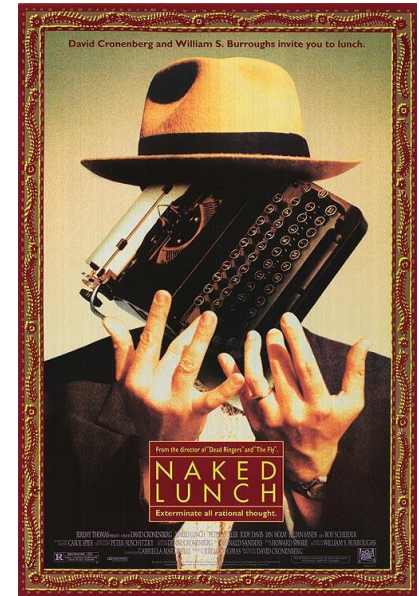
Gain knowledge about:

- Common interface design development methods.
- Human-computer interaction.
- Communication theory.

Gain the following skills:

- Be able to create convenient user interfaces adapted to relevant target groups based on the theory and methods of the relevant subject area.

- Be able to apply design methods pertaining to visual design, interaction design and information architecture when designing user interfaces, including prototyping.

- Be able to work on the development of communications solutions across platforms and media.
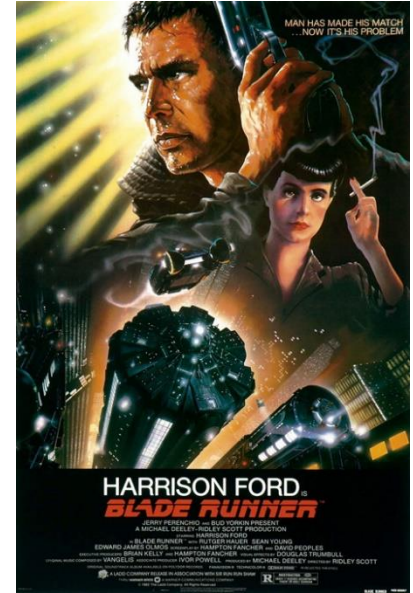
Course learning goals # 1 of 2

Gain these competencies

- Be able to analyze choices of devices and effects in user interfaces and situate these choices in a context.

- Be able to manage design processes based on analysis and planning.

- Be able to take part in complex usage situations and independently manage the design process when designing complex user interfaces.

Want to know more?

www.baaa.dk/programmes/web-media-and-communication/web-development/programme/curriculum/
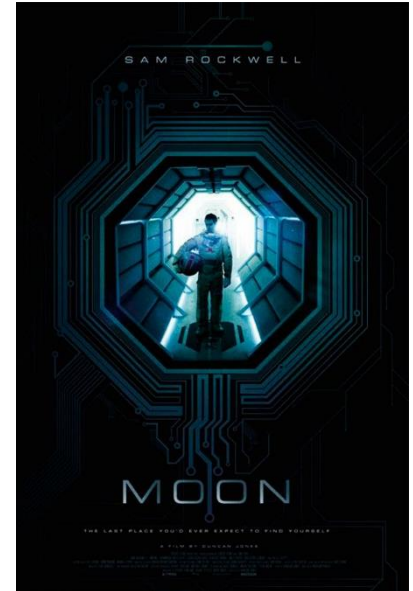
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Mandatory start:	February 26th
Hand in:	Marts 4th at 23.59

Interdisciplinary start:	May 9th
Hand in:	May 24th at 23.59
Examination + feedback:	May 27th

Estimated exam dates:	June 21th and 22th

Important dates

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What is an Interface?
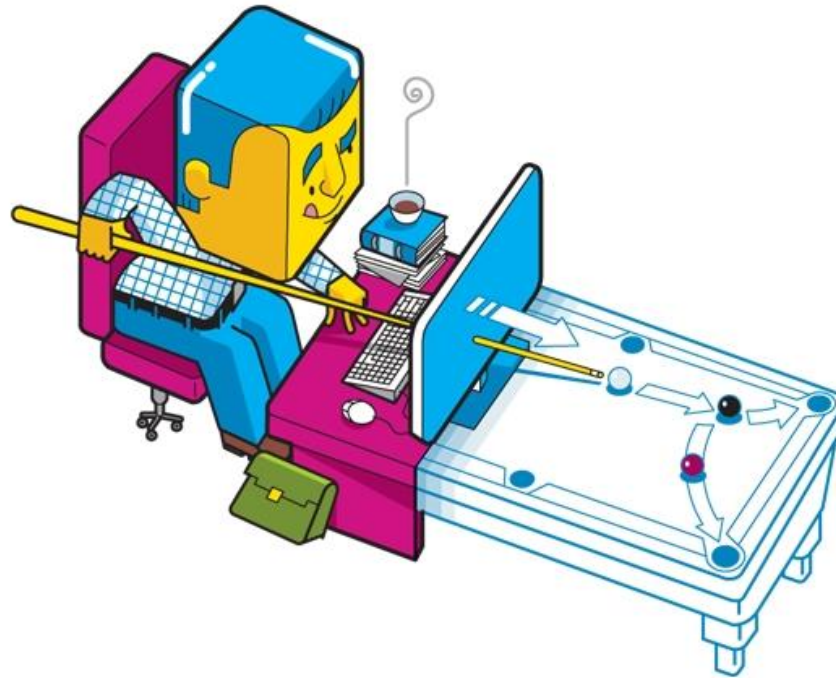
Where is Interface?

Favorit Interfacedesign

Back to displays and history: Interfaces are a clue to who we are, and how we see ourselves. They display our culture evolution and defining priorities.

Through sensation and perception. We control the world (cars, jobs, love) through digital interfaces. Interface should improve to give tighter control.

Behind representation and computation. The interface is simplified dumb down screen to hide the real complex computation. GUI, WIMP.
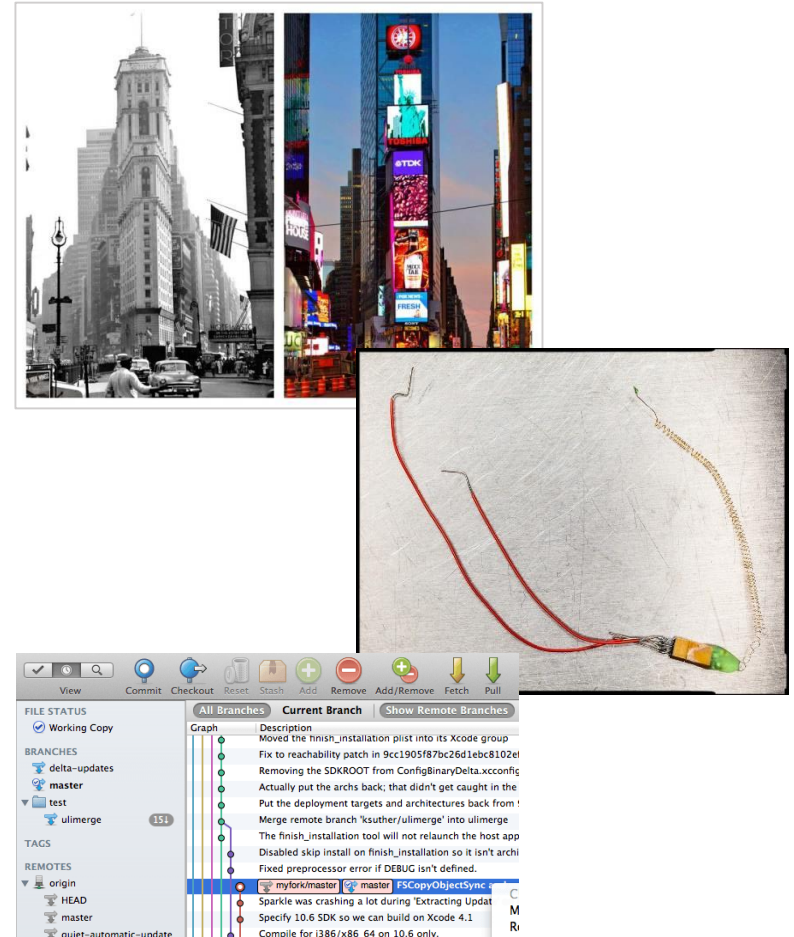
Five ways to understand inteface

Down in Software and code. The interface is but one layer of signs on top many layers of signals. The interface is part of something much bigger.

Out into culture and politics. The interface is a defining contemporary medium shaping culture and politics on a global scale. Drones, live feeds, deep web.

For more read: *Interface Criticism, Aesthetics beyond buttons*. By Andersen & Pold

Five ways to understand inteface

I dos not shrink and try to hide what it is in order to provide clear information. Instead it displays itself as a **medium** providing information from a **specific point of view**.

Back: It conveys an evolution of conversations and navbars.

Through: It draws curiosity and frustration (or fun).

Behind: Indicates layers and layers.

Down: Rough visuals and rigid composition that's code like.

Out: Its shape around conversation, and invites you to listen.

Favorit Interfacedesign

Work in groups of four

Present your interface to the group. Explain why you chose it.

Discuss what makes each interface good(or bad)? It might be that:
- It has a great User Experience because you feel like you can shape the content with your fingers. It might be engaging.

- It has a well balanced composition and content priority, delivering exactly what you need to know, when and where you need it using the right metaphors.

- It is fun to use because you share the same humour and mind-set of those who created it, and enjoy the lore of the content.

- It is perfectly made for you and very intuitive to use, because the creators clearly understand you and your needs.

Students Favourite Interface # 1 of 2

Still in groups of four

Analyse your interfaces from an objective point of view.

Discuss what makes an interface, and find at common definition:

- What are the differences between each interface? Try to look beyond content/use and see the "goal" behind.

- What commonalities exists in each interface, how are they exactly alike and how are they kind of alike?

- Come up with a **definition of *Interface*** that encompasses all of the interfaces in your group.

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Creative Interfaces?

Famous [interface](#) definitions

"… a shared boundary across which two separate components of a computer system exchange information.

The exchange can be between software, computer hardware, peripheral devices, humans and combinations of these.

Some computer hardware devices such as a touchscreen can both send and receive data through the interface, while others such as a mouse, microphone or joystick are one way only."

- The Authoritative Dictionary Of IEEE Standards Terms. 2000

Famous interface definitions

“ All interfaces are designs that combine – and translate between – signs and signals. As such, the interface is at the core of the computer. It is not possible to 'unveil' the computer through a deconstruction of the interface. The code behind the interface is just another interface in the layered architecture of the computer. The functioning of the interface, its designed juxtaposing of human signs and machine signals, is therefore essential to the functioning of the computer. “

- Søren Bro Pold and Christian Ulrik Andersen, 2011

Famous [interface](#) definitions

"Interface is what lies at the core functionality of the machine, thus, something physical that to some extend is impossible to make perfect, because of its physicality. The interface can be regarded as something that utterly defines the essence of the machine: to modify and transmit motion and energy."

- Morten Riis, 2013

Back in groups of four

Which of the following definitions do you prefer and why?

1. "… a shared boundary across which two separate components of a computer system exchange information."

2. "…interfaces are designs that combine – and translate between – signs and signals. As such, the interface is at the core of the computer."

3. "… The interface can be regarded as something that utterly defines the essence of the machine: to modify and transmit motion and energy. "

You se – designing interface is not (only) about websites and programs. Its about allowing some kind of **interaction** to take place **between a person and a system**. That's what we will study in this course!

Famous interface definitions

Break – 30 minutes

_____

Wed design is dead/alive

Sergio Nouvel

Designer and director at: http://www.continuumhq.co/

"Web design is (finally!) dying of irrelevance"

Nouvel believes that the pursuit of web design has no future, and designers need to move on to more important challenges.

Published article on UX Magazine, June 2015 titled: *"Why web design is dead"*

https://uxmag.com/articles/why-web-design-is-dead

Wed design is dead

Nick Dank

Co-Founder, Director of Strategy at Suits & Sandals

"As web design professionals, we need to be careful about how we talk about what we do"

Dank believes that web design is getting better, maturing and growing up. It has a bright future.

Published article on UX Magazine, june 2015 titled:

https://uxmag.com/articles/web-design-is-not-dead-youre-just-talking-about-it-wrong

Wed design is dead

1. Premade templates offer good (enough) design for most people. It is possible to get a decent website built for cheap/free.

2. There is (little to) **no further innovation** possible in web design. "Trying to get creative at this point will probably be pointless or even harmful."

3. Automated tools and AI (ITheGrid) can make sites better. "Using design basics (made by us), sites will probably be better than what an average web designer can do."

4. Social media, directory websites, and a push-based content consumption model delivering content based on context, are replacing the need to visit a website for info.

5. Mobile is killing the web. Mobile browsing still sucks and users look for apps. Focus attention on building digital brands through social media and developing better apps.

Do you agree? – discuss this in groups

1. **Premade templates.**

2. **No further innovation possible.**

3. **Automated tools and AI.**

4. **Social media.**

5. **Mobile is killing the web**.

Do you agree? – discuss this in groups

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They agree on one thing - shift focus to UX design:

"This switch from web design to experience design is directly caused by the shift from web pages to digital products. Web pages are just part of something much bigger: mobile apps, API's, social media presence, SEO, customer service channels, and physical locations all inform the experience a user has with a brand, product, or service.

Pretending that you can run a business or deliver value just by taking care of the web channel is naïve at best and harmful at worst."

- Sergio Nouvel

Wed design lives (we call it ux)

What does it mean to be a web developer?

Web developers **research users**

to create appropriate **digital representations**

that are **navigated through designed interactions**

and **structured according to prioritized content**

to deliver the best **user experience**.

Goal of this course

Analyse a Website

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1. What is this sites mission and goal? And how can you tell?
   - What industry does it belong to and what does that signify?

2. Who are the sites users? How do you know?
   - Age, gender, salary, origins, hobbies, motivations?

3. On what platform and from where might this site be accessed?
   - What does this signify, and what are the users motivations for visiting?

4. Do you recognise any design patters? What do they signify?
   - Horizontal navbar at top or symmetrical composition?

5. Are they breaking any "rules" or doing anything original?
   - What is with the usability and User experience?

Website Communication strategy

The history of HCI

The "movement" from UI to UX or
from wed design to experience design is not something new.
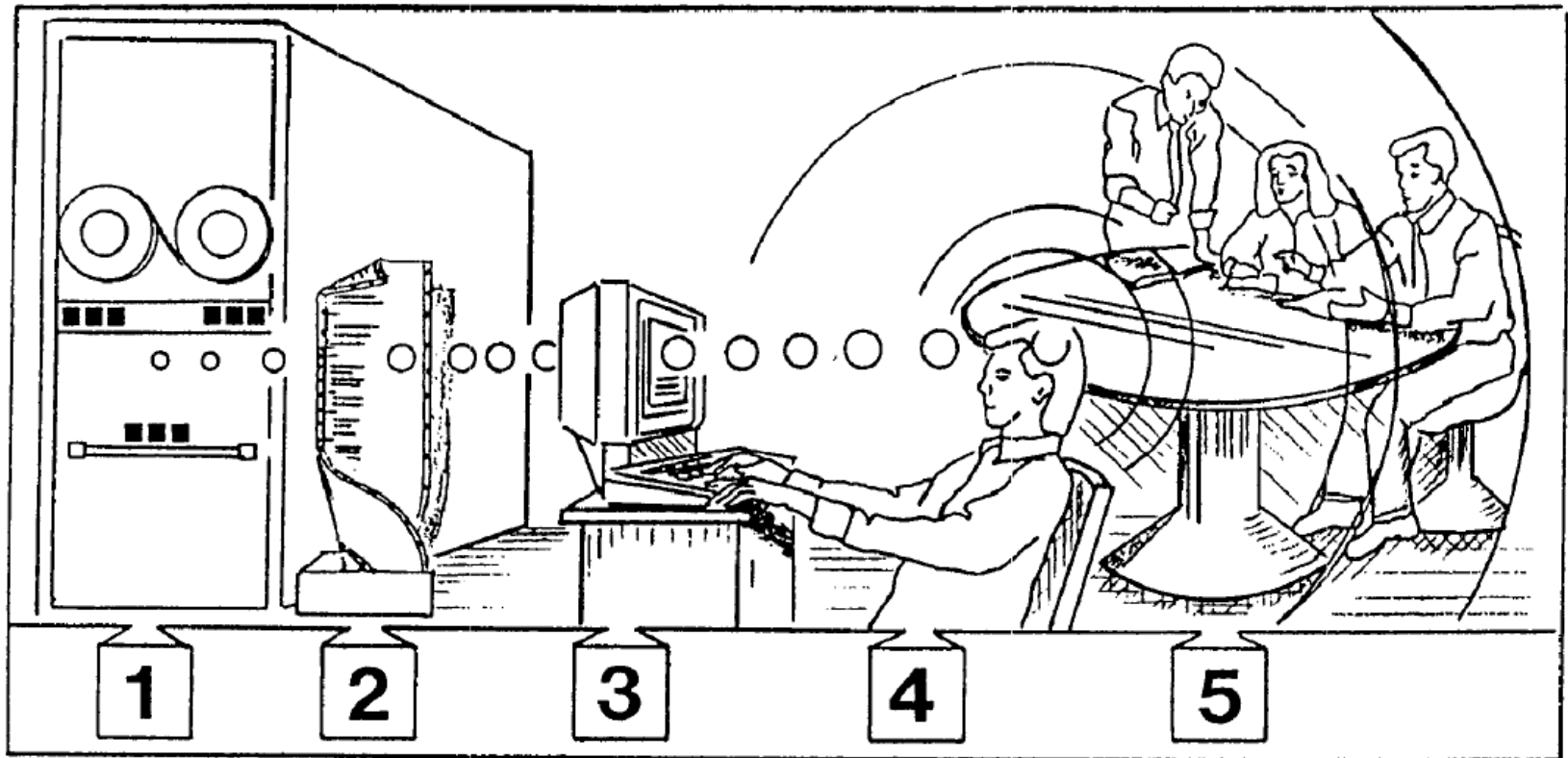
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Figure 1. The five foci of interface development.

# The Five foci of interface development

From switch to hole to button

1943: ENIAC – the first general purpose computer. "Giant Brain".

1944: IBM made Mark 1 – Upgraded to paper tape, but not for better usability.

Popular Mechanics wrote, 1949:
"Where a calculator on the ENIAC is equipped with 18,000 vacuum tubes and weighs 30 tons, computers in the future may have only 1,000 vacuum tubes and weigh only 1.5 tons."
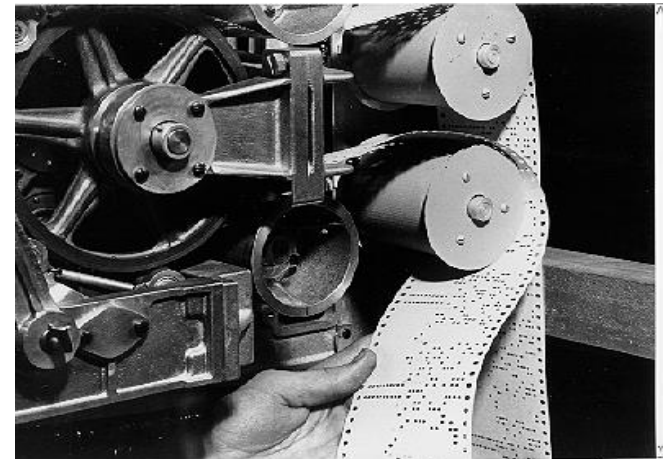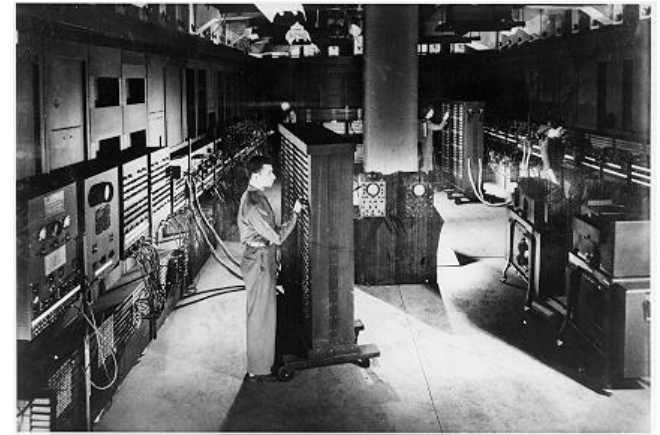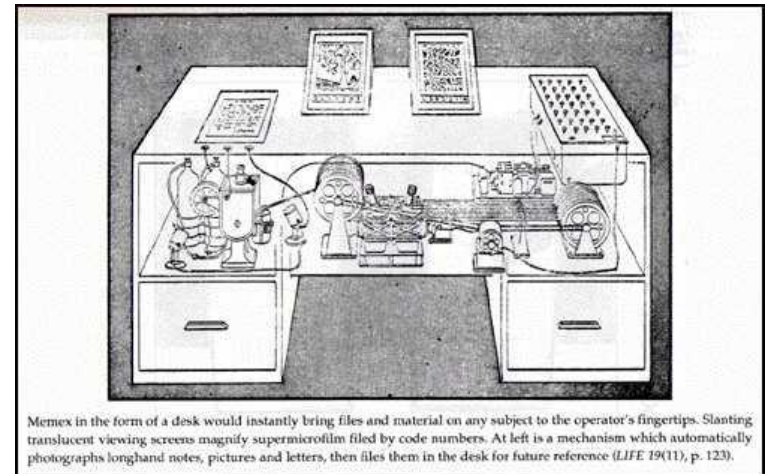
History of HCI 40s – 50s

Vannevar Bush – RnD for U.S. Gov.

Thought op the idea of [Hypertext](#) and published
"*As We May Think*" in 1945. Huge influence.

The **Memex** was build into a desk
A personal self-contained library.

- Compress and store: Books, Records and communication. "Enlage ones memory".
- Record new data.
- Easy retrieval with speed and flexibility.
- Comment and sharing function.

Memex in the form of a desk would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent viewing screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures and letters, then files them in the desk for future reference (*LIFE 19*(11), p. 123).
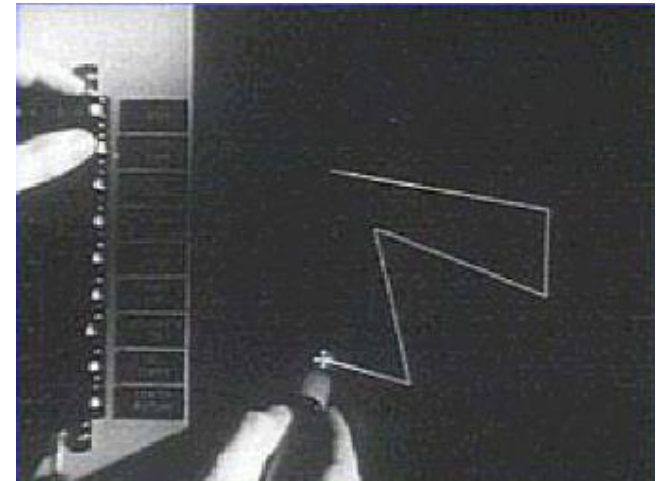
The idea of users and use

Mainframe and Input

1961: DEC PDP-1 - The first commercial interactive computer.

1963: TX-2 developed at MIT.
- The pen as input device!

- Object oriented

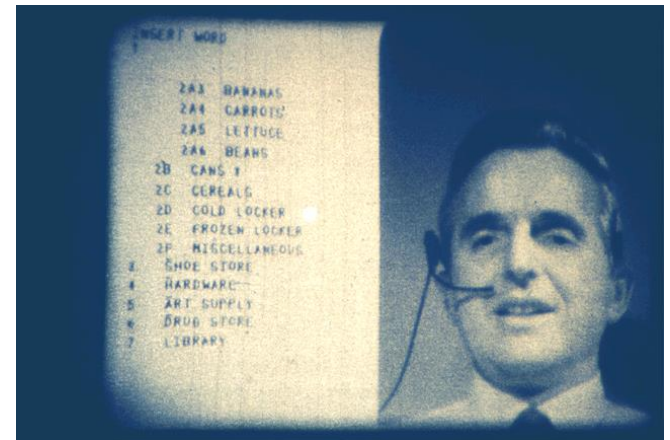- And introduced copy/paste.

Doug Engelbart and the Mouse

1968: The Mother Of All Demos - San Fransisco

Introduced user-friendliness – on screen:

- High-resolution screen
- The mouse
- Windows
- File sharing
- Messaging
- A new keyboard
- A shortcut button
- The knee-controller

Founded **Human – Computer – Interaction**

HCI in the 60s - 70s

1975: Bill Gates start a company called Microsoft.

1976: Steve Jobs attempts to get Atari interested in his and Steve Wozniak's personal computer:

"So we went to Atari and said, 'Hey, we've got this amazing thing, even built with some of your parts, and what do you think about funding us? Or we'll give it to you. We just want to do it. Pay our salary, we'll come work for you'. And they said, 'No'."

1977: Participatory (cooperative design), rooted in the Danish trade union movement, focused on empowering the users.

HCI in the 60s-70s

1980 – 1985: Mini-computers:

Xerox Star, IBM, Apple Lisa, Apple Macintosh, Unix PC, Lisp.

Non-programmers were choosing to use computers to do their work.

1980: WIMP (Windows, Icons, Menues, Pointers) by Wilberts

1985: GUI: Graphical user interfaces! Controversial, because it was not text based.
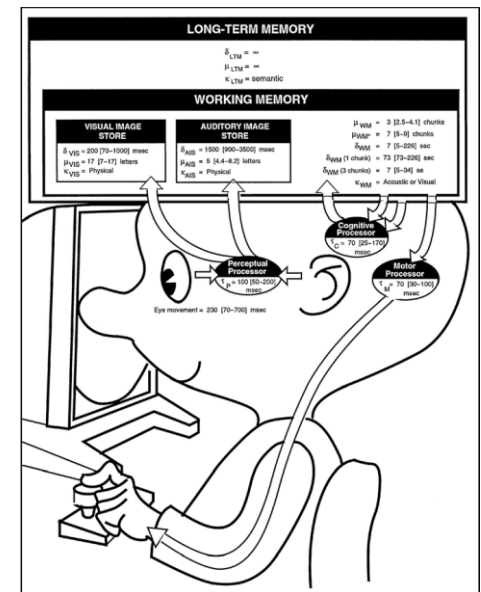
HCI in the 80s

1986: A Human Model

HCI shift from expert use, command naming and programming to user interface, user context and situation.

The goal is to make the human capable of keeping up with the computer.

Strange ideas of how a human works, based on a computer perspective!

Tangible – Body – Physical

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A human approach to users:

From optimal interaction to user satisfaction and efficiency.

From manuals to intuition.
From task effectiveness to user experience

(1988) Donald Norman:
Mapping, Affordance, Feedback, Visibility.

It is the science of designing and the foundation of **usability** and Design thinking.
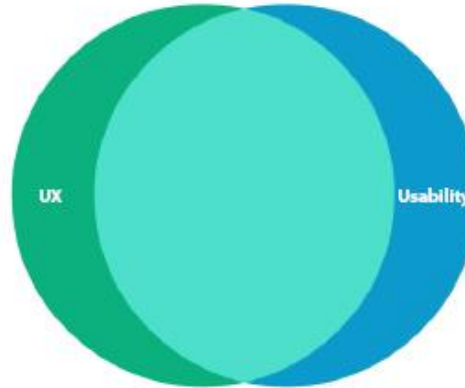
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Interface design

Is about

Usability:
How we INTERACT
with a product.

How we use it.

User experience(UX):
How we FEEL about
this interaction.

How we experience it.

UX   Usability

Both are cross-disciplinary and multi dimensional

Psychology	Cognitive science	Engineering
Sociology	Ergonomics	Philosophy
Anthropology	Education	Economy
Ethnographic	Entertainment	Politics and history

Interface design today

Your work in former projects

1. [Alone 5 minutes] Think back upon a former project and consider how you worked with **usability** and **UX**.

2. [In groups] Explain how the project could been improved by a **clearer distinction** between the two.

3. [In groups] How would **you** describe the difference between UX and usability in you projects? And does it make sense to do so?

Interface Design course:

What is an **interface**? Where is it?

Understanding the users by doing **research**.

Using that data and using tools to create design.

Testing what you have made to ensure **usability**.

Challenges with other **platforms** and mobile.

The content and strategies for visualisation and communication.

User Experience – understanding context and use.

Course analogue

# Interface is a strange word.

- Hard to define and point at.
- Comes in many shapes and sizes.
- Focus on users and situation to understand where to go.

Web design is dead… and alive again.

- UX is the name of the game.
- Put focus on the users emotional needs.
- Design the whole brand, not just one channel.

The first mouse was made of wood!?

– How we see and understand Human Computer
Interaction is ever changing.
- The shift from system, to user, to emotion.
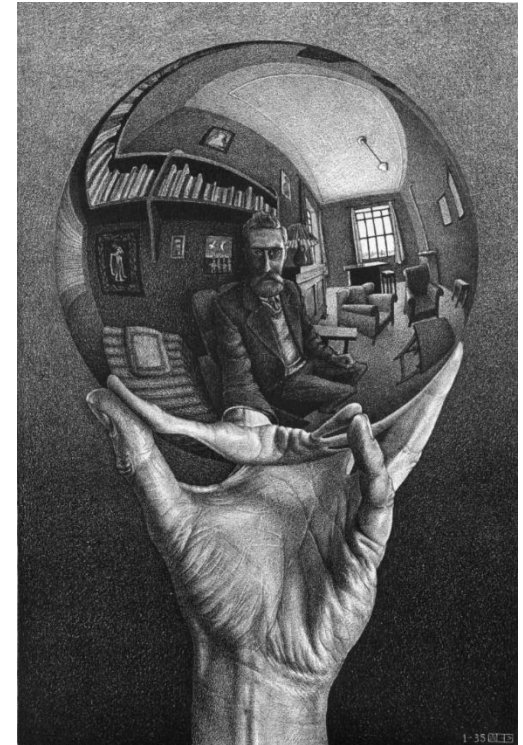
What happened today?

Next time:

Topic: Researching the user to understand what they need and why.

Read:

[Cooper] *About face* p. 21 – 59
A bit on design process in *Goal Directed Design.* From page 30 it is user research. From page 44 it is interviews and ethnographic.

[Schneider] *Designing the User Interface* p. 122 – 129
Classic text on participatory design and the need to know users.
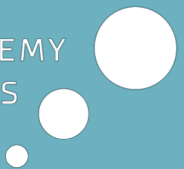
Homework and preparation

Break 10 min

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The M-M-M-M-Marshmallow Challenge
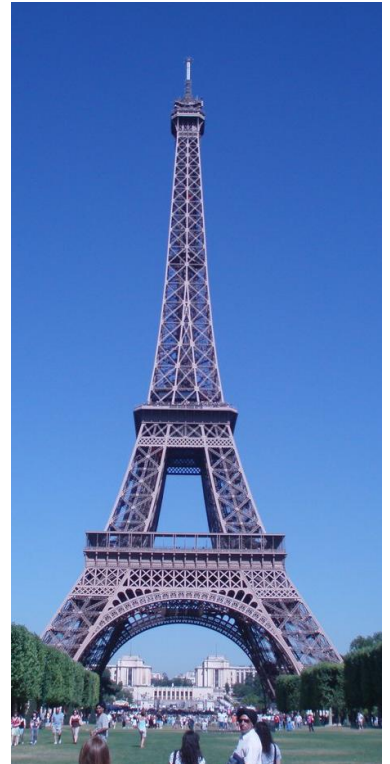
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1.Build the Tallest _Freestanding_ Structure: The winning team has the tallest structure measured from the table to the top of the marshmallow. The structure cannot be suspended or supported by team members in any way.

2.The _Entire_ Marshmallow Must be on Top: The entire marshmallow needs to be on the top of the structure.

3.Use as Much or as Little of the Kit: The team can use all or none of the provided materials. Its up to the team.

4.Break up the Spaghetti or Tape: Teams are free to break the spaghetti and cut up the tape and string to create new structures.
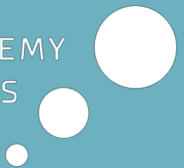
The Marshmallow challange

You have 30 minutes

The M-M-M-M-Marshmallow Challenge

EAAA records:

Lowest structure: (from table top to bottom of marshmallow)	**-5 cm**
Highest structure: (from table top to top of marshmallow)	**70 cm**

New Records?

Kl.	Class room - A2.05
8.30	Line sorting
9.00	Work with Lego
12.00	**Lunch**
12.30	Lego Robot Competition # 1
13.00	Introduction to Web development # 1
15.00	Done for the day

Remember to read the text for *Introduction to Web development:*
Löwgren and Stolterman Thoughtful interaction design chp 1.pdf

Located on Fronter here: <u>WU-16V > 1st semester > Intro week</u>

Tomorrows program