Sissejuhatus inimese-arvuti interaktsiooni akadeemilisele suunale

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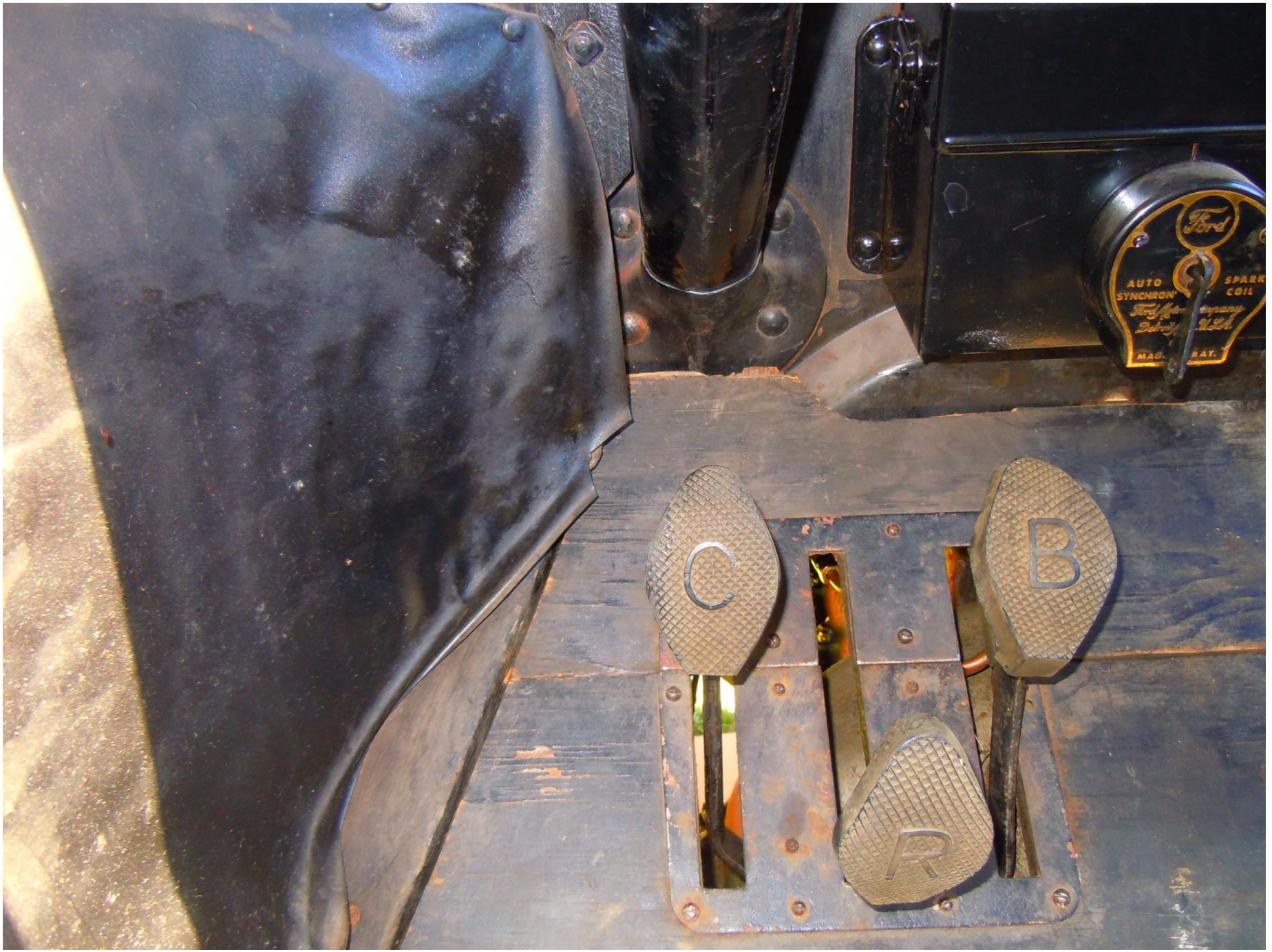
2020

Mis on inimese-arvuti interaktsioon ehk HCI?


Ford
AUTO
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DELETE
EVERYTHING?
YES
OK

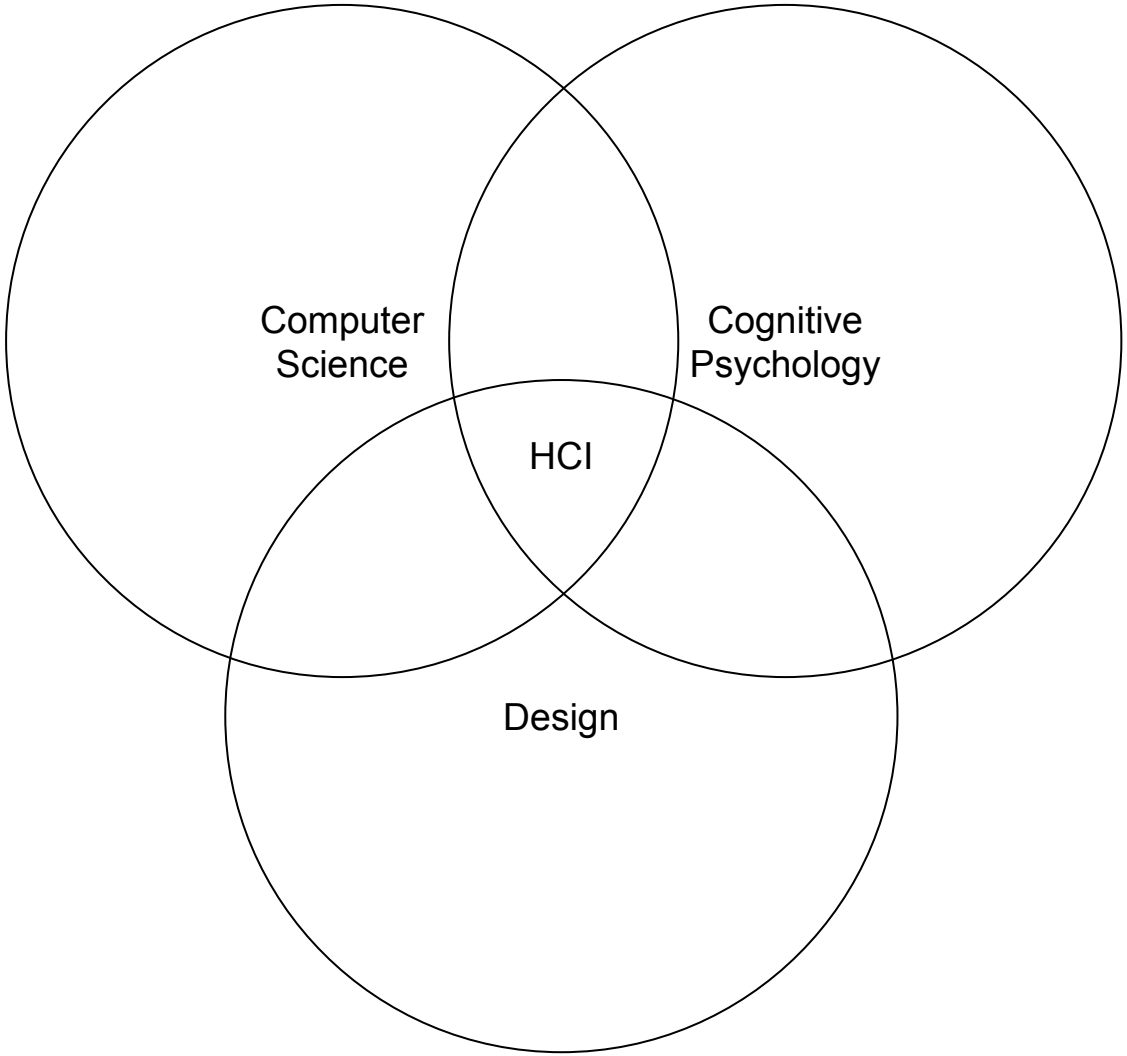
Usability is a key issue in HCI

HCI has the potential to change human behaviour
HCI is transdisciplinar
HCI emphasizes human values and goals
HCI is vast
HCI enables the extension of human capabilities
HCI is a gap filler
HCI is good in predicting the future, Alan Kay way
HCI is about finding the perfect symbiosis between users and computer application
HCI serves as a bridge between science and practice
HCI build on human factors and cognitive sciences

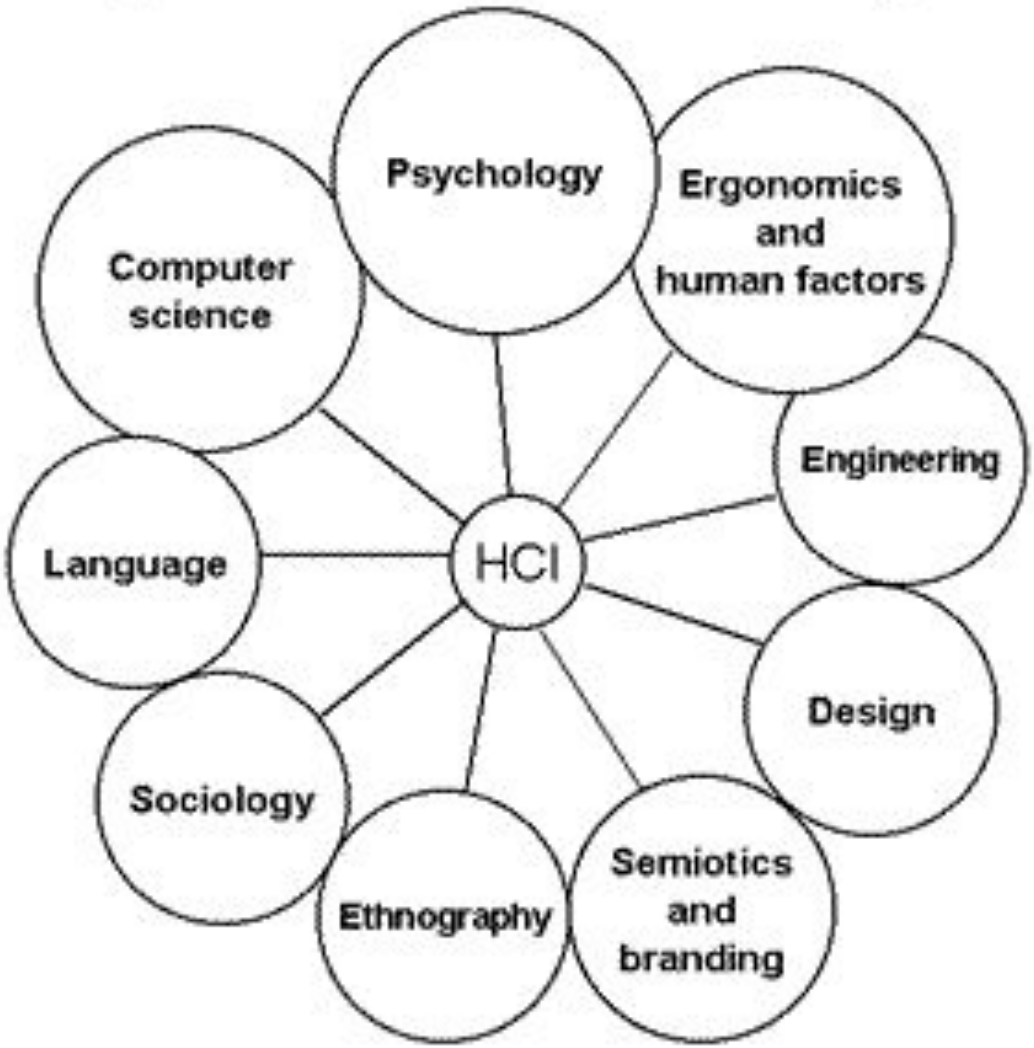
Termini "HCI" päritolu

- HCI sai alguse…
  - The 1982 US Bureau of Standards Conference
  - The 1984 IFIP INTERACT Conference
- HCI omandas järjest rohkem tähtsust …
  - Stanford Research Labs
  - MIT
  - Xerox PARC

HCI põhitegevusalad



HCI täiendavad valdkonnad



HCI suuna areng

First analog computers where operations were directly encoded in it's circuits which needed to be configured for each new task.

There were no "users", only programmers.

First assembly languages appeared, that rendered machine level instructions into symbolic expressions.

The actual interaction took still place with encoded punch cards, although the languages could already be considered textual.

With the appearance of teletype machines and video terminals, the primary form of interaction became textual.

This can be considered the origin of interactive computing - "interactive loop" in which the interaction became an endless back and forth loop of instruction and response between user and system.

With the appearance of graphical UIs the interaction moved from the one dimensional stream of characters to a two dimensional space.

The task of managing interaction became the task of managing space.

Interaction directly through physical artifacts rather than graphical interfaces or classical input devices

Paul Dourish

HCI suuna areng

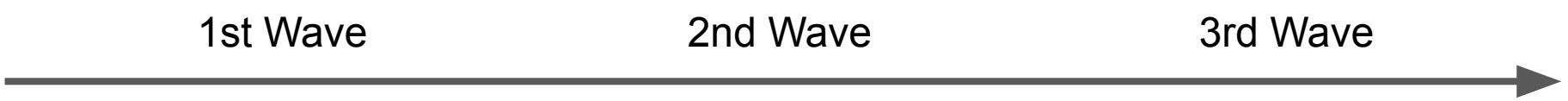
focus on the properties of specific system components

focus on tasks at hand

focus on socially and materially embedded interactions

John M. Carroll

HCI suuna areng



Rigid guidelines.

Formal methods.

Systematic testing.

Focus on context and groups working with a collection of applications.

Theories: situated action, distributed cognition and activity theory.

Proactive methods: variety of participatory design workshops, prototyping and contextual inquiry, qualitative approaches studying use as it happens.

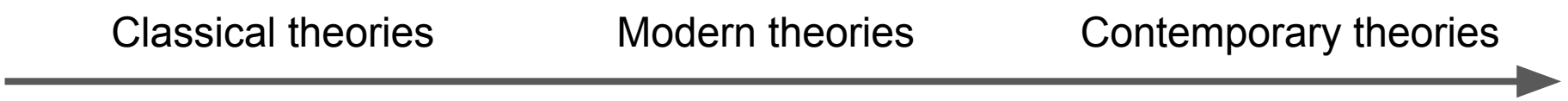
Use of context and application types are broadened. Computers are increasingly being used in private and public spheres. Technology spreads from workplace to homes and everyday lives and culture.

Theoretical focus on aesthetics, cultural level, cognitive expands into emotional, cultural, historical focus on experience.

Methods moved away from commitment to users towards more exploratory take-it-or-leave it approach where designers seek inspiration from use.

Susanne Bødker

HCI suuna areng



Applying basic research.

Cognitive modeling.

Distributed cognition.

Situated action.

Ethnomethodology and ethnography.

Activity theory.

Grounded theory.

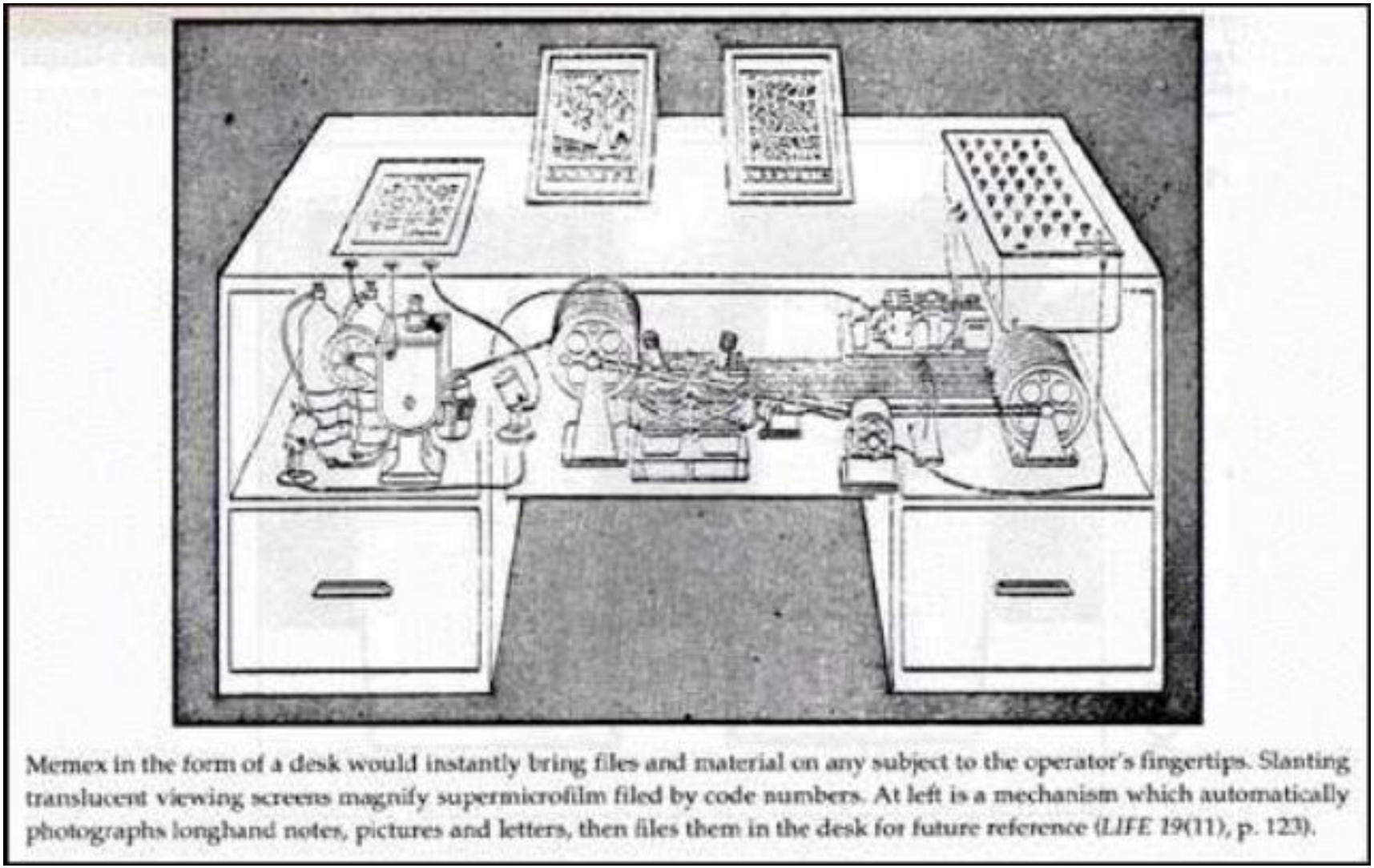
Human values.

Research in the wild.

Turn to design, culture, embodiment.

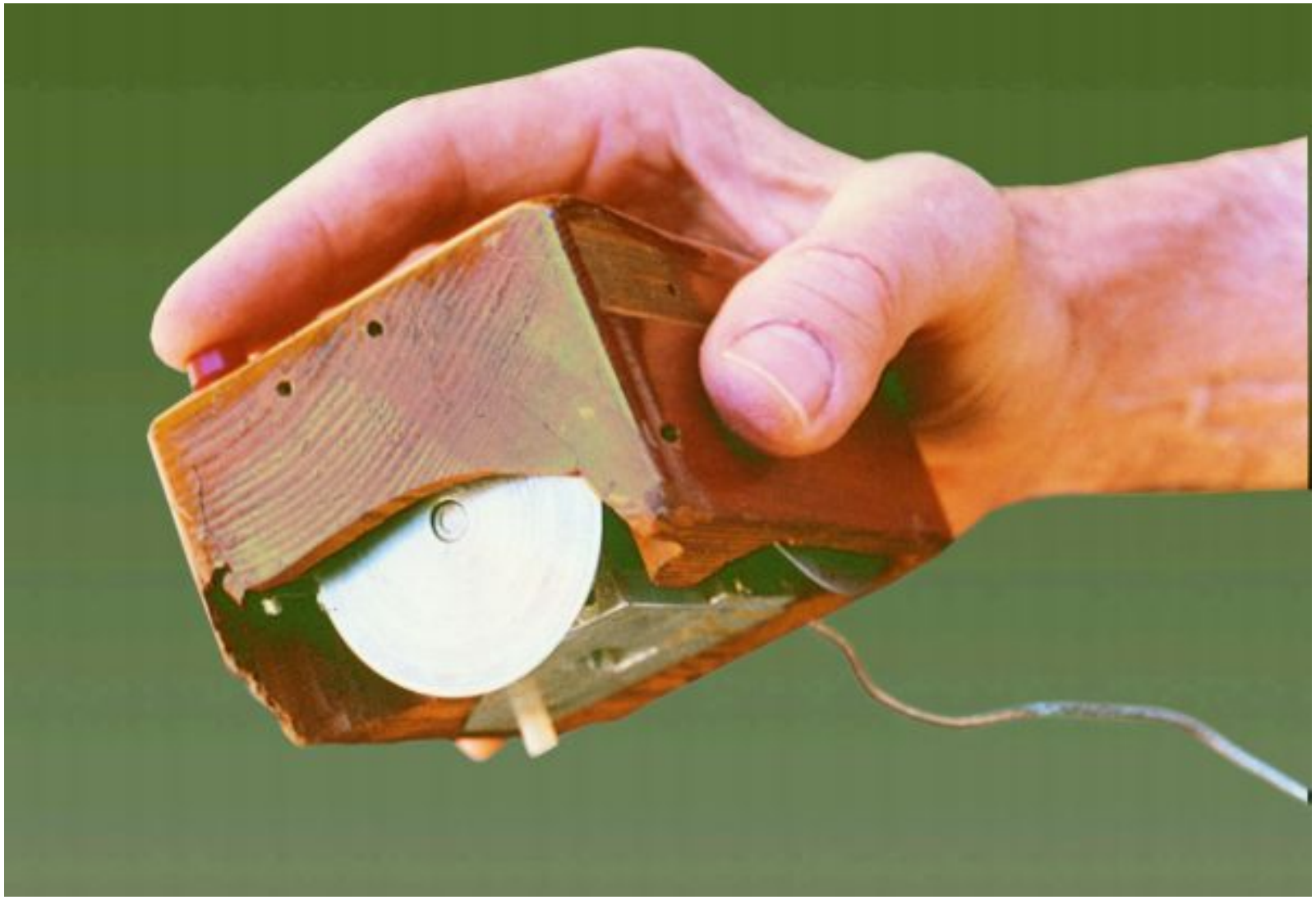
Yvonne Rogers

Enne HCI suuna algust: memex design sketch (1945)

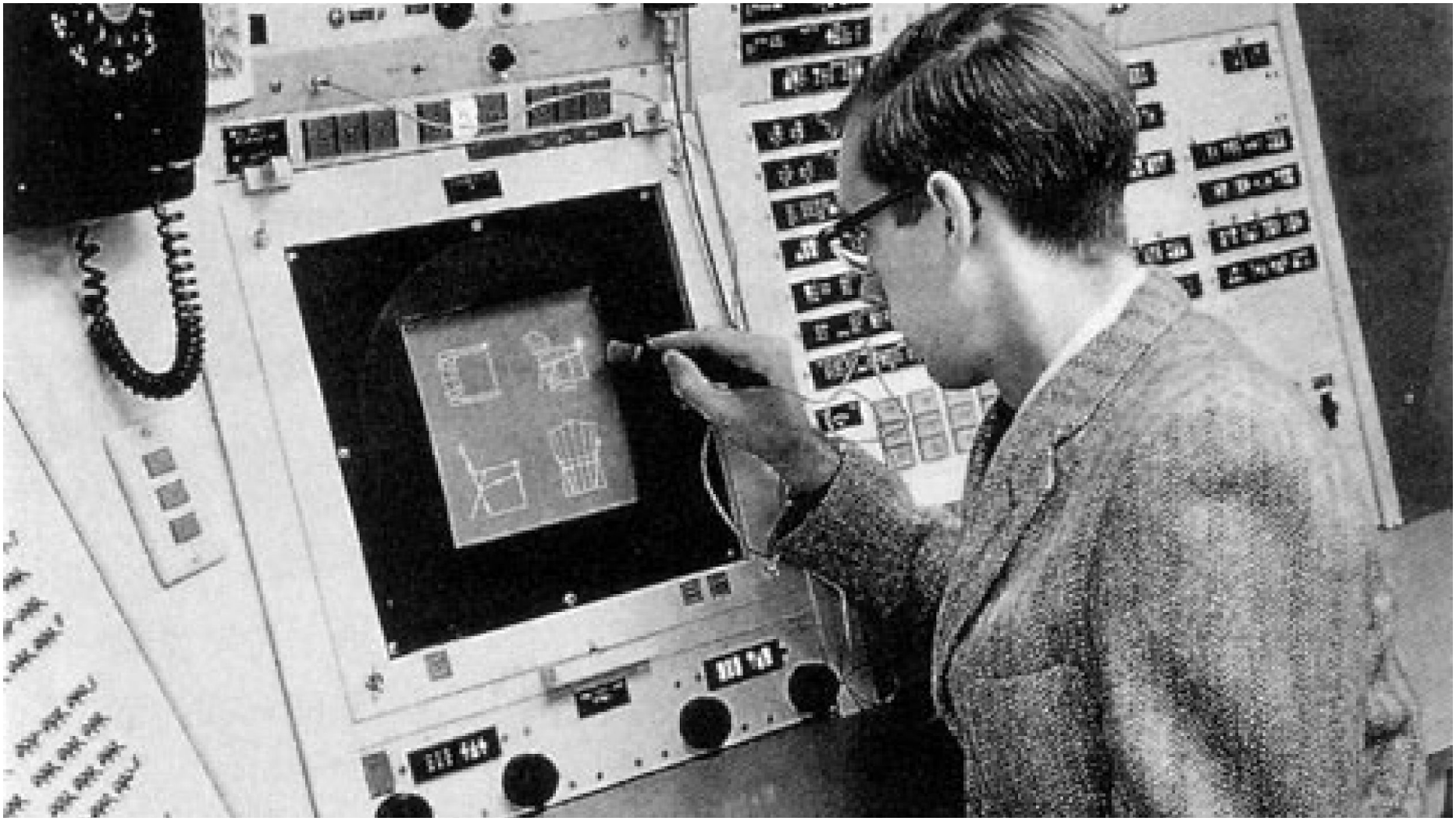


Memex in the form of a desk would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent viewing screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures and letters, then files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

Enne HCI suuna algust: First mouse by Douglas C. Engelbard at Stanford (1964)



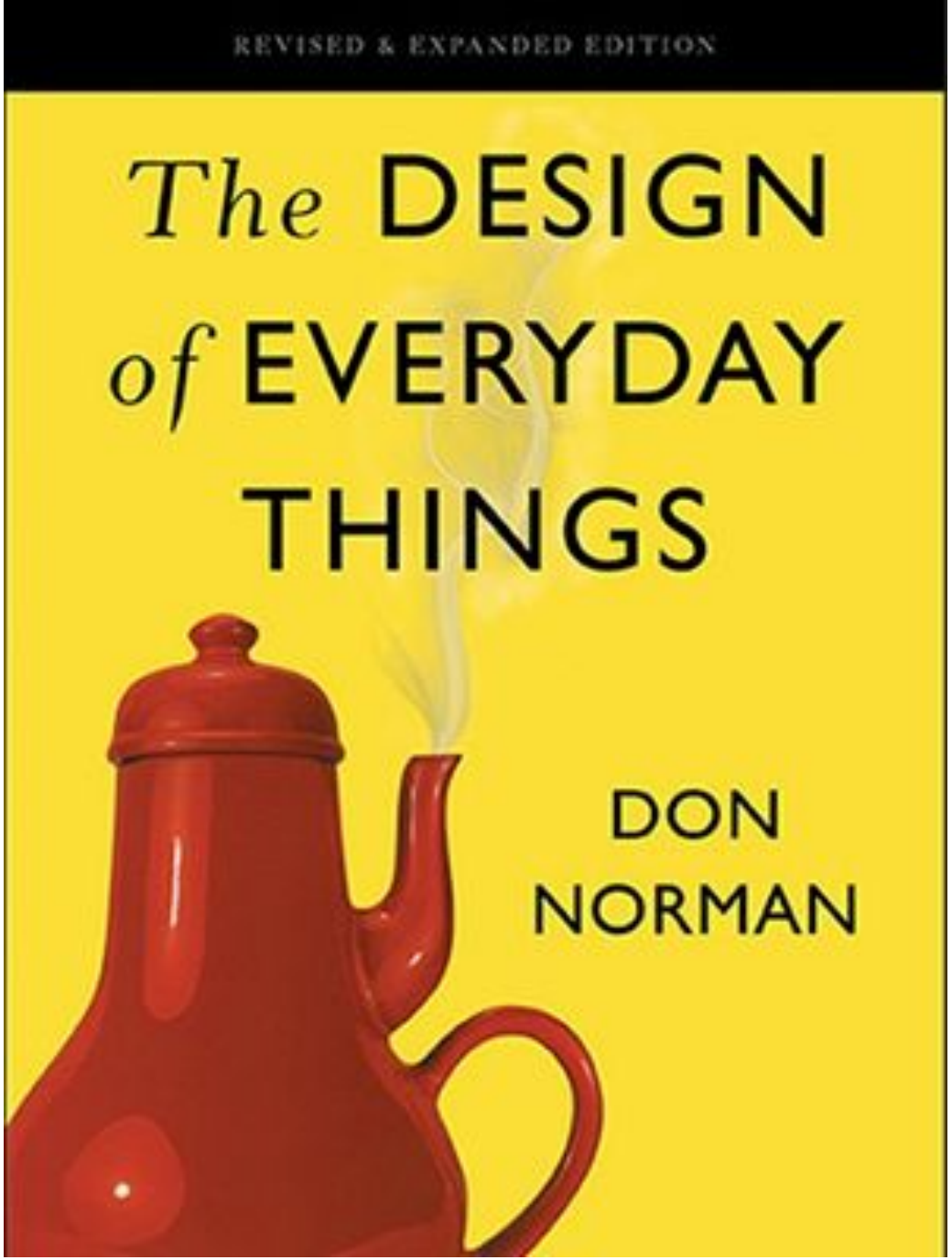
Enne HCI suuna algust: SketchPad by Ivan Sutherland at MIT (1963)



Areng: First Wave

- Ranged juhised
  - fookus ergonoomikale ja inimfaktorile
- Formaalsed meetodid
  - peamiselt kvantitatiivne lähenemine
  - laboriuuringud
- Süstemaatiline testimine
  - eksperimentaalpsühholoogia
  - ülesandepõhine testimine

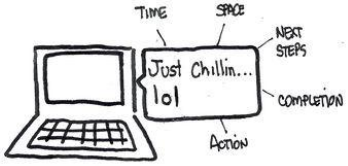
Esimene HCI teemaline populaarne raamat



Esimene seeriatootmises arvuti Xerox Star (1981)

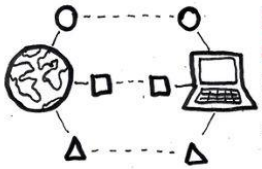
Jakob Nielseni 10 Heuristilist põhimõtet

Ten Usability Heuristics by Jakob Nielsen



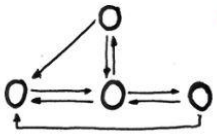
Visibility of system status

Give the users appropriate feedback about what is going on.



Match between system and the real world

Use real-world words, concepts and conventions familiar to the users in a natural and logical order.

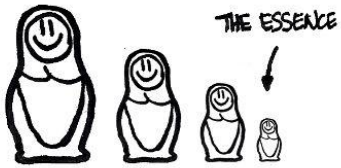


User control and freedom

Support undo, redo and exit points to help users leave an unwanted state caused by mistakes.

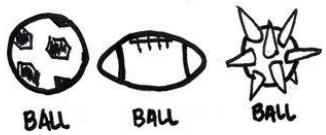
Error prevention

Prevent problems from occurring: eliminate error-prone conditions or check for them before users commit to the action.



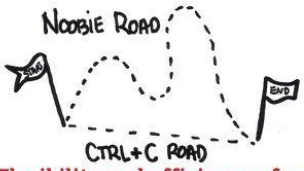
Aesthetic and minimalist design

Don't show irrelevant or rarely needed information since every extra elements diminishes the relavance of the others.



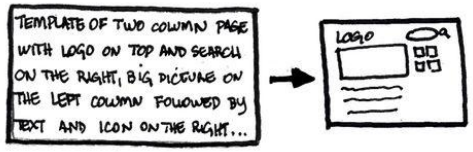
Consistency and standards

Follow platform conventions through consistent words, situations and actions.



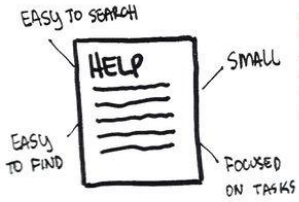
Flexibility and efficiency of use

Make the system efficient for different experience levels through shortcuts, advanced tools and frequent actions.



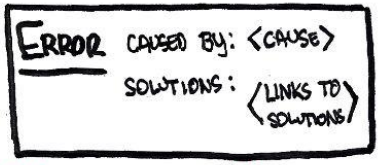
Recognition rather than recall

Make objects, actions, and options visible at the appropriate time to minimize users' memory load and facilitate decisions.



Help and documentation

Make necessary help and documentation easy to find and search, focused



Help users recognize, diagnose, and recover from errors

Express error messages in plain language (no codes) to indicate the problem and suggest solutions.

Põhimõttelised probleemid

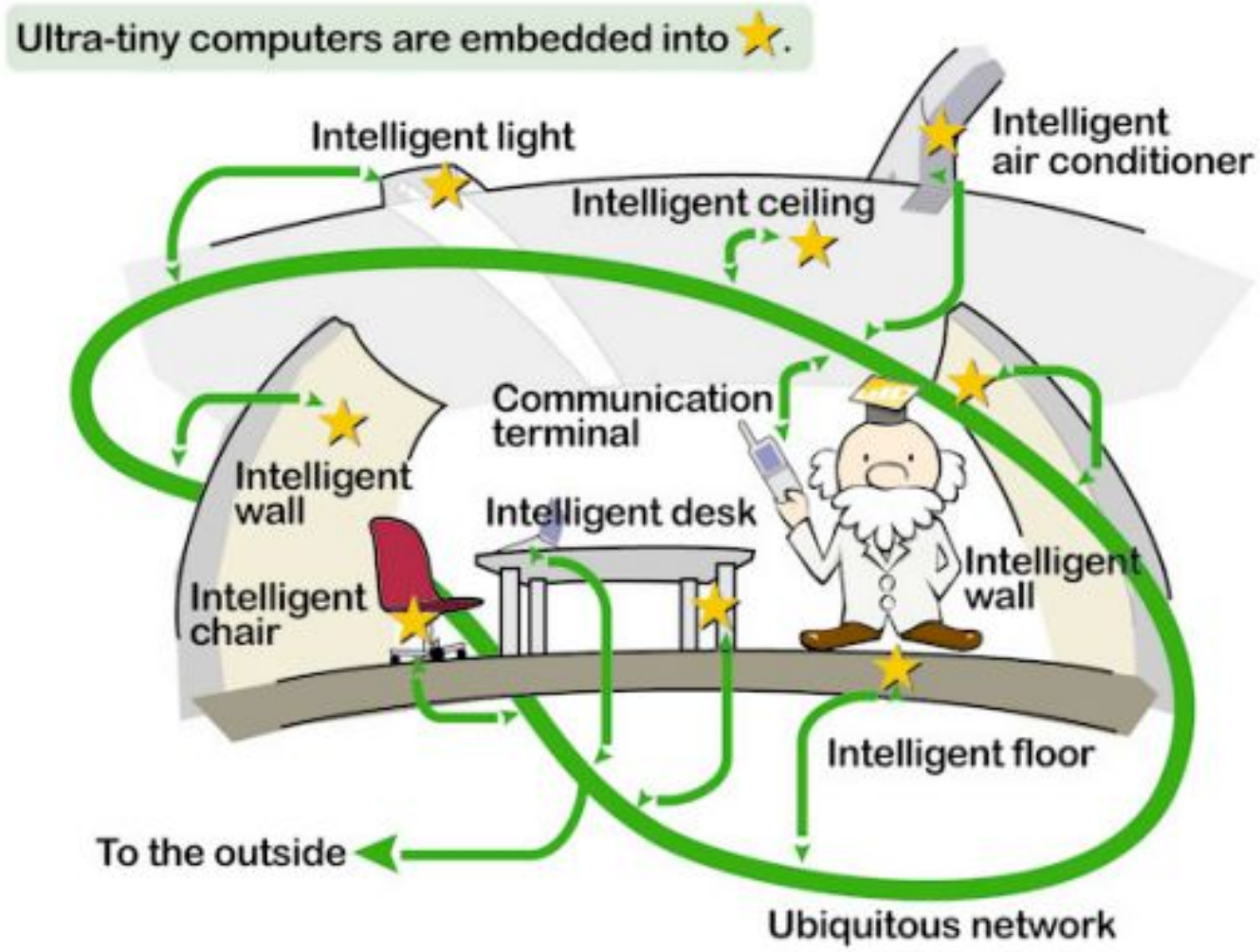
- Eksperimentaalsete uuringute piiratud võime selgitada käitumist
- Raskused uute kontekstide ja vahendite üldistamisel
- Ökoloogiaga arvestamine
- Grupikäitumise analüüs

Areng: Second Wave

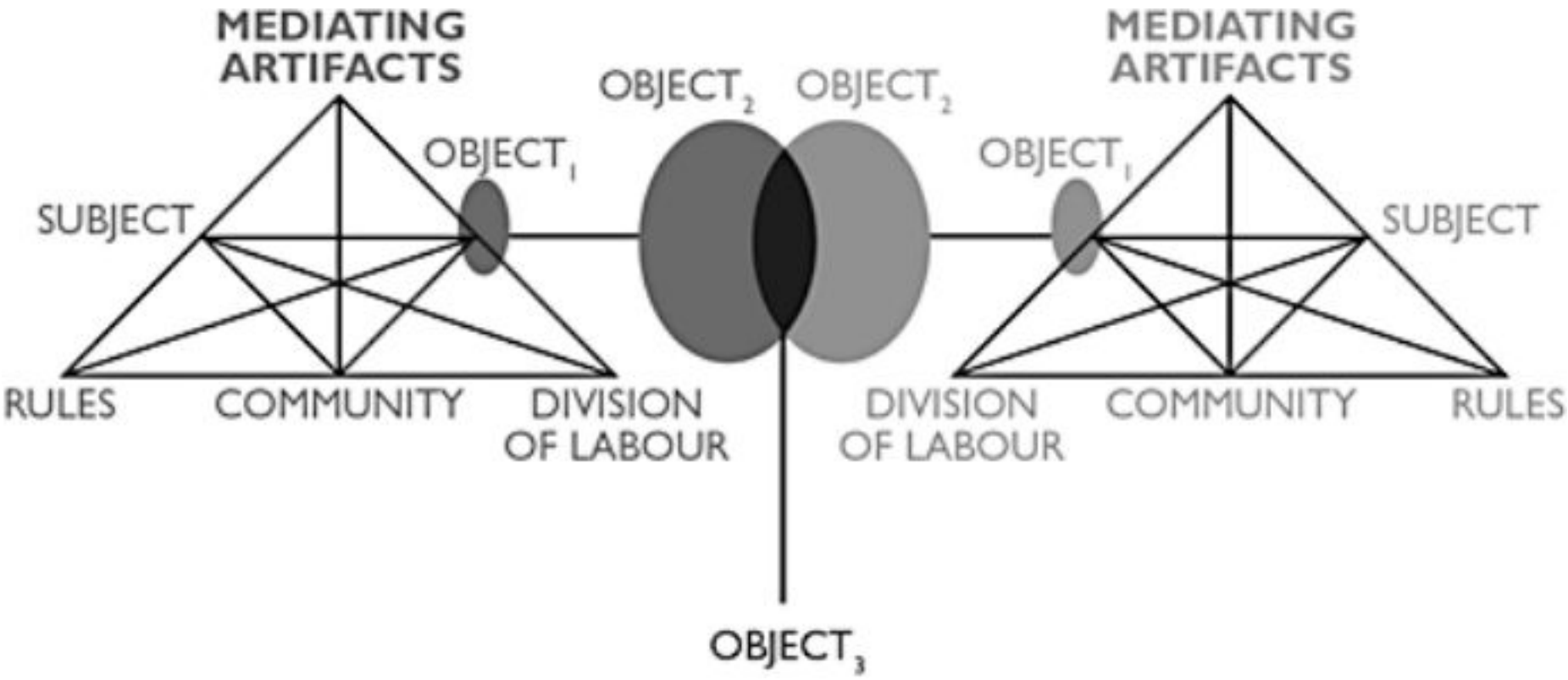
Kitchen stories - väliuuringud kasutajatega

Interneti teke

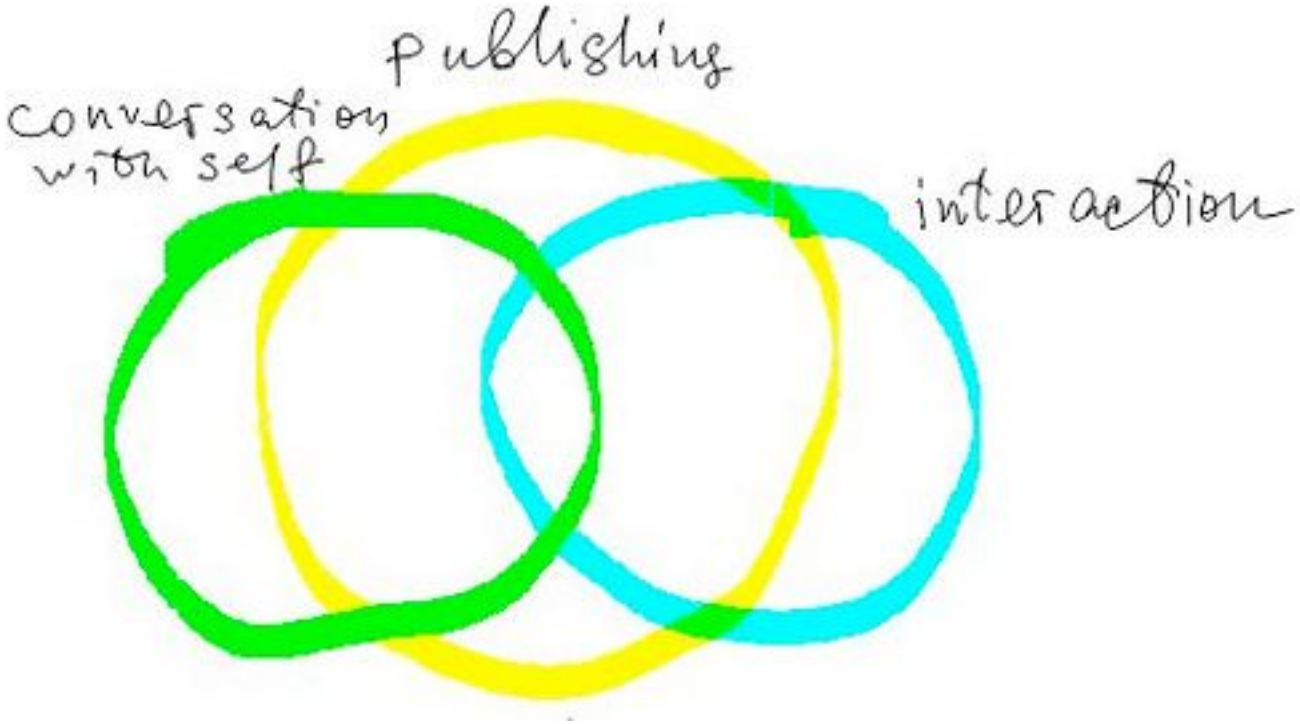
Kõikehõlmavad arvutisüsteemid



Kasutajate individuaalsete ja kogukondlike eripärade arvestamine

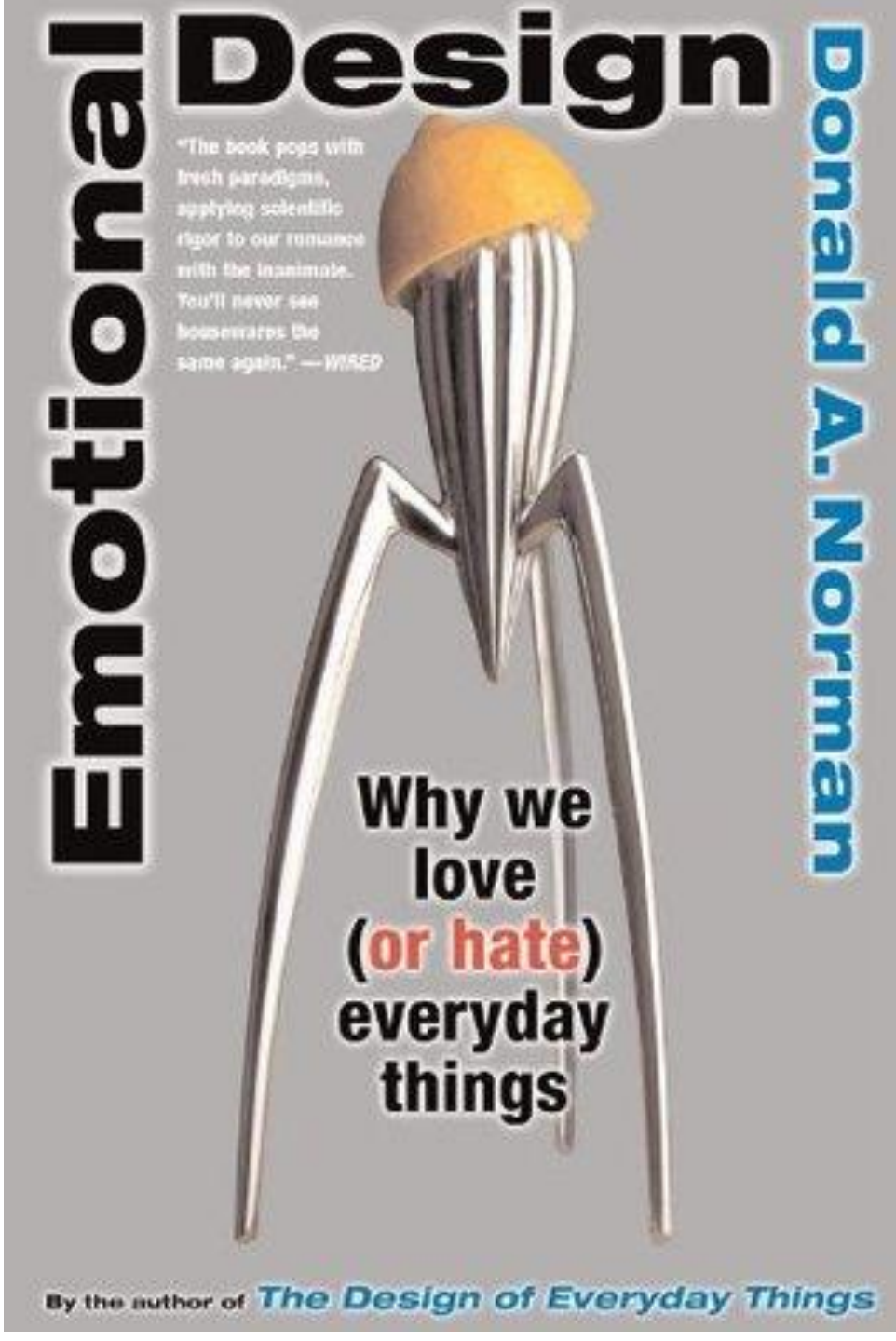


Kontekstiga arvestamine



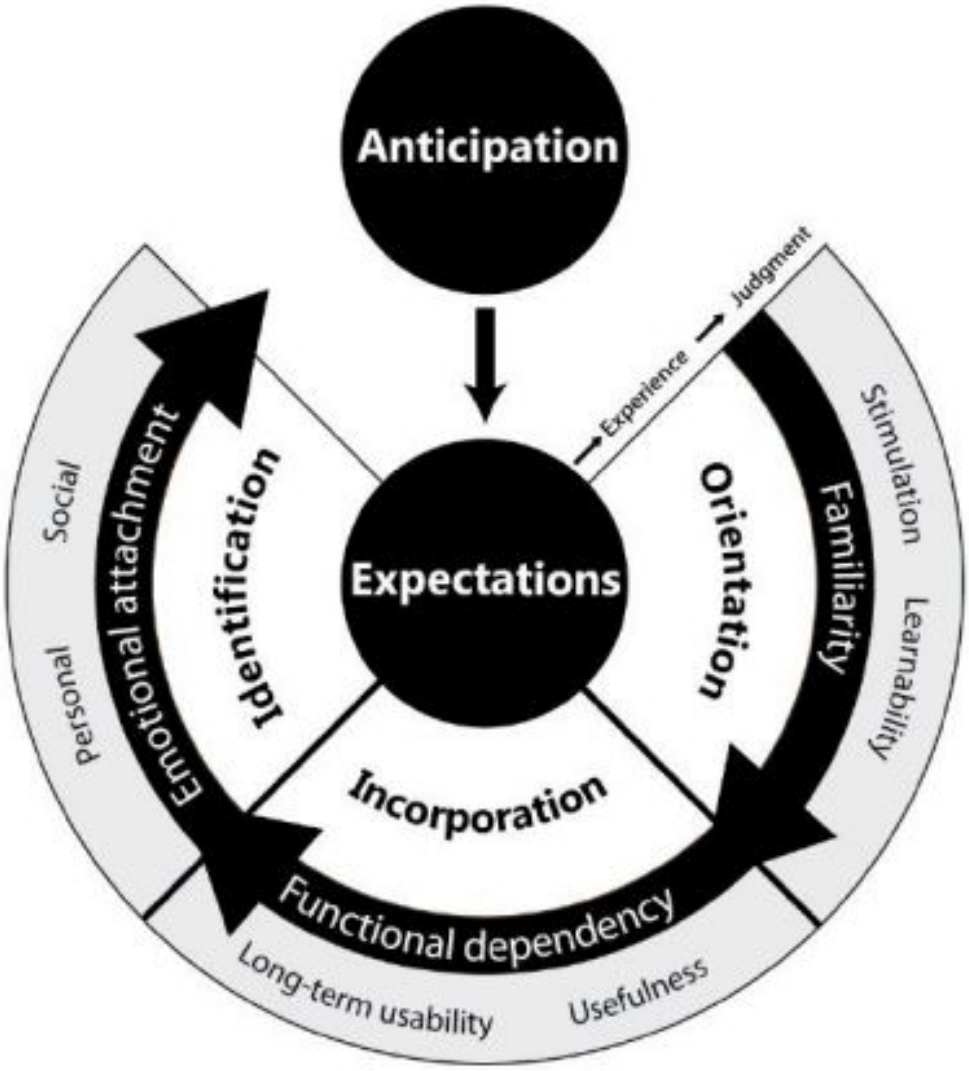
Areng: Third Wave

Arvestamine emotsioonidega

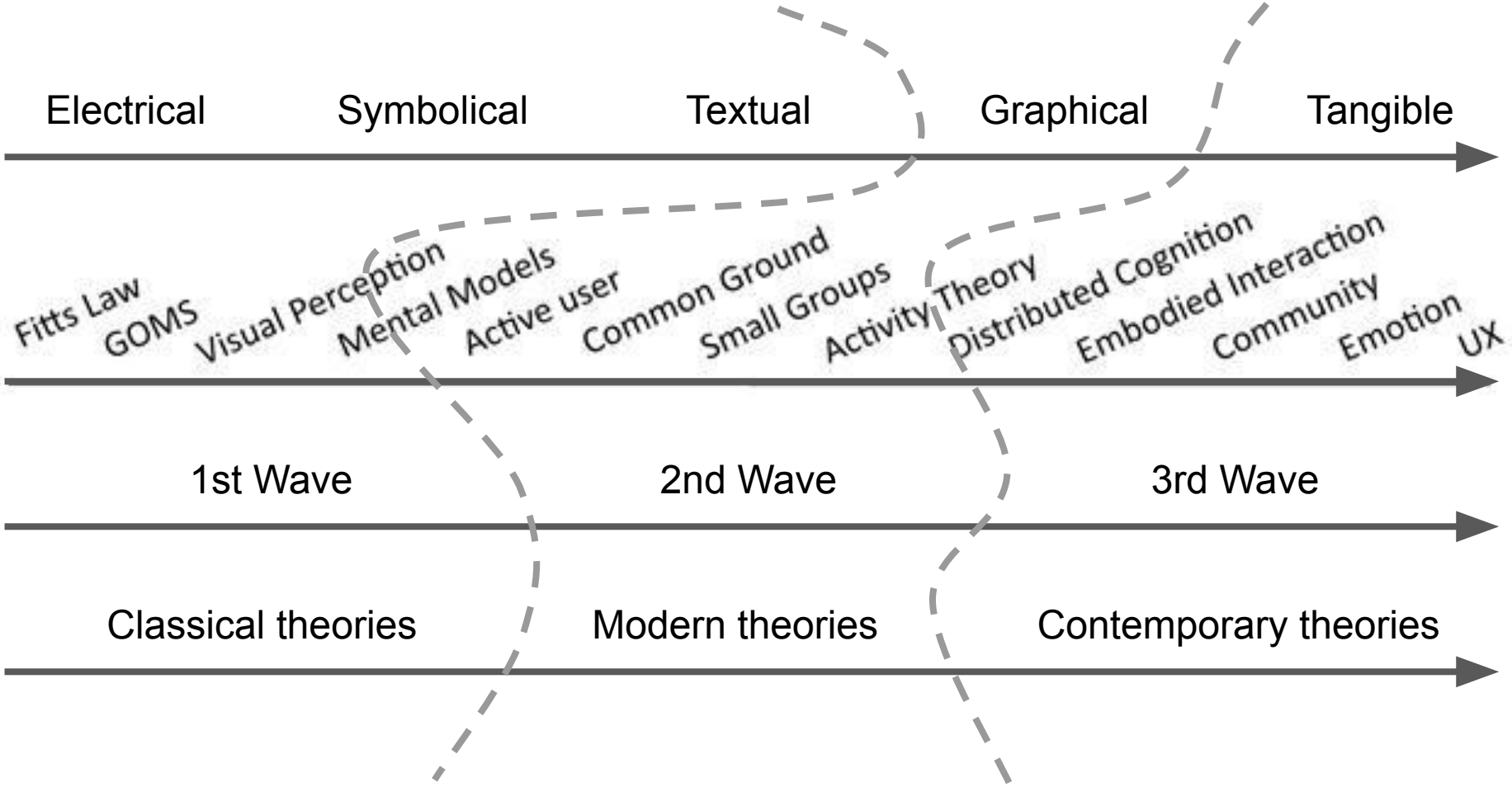


Emotsionaalne disain: iPhone

Kasutajakogemus UX ajas



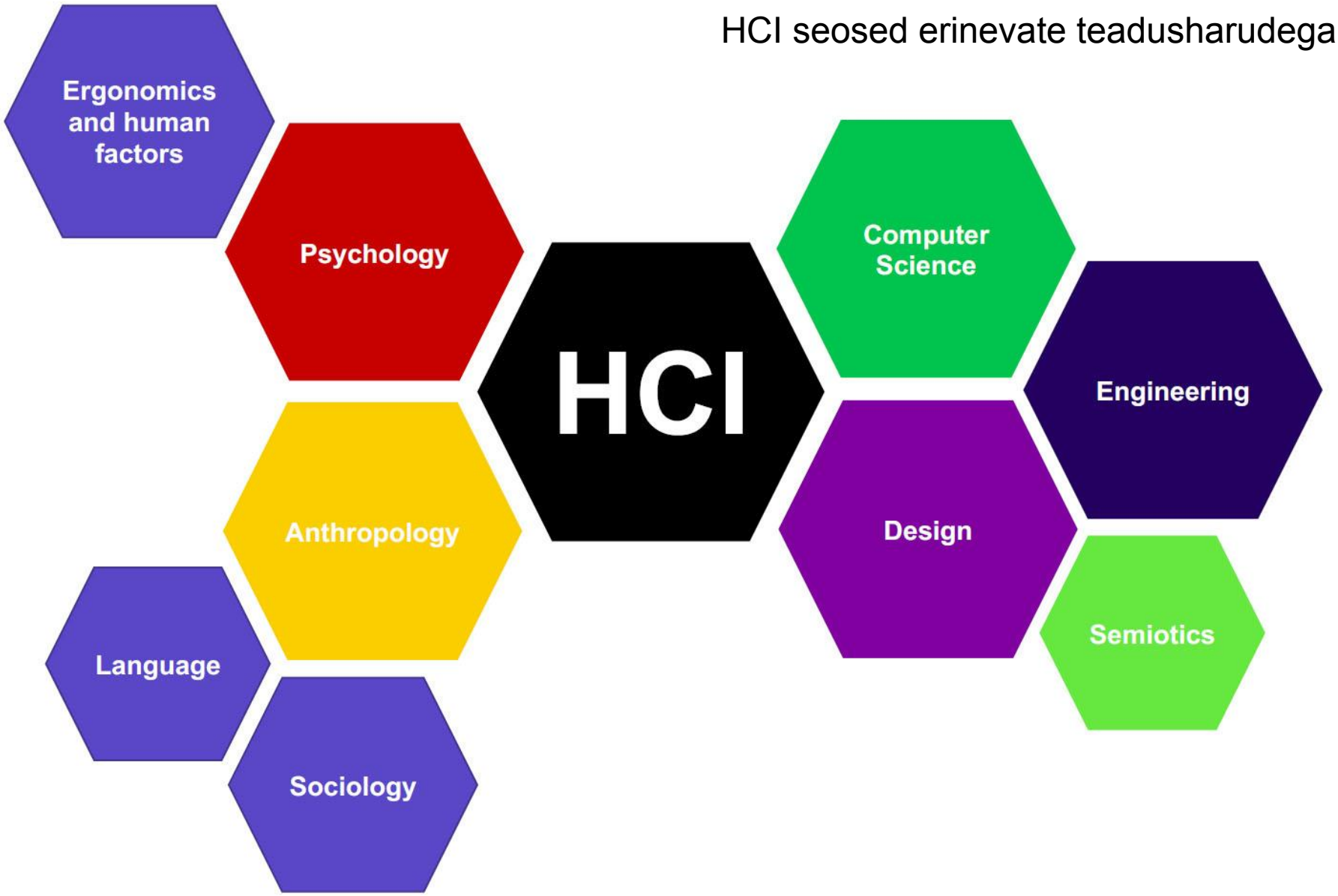
Arengu ajajoon kokkuvõttes



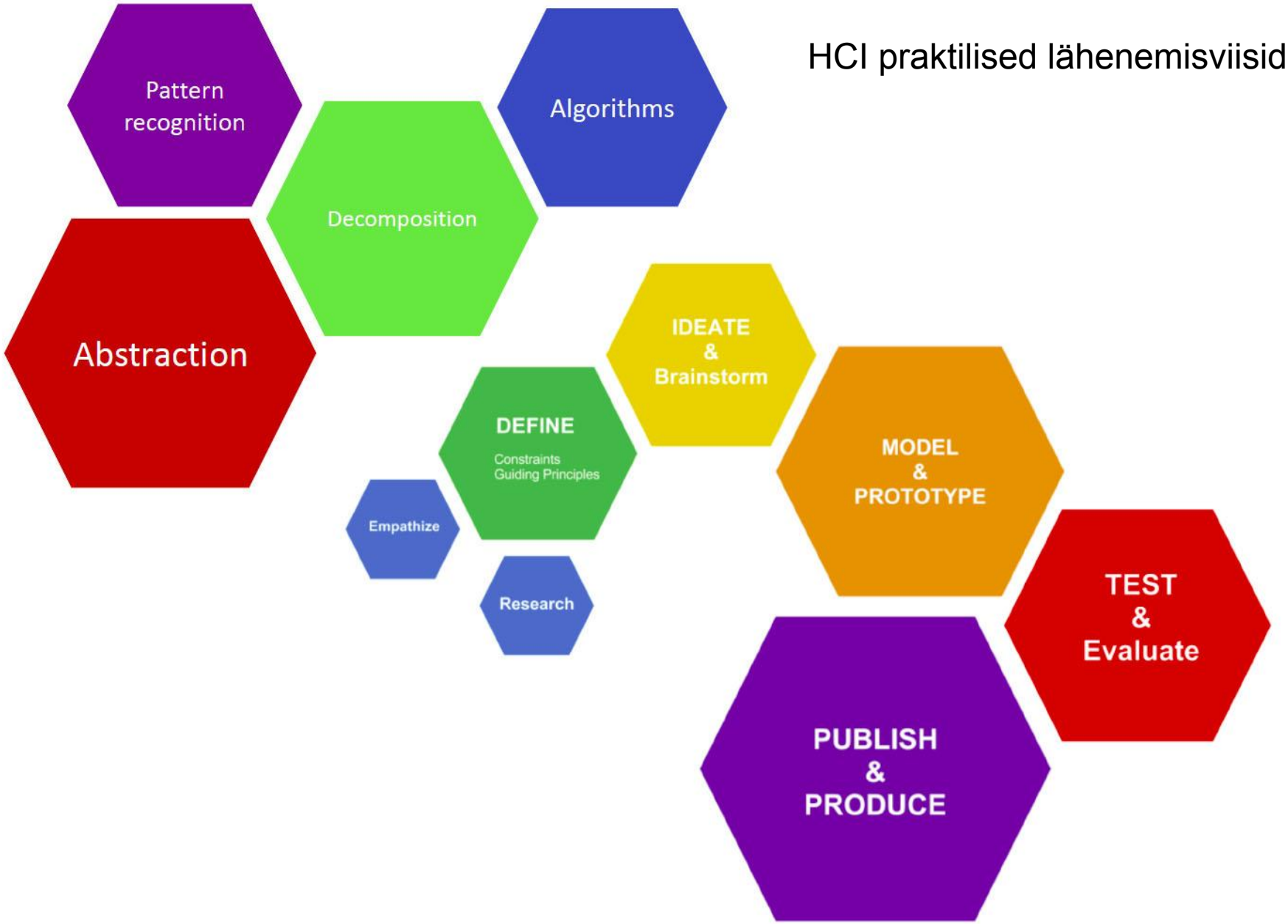
HCI õppekava

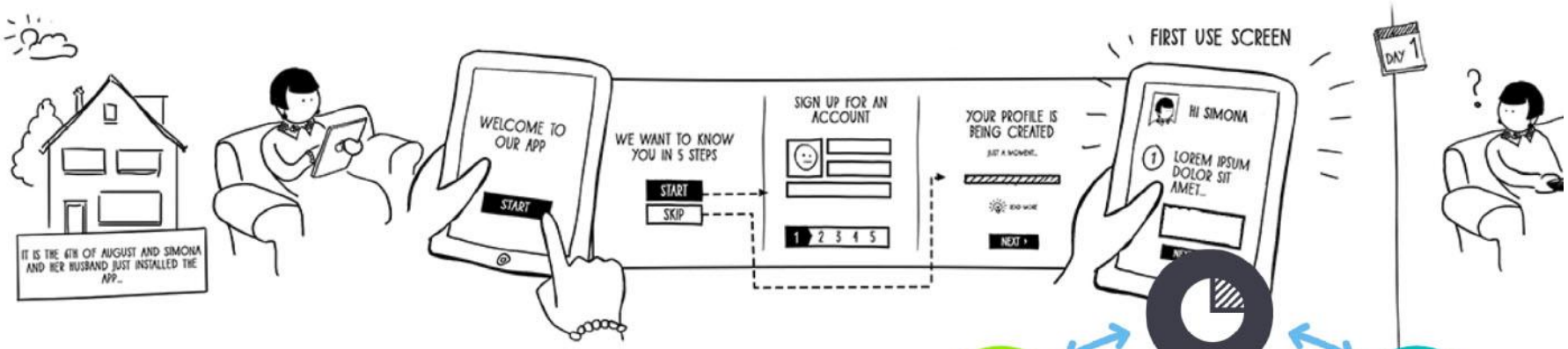
Me hindame tehnoloogiat, mis inimesele kasu toob

HCI seosed erinevate teadusharudega

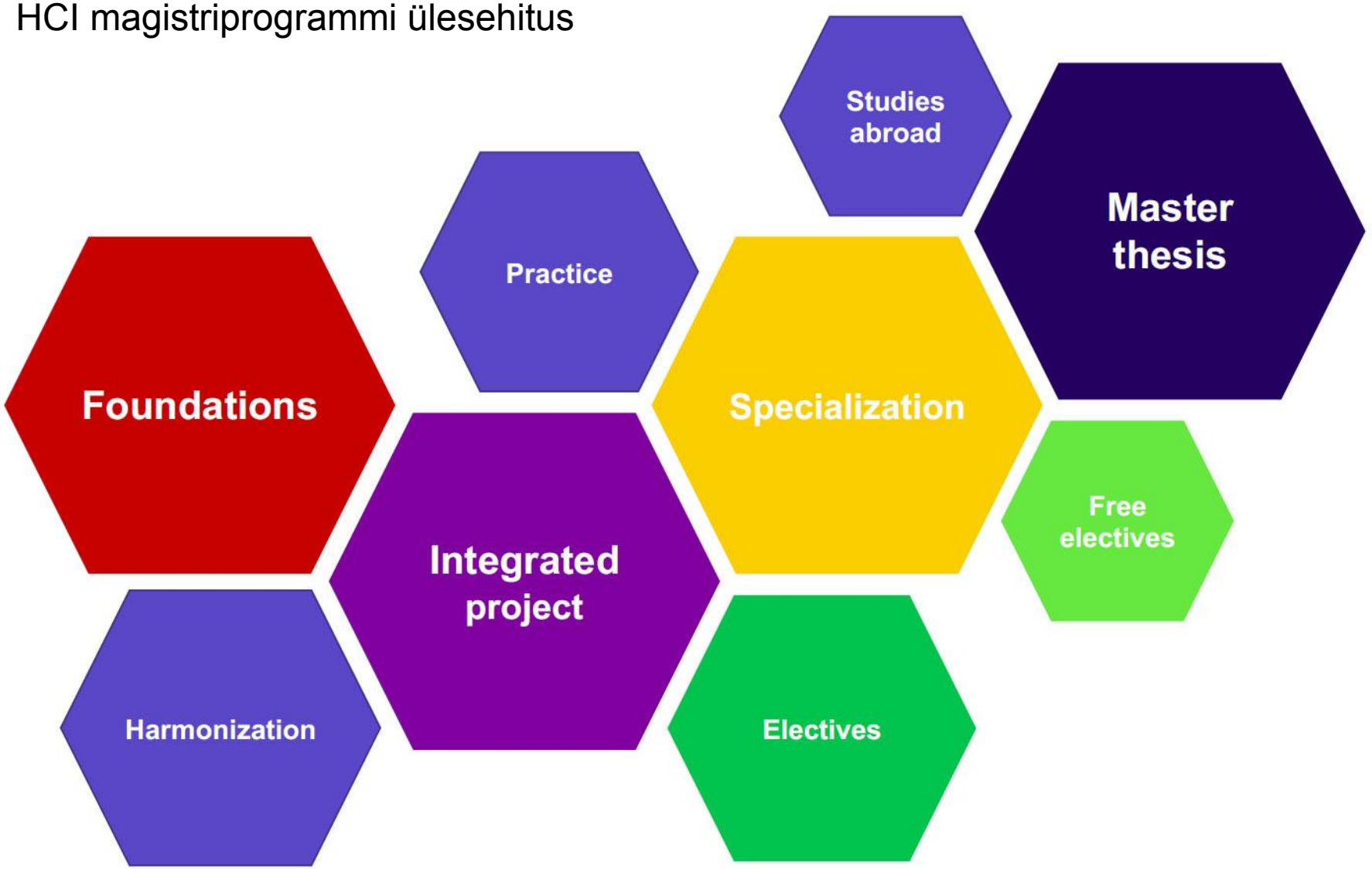


HCI praktilised lähenemisviisid




IT IS THE 6TH OF AUGUST AND SIMONA AND HER HUSBAND JUST INSTALLED THE APP...
WELCOME TO OUR APP
START
WE WANT TO KNOW YOU IN 5 STEPS
START
SKIP
SIGN UP FOR AN ACCOUNT
1 2 3 4 5
YOUR PROFILE IS BEING CREATED
NEXT
FIRST USE SCREEN
HI SIMONA
1 LOREM IPSUM DOLOR SIT AMET...
DAY 1
?

HCI magistriprogrammi ülesehitus



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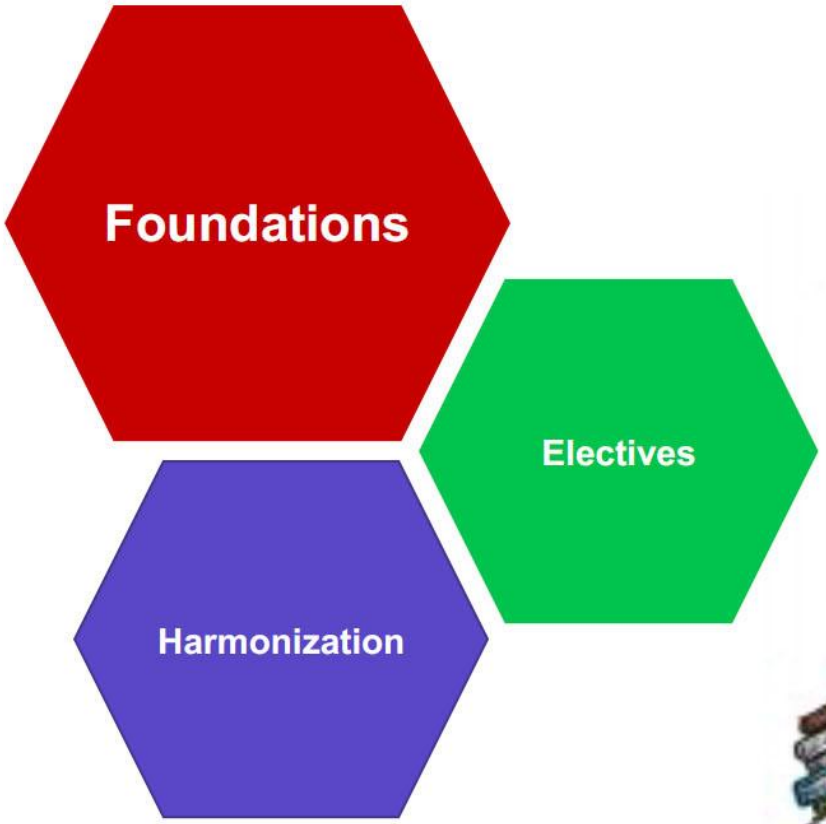
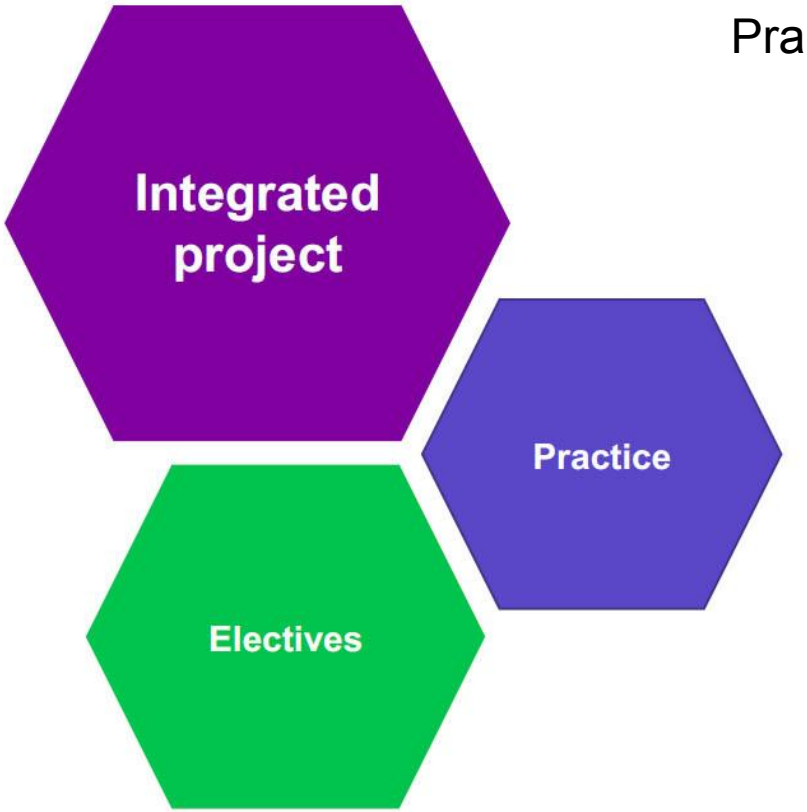
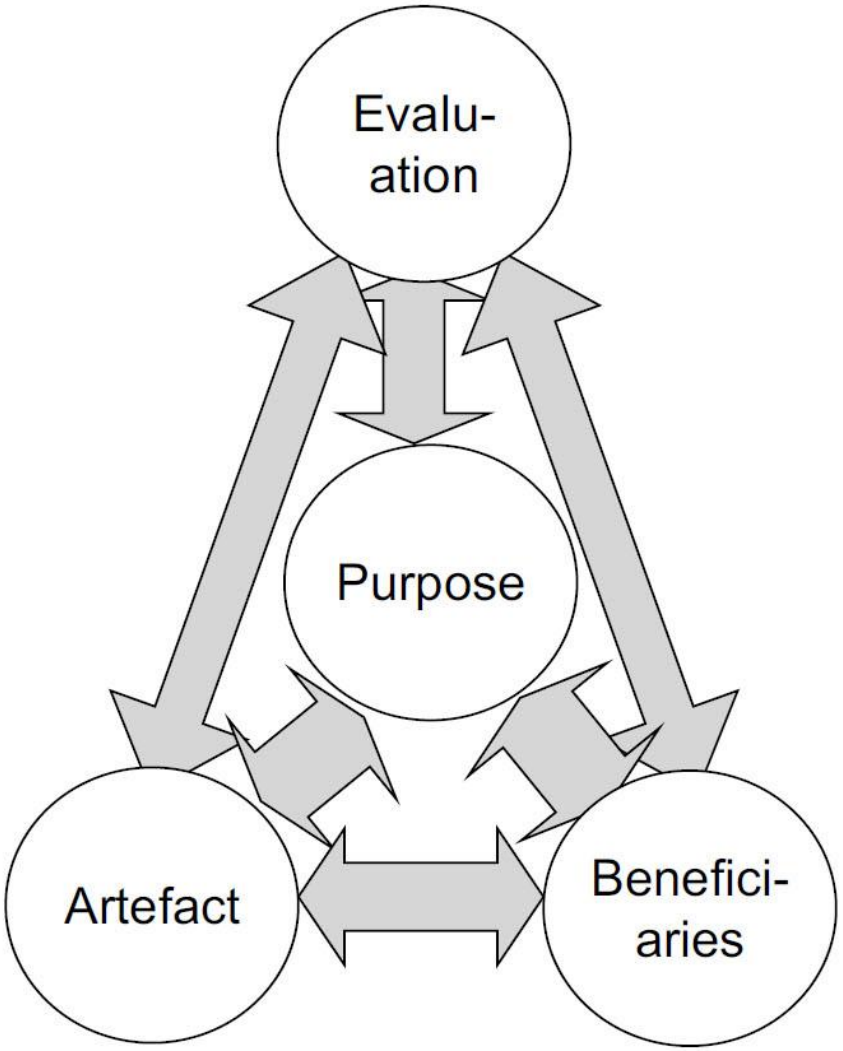
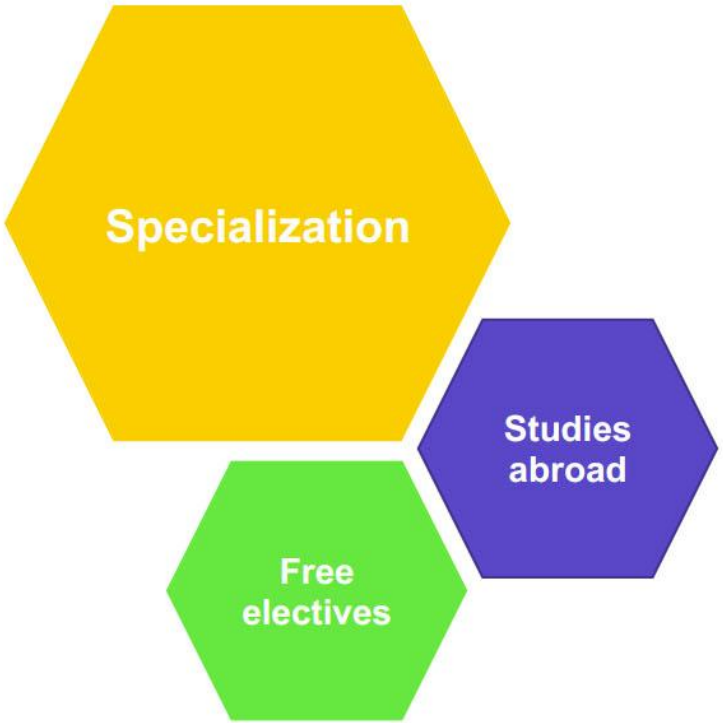


Praktilised projektid



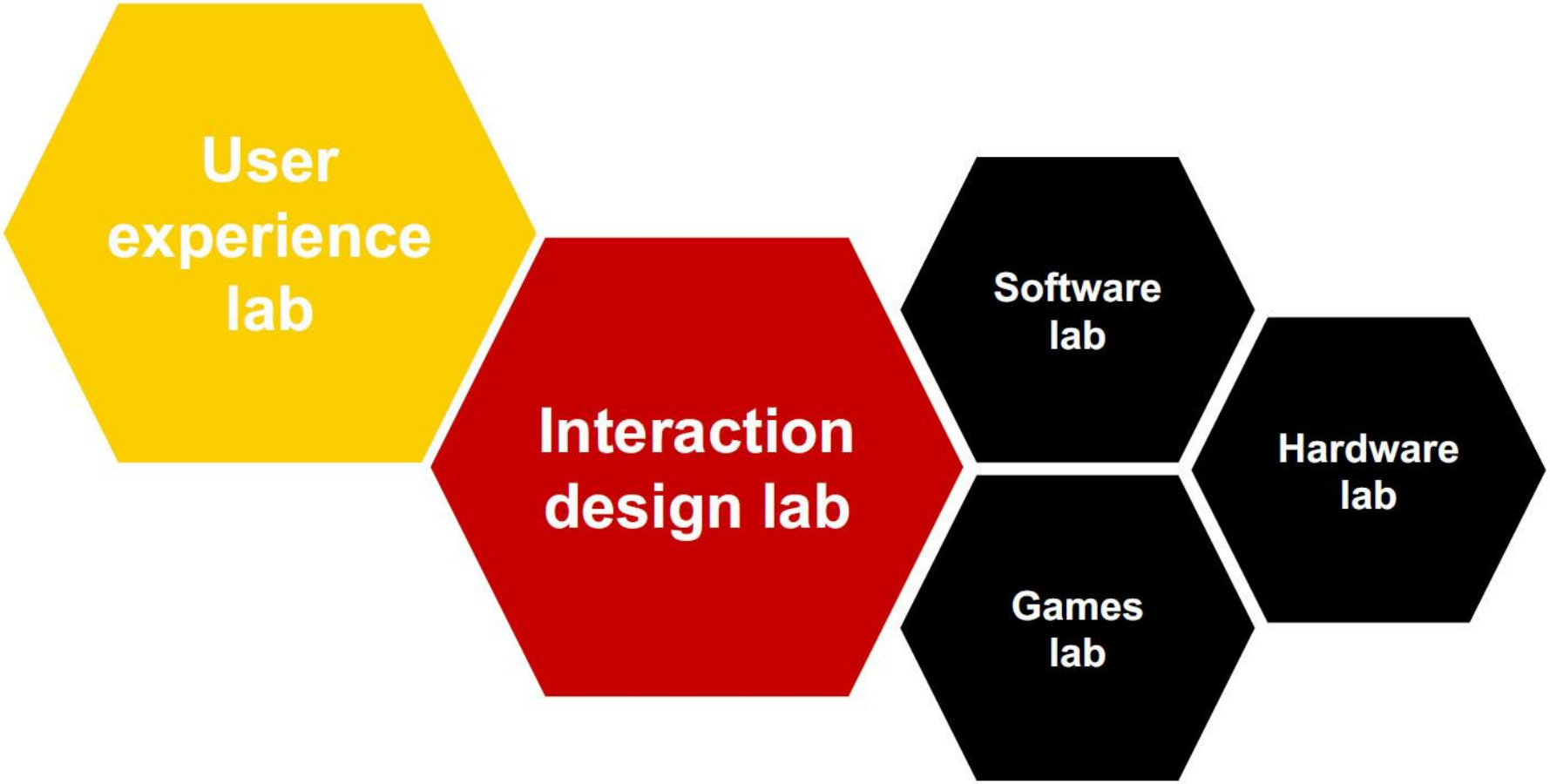




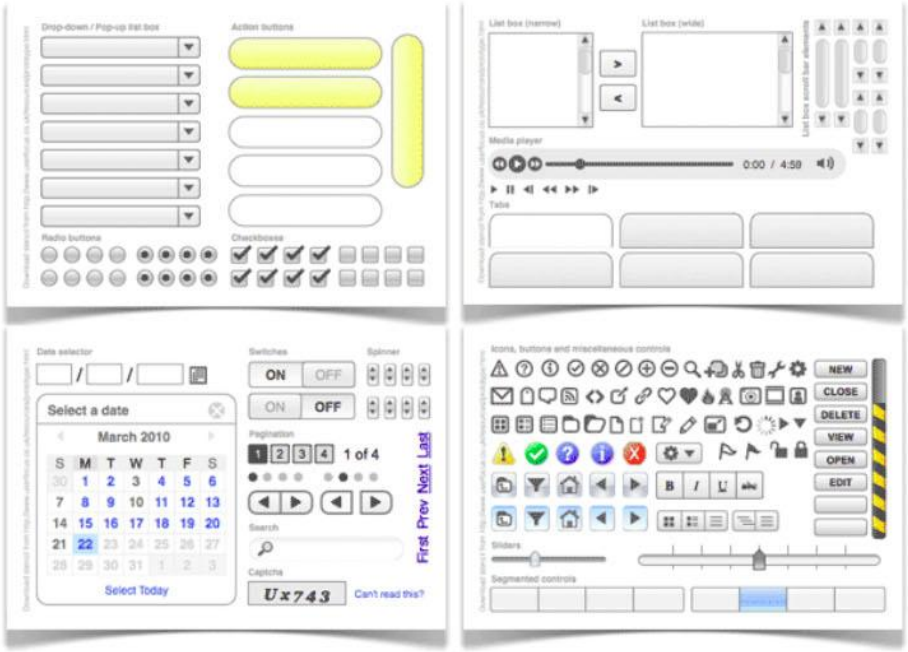
Õpilastelt ootame aktiivset huvi ja pühendumist

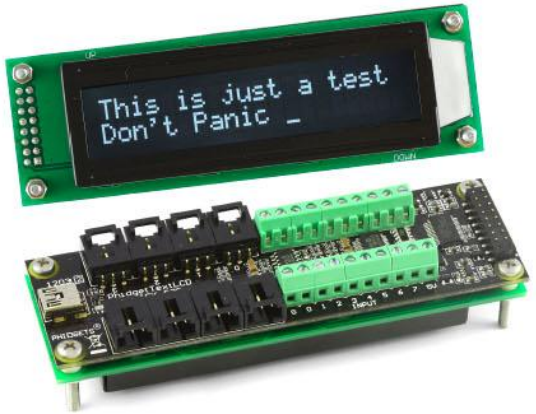
(Cartoons by S. Iwasawa from Pfeifer & Bongard: How the body shapes the way we think, 2007)

Laborid toetavad praktilist lähenemist HCI-le



Robootika- ja riistvaralabor



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Future
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2025
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2021
2024

Business Analyst, Chief Experience Officer, Experience Manager, Head of Online Channels, Information Architect, Interaction Designer, Interface Designer, Marketing Manager, Product Manager, Project Manager, Usability Analyst, Usability Consultant, User Experience Architect, User Experience Designer, User Interface Designer, User Researcher, Visual Designer

Programmi lõpetanud võivad soovi korral jätkata Tallinna Ülikooli või mistahes maailma ülikooli doktoriõppes!

Aga…
kui sooviksin kõike seda enne sisseastumist proovida?

Siis osale
Eksperimentaalse Interaktsioonidisaini kursustel
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Või tule ülemaailmse kasutatavuse päeva üritusele

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Aitäh!