



HUMAN-CENTERED SYSTEMS

Stefan Holmlid

Interaction design, industrial design, design management, service design, information design, experience design, graphic design, furniture design, destination design, product design, ergonomics design, innovation design, packaging design, retail design, automotive design, eco design, sustainable design, user centred design, workplace design, inclusive design, instructional design, exhibition design, building design, interior design, brand design, architectural design, engineering design, fashion design, landscape design, urban design



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# Skissning, interaktionsdesign

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# Vad är en skiss?

- snabb – format
- billig – material
- kan slängas – värde
- en av många – designrymd
- mångtydig – vidare
- låg upplösning – detaljer



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# Anledningar till att skissa

- Pröva
- Föreslå
- Utforska
- Generera
- Lägga grund
- Kommunicera



# Utveckla gestaltningsarbetet

datorprototyp

pappersprototyp

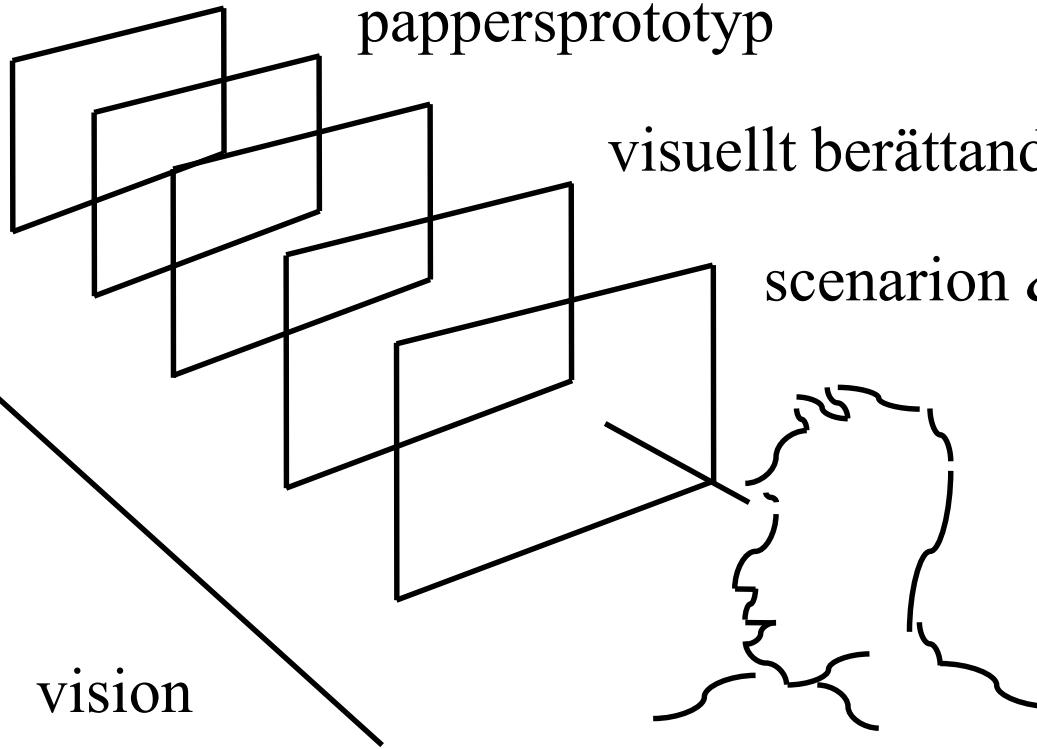
visuellt berättande

scenarion & rollspel

specifikation

operativ  
bild

vision





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# Målet är prototypen

- Som i interaktionsdesign är ett utkast som används tidigt i utvecklingsprocessen
- *Pappersprototypen* bygger vidare på skissarbetet



**en**

**stan**

**Radhusbrand i Akersberga**

En brand utbröt i går morgon i ett radhus på Kvarnholmsvägen i Akersberga norr om Stockholm. De boende tog sig in för kontroll på sjukhus.

**Elev häktad för skolhot**

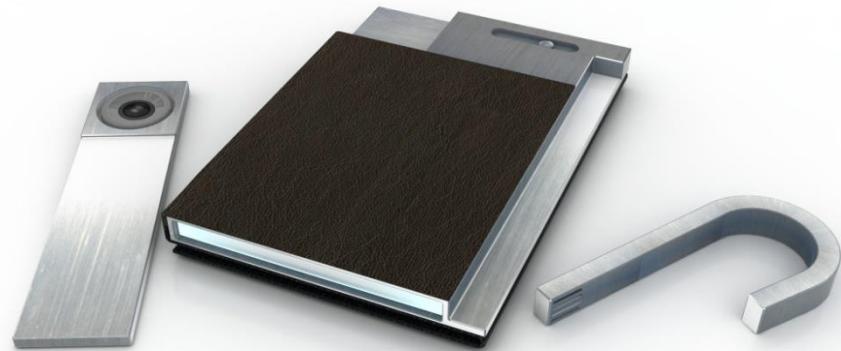
**PISTOL** En 18-årig man har häktats misstänkt för att på internet ha hotat döda hela sin klass på en skola i Uppsala. Polisen informerades redan samma dag om 18-åringens planet. Han greps och i bostaden hittades en typ av luftvapen, en Soft Air-Gun-pistol.

**Tjat om valdeltagande i EU-debatt**

The newspaper spread features a large black and white photograph of a building engulfed in flames, identified as a town hall. The headline above the photo reads "Radhusbrand i Akersberga". Below the photo is a caption: "En brand utbröt i går morgon i ett radhus på Kvarnholmsvägen i Akersberga norr om Stockholm. De boende tog sig in för kontroll på sjukhus." The second story, on the right, has a large headline "Elev häktad för skolhot". Below it is a sub-headline "PISTOL" and a brief description of the arrest. The bottom part of the spread shows a landscape with trees and water. The overall layout is typical of a printed newspaper with its columns and images.



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# SKISSNING I DETALJFAS



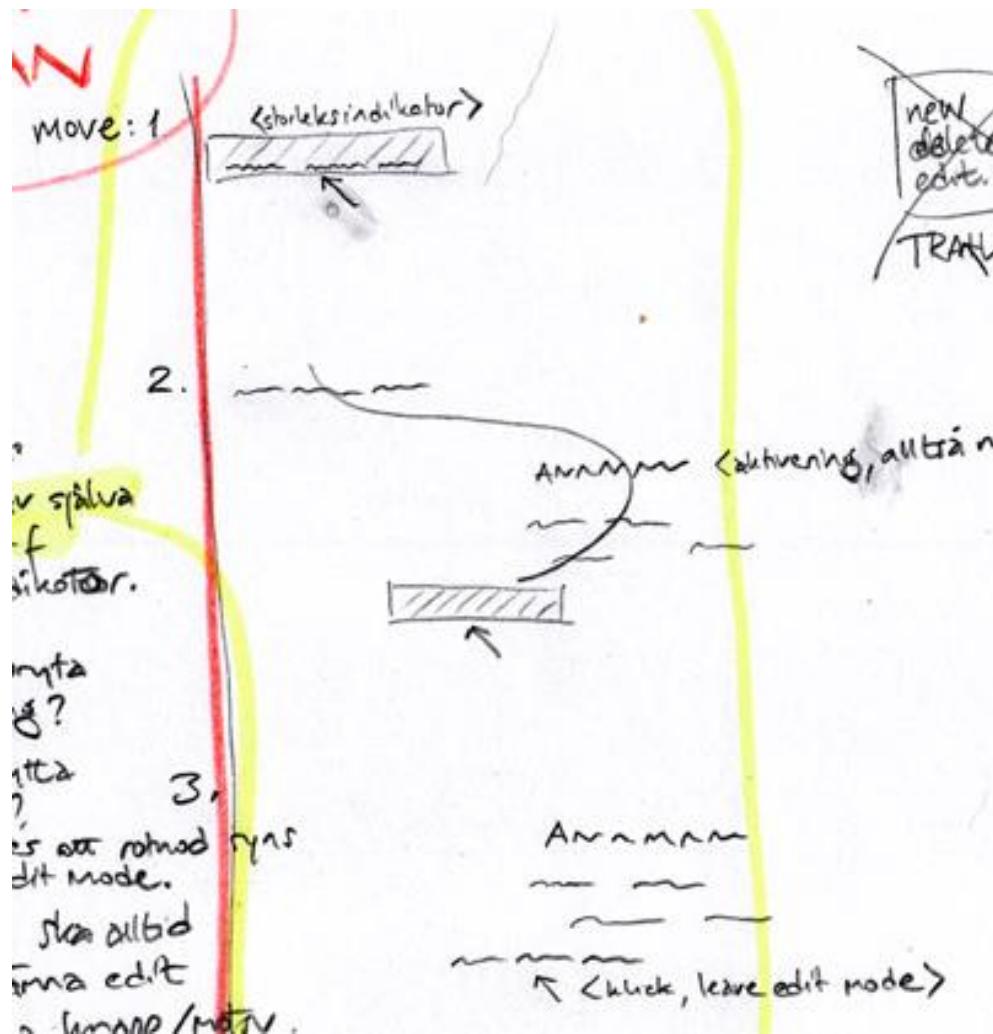
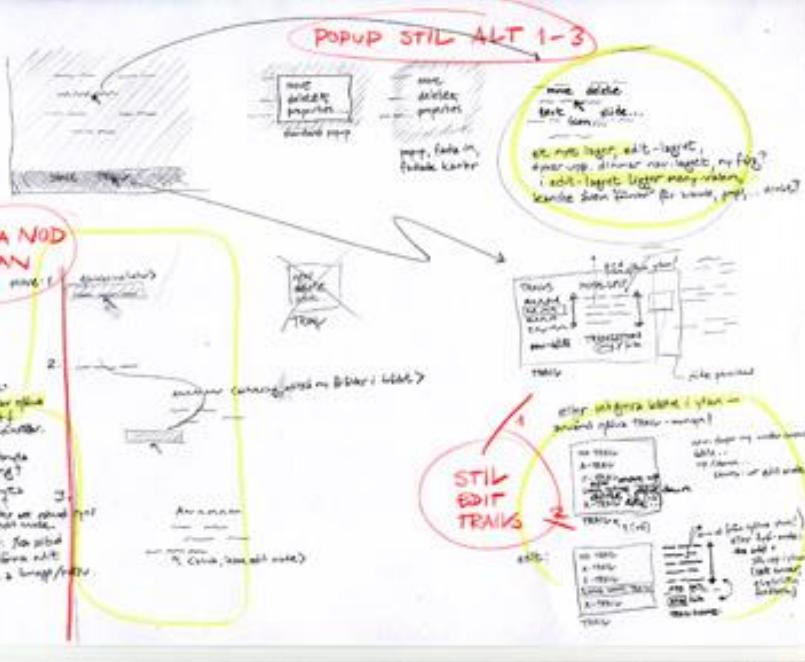
# Skissning, detaljfas

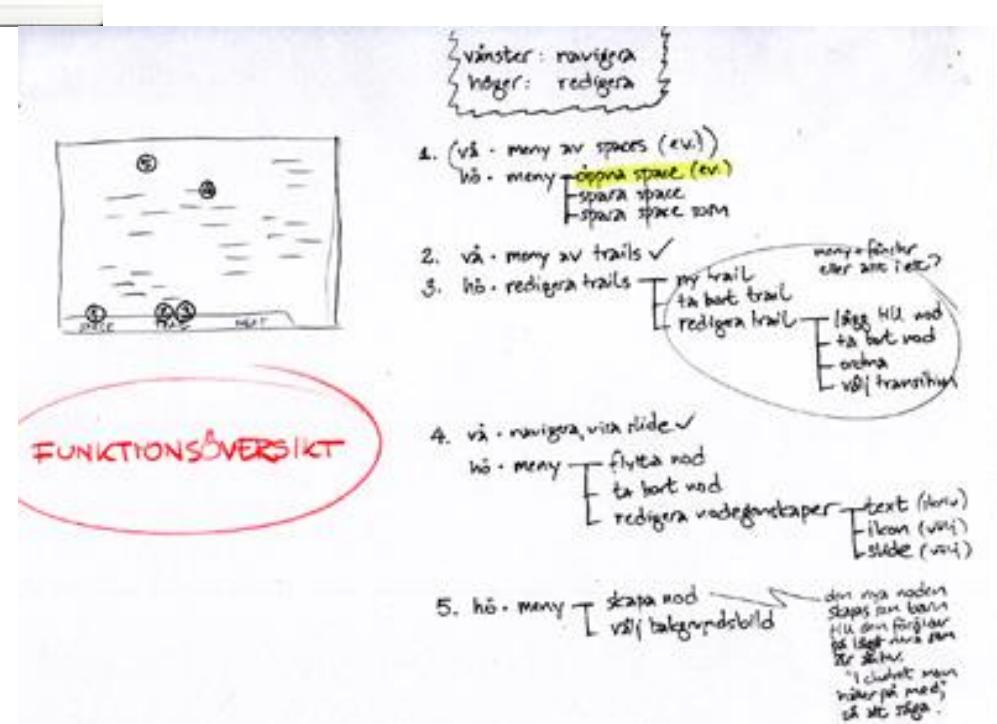
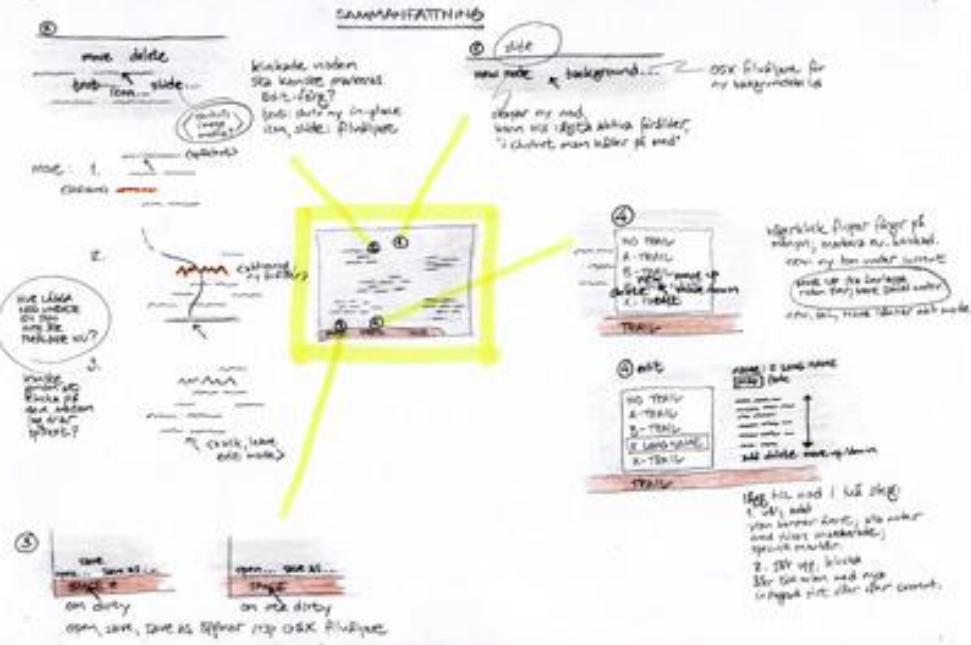
- Informellt och snabbt, där man tänker igenom hur användningsfall, interaktivitet och procedurer ska se ut.
- Lätt att jobba med alternativ.



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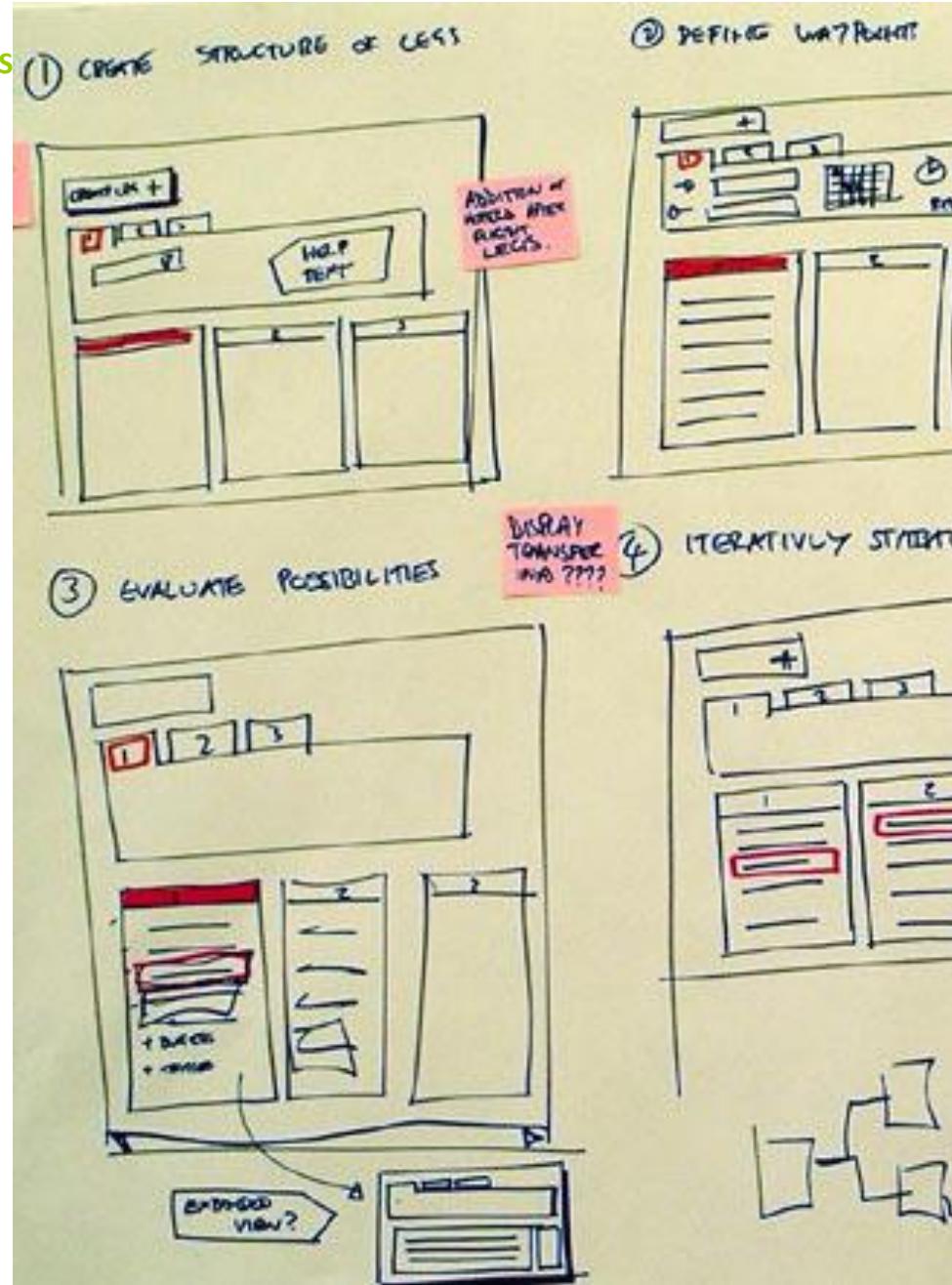
# Skärmbaserade gränssnitt...







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# Meny, underlag

HCIL Letterhead.doc - Microsoft Word

File Edit View Insert Format Tools Table Window Help

EndNote 7 F7  
Spelling and Grammar...  
Language  
Word Count...  
AutoSummarize...  
Speech  
Track Changes Ctrl+Shift+E  
Compare and Merge Documents...  
Protect Document...  
Online Collaboration  
Letters and Mailings  
Tools on the Web...  
Macro  
Templates and Add-Ins...  
AutoCorrect Options...  
Customize...  
Options...

Mail Merge Wizard...  
Show Mail Merge Toolbar  
Envelopes and Labels...  
Letter Wizard...

Picture

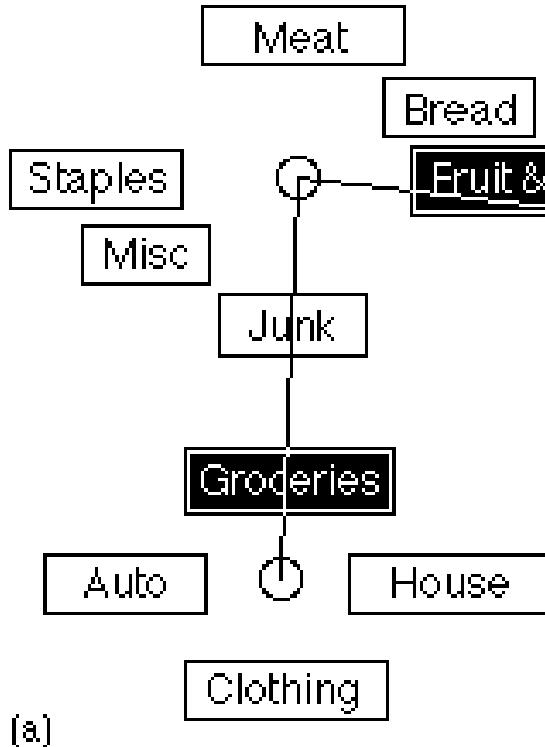
March 1st, 2004  
Re: HCIL Annual Symposium

Dear colleague,

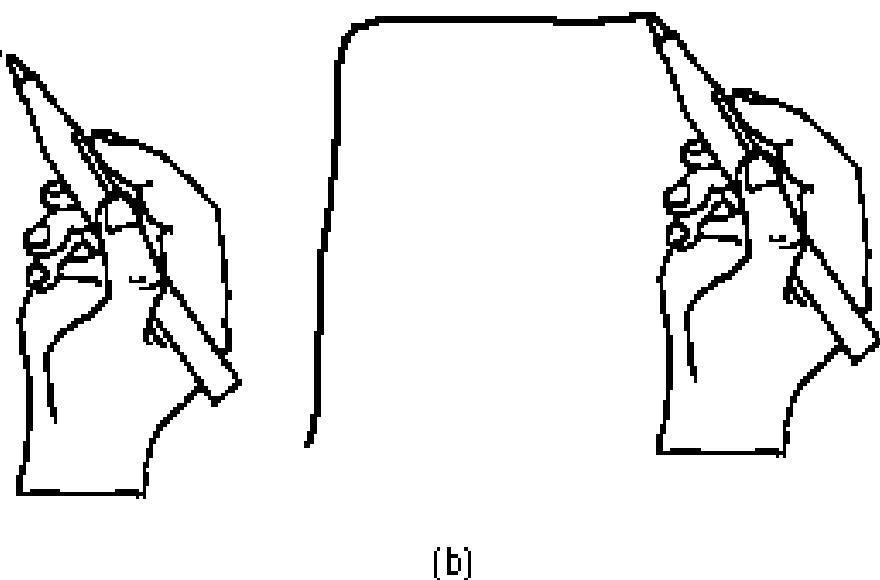
Draw AutoShapes Page 1 Sec 1 1/3 At 3.1" Ln 13 Col 1 REC TRK EXT OVR English (U.S.)



# Menyskiss, alternativ



(a)

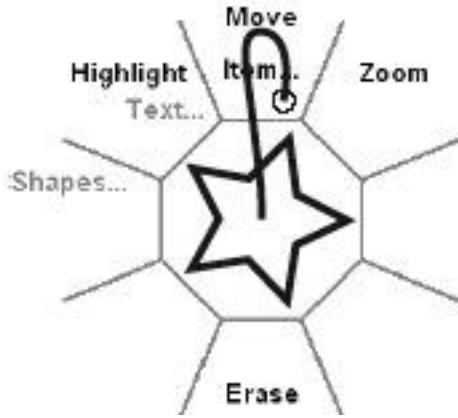


(b)

- With visual feedback (a) and without (b)



# Menyskiss, alternativ

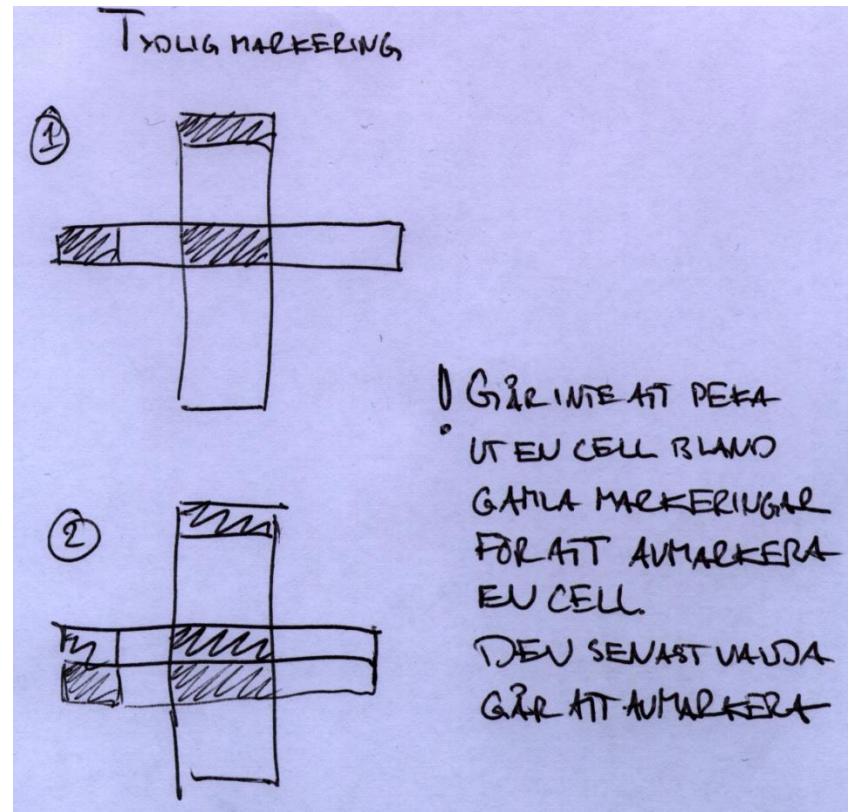


- After selecting move from the root menu the user continues with the drag interaction
- In contrast to marking menus the object follows the cursor immediately

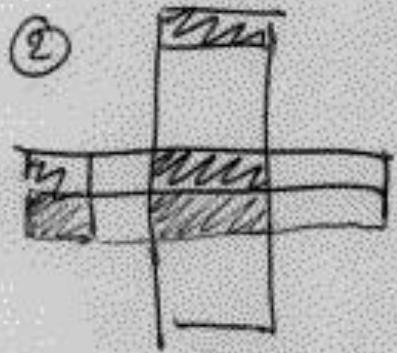
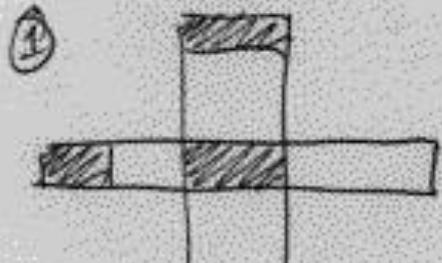


# Detalj & upplösning

- Realtidsövervakning
  - Limited control
  - Life on its own
  - Professional users



YOUNG MARKETING,



- I GÖR INTE ATT PÅKÄR  
UT EN CELL BLAND  
GÖRA MARKETINGAR  
FÖR ATT AVMARKERA  
EN CELL  
DEN SENAST VANDA  
GÖR ATT AVMARKERA

OSS - Real-Time Performance Monitoring - TrafficReport

File View Reports Help

Cell name TCH util (%) Number of avail TCHs TCH traffic (Erlang) TCH cong

Cell name	TCH util (%)	Number of avail TCHs	TCH traffic (Erlang)	TCH cong
cell_1	4	20	1	
cell_10	13	20	4	
cell_11	11	20	3	
cell_12	4	20	2	
cell_13	20	20	6	
cell_14 ↪	5	60	1	
cell_15	0	0	2	
cell_16	9	20	2	
cell_2	0	0	2	
cell_3	7	20	2	
cell_4	12	20	5	
cell_5	25	20	7	
cell_6	15	20	4	
cell_7	19	20	4	
cell_8	18	20	6	
cell_9	3	0	3	
...				



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Sofia opens her door by drawing her "signature code" on her door. She likes this cool detail.



As the effective woman she is, she hates wasting time on all those small things.



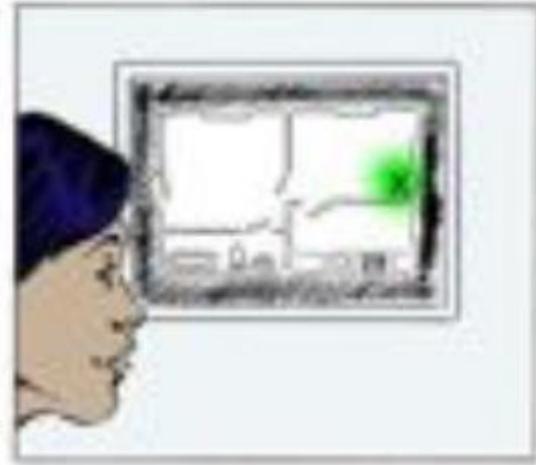
A movement over the edge of the door, locks it.

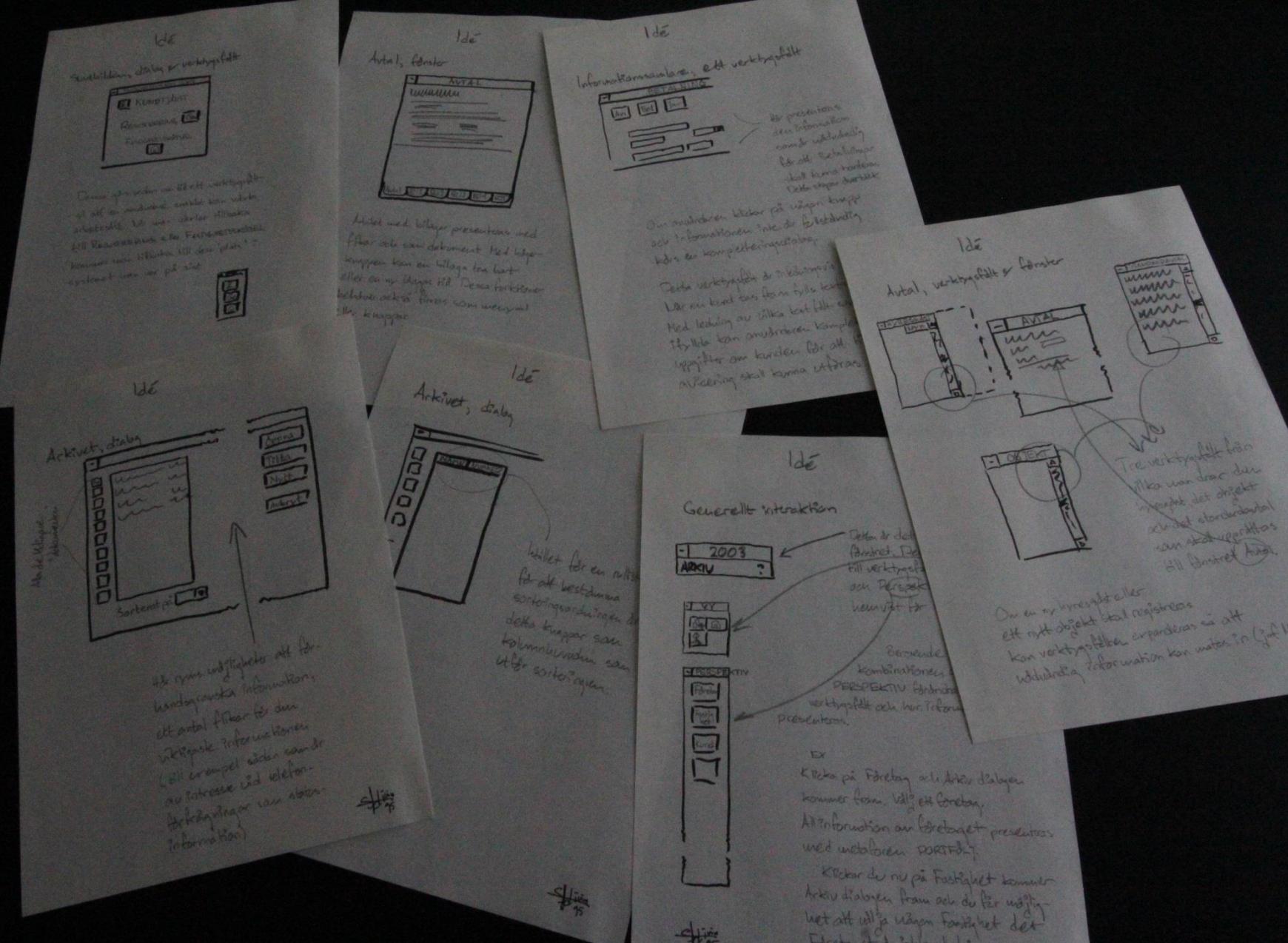


When she have closed the door, she watches a message that her boyfriend has left for her.



Sofia wants to find her device quickly and uses the "finder function" on the door.







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# Olika nivåer...

## MILIEU- BETEILEN

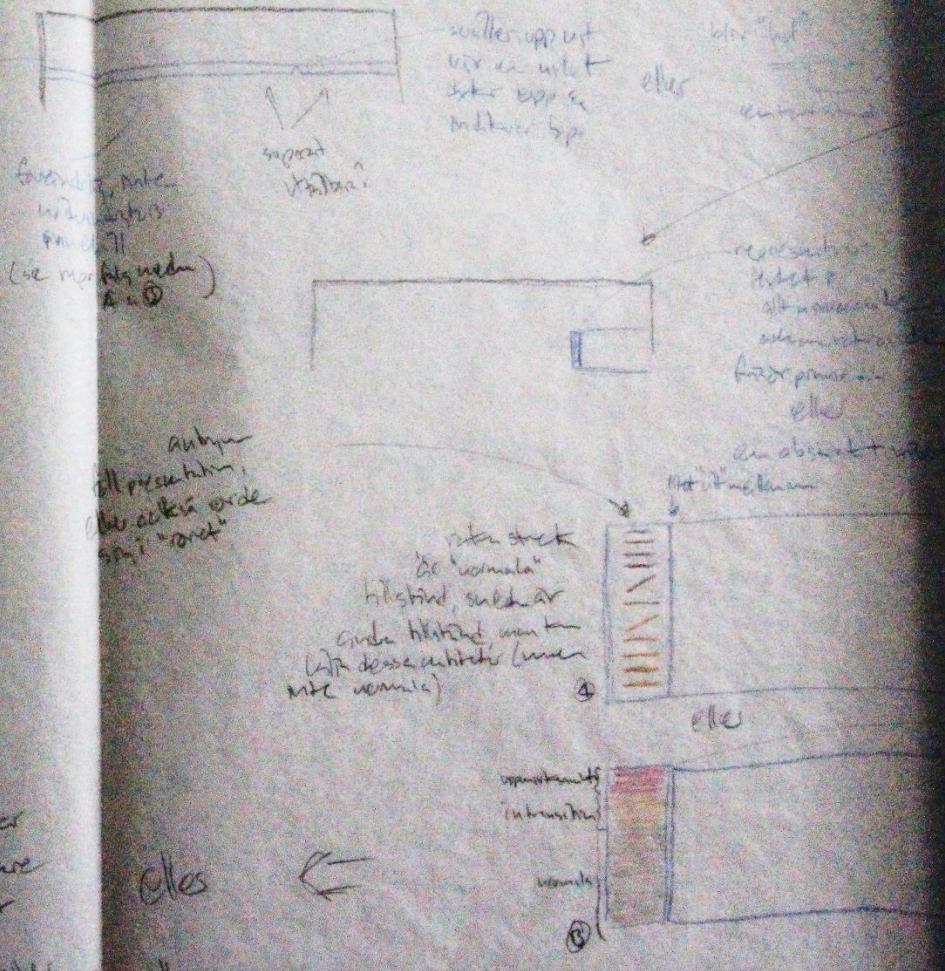
elke  
water  
leve en  
elen

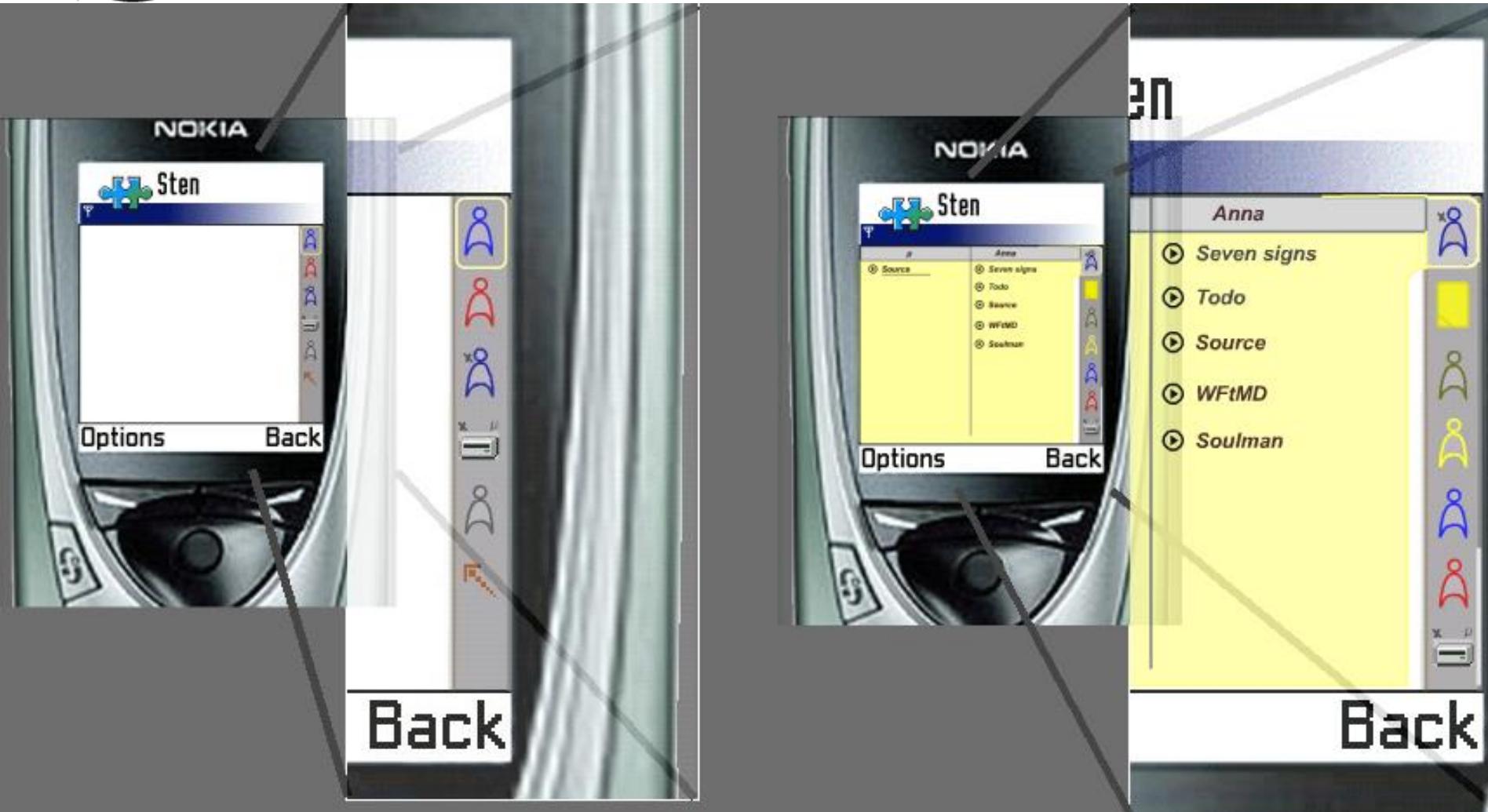
inform park  
even en  
elen

an even tank  
met een  
het niet want

dag dag  
van waterprobleem  
de water leen is for  
niet want

goed so heter  
bekendtire  
opp. hét  
niet  
elke  
trouw hét want en







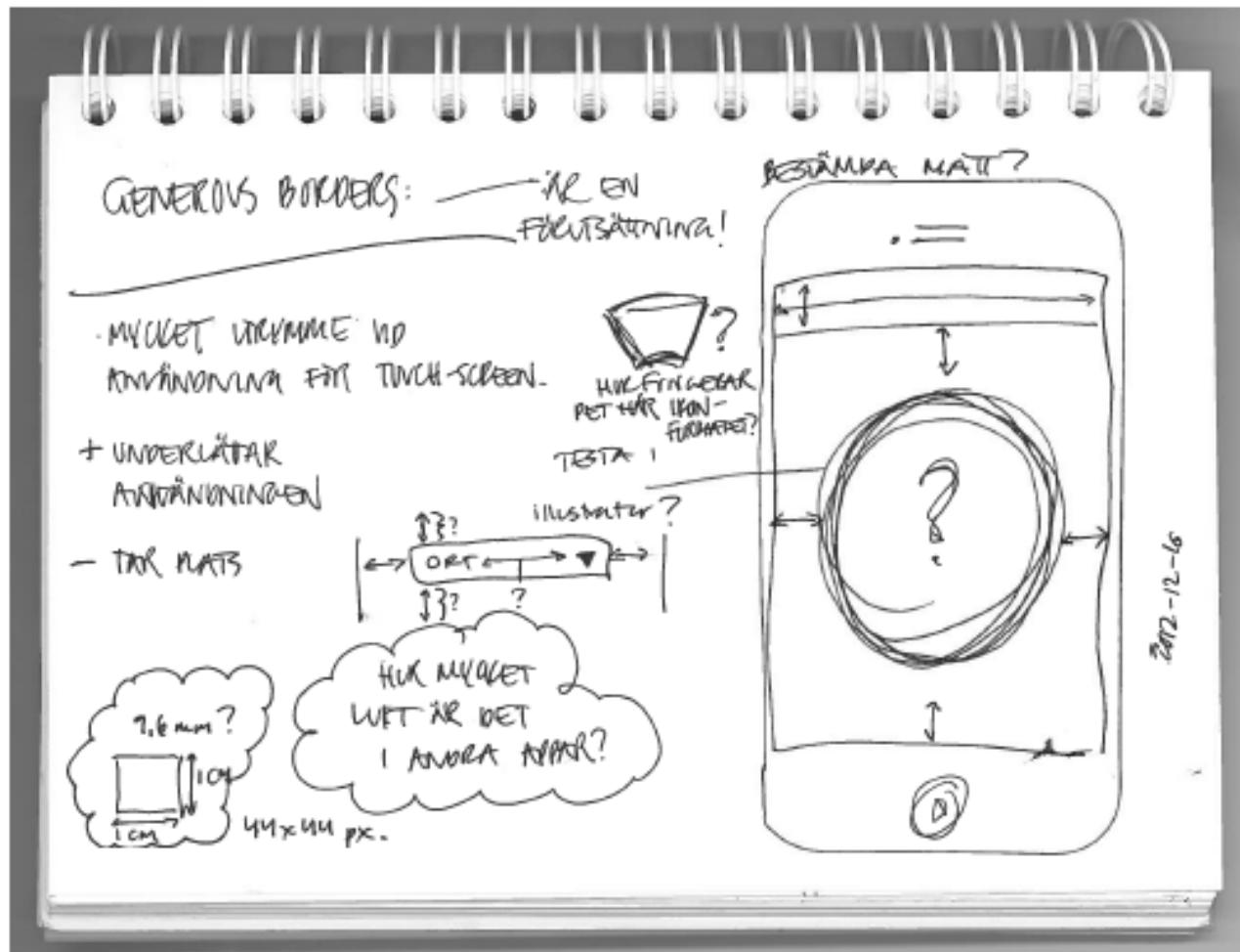


## Design rationale

av Matilda Zetterblom

+ - ! ?

**Alt #**





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# Interaktiva produkter...



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# Idé



Did you enjoy  
travelling with MidAir?

Yes

No



SÄCKER PÅ KÖLKÄPPT

✓ FÖNSTER

✓ SÖM TÄGLIGT STÄLLER



ELLER TÄRA  
VAROR MAN VILL  
VÄGNA PÅ LISTA



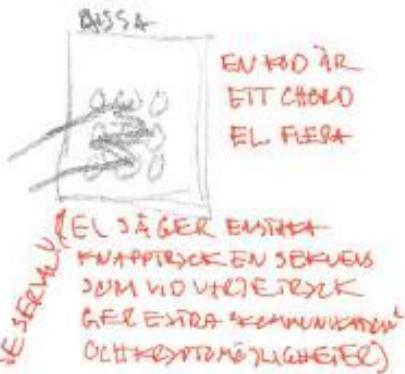
## CHORDING

VARIANTS:

1-PERS

2-PERS

...



I STÅLET FÖRENU  
SLIDER MAN  
SKAPAR EN  
SUMMA,  
LÄGGER LINJEN  
VÄRDE I POFTEL,  
EL HÄMTAR VÄRDE  
EL. SKAPAR VÄRDE  
TILL DEL  
(13, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 5-)





# Och efter skissen...

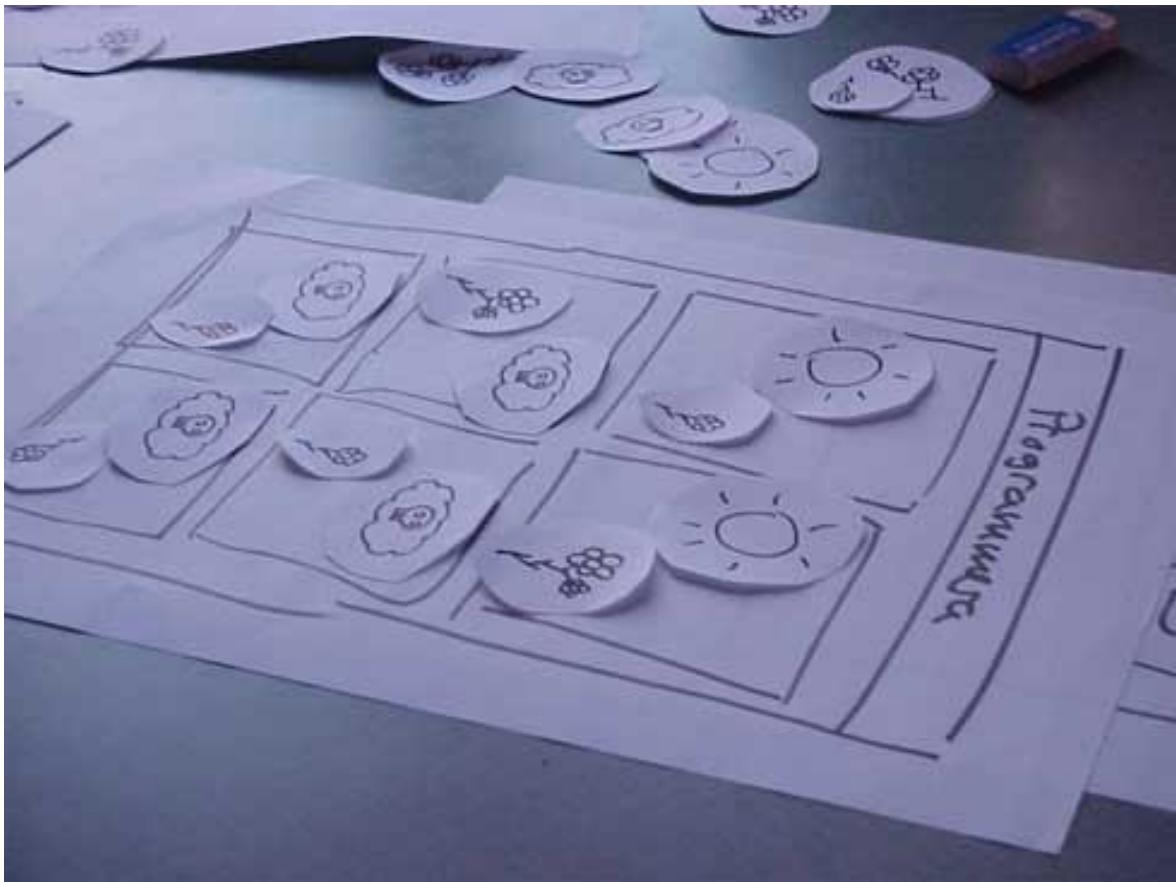
- ... kommer pappersprototypen





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UHLE COLLECTIONS  
BERKELEY

Search  ⌘ within search results ⌘ new search

artifact type: ceramic/pottery

Search results: 1-6 of 49

The screenshot shows a search interface for the Uhle Collection at Berkeley. At the top, there's a search bar and a note about keyboard shortcuts for search. Below it, a map shows artifact locations. A sidebar on the left lists filters: Location (11,75), Time Period (6,84), Artifact Type (with options like Ceramic/Pottery checked, Textile(0), Tool(0), Animal(0), Part(0), Pigment(0)), Material Type (1,162), Documents (4,92), and Physical Attribute (4,91). The main area displays six artifact cards, each with a thumbnail, a title, and a date range. The cards show various ceramic pieces, including a small vessel, a larger vessel, a plate, a small vessel, a large vessel, and a tall vessel. At the bottom right, there's a page navigation indicator '1-6 >>'. The entire interface has a light beige background.



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E-mail	<input type="text"/>
Password	<input type="password"/>
<input type="checkbox"/> Remember me	
<input type="button" value="LOG IN"/>	

Sign Up for Free!  
INSTANT Alerts  
ISLAND Home  
HELP!

IN MY DOCUMENTS

Island Book

Island Book - Microsoft Internet Explorer

Address: [www.myisland.com](http://www.myisland.com) [Go]

Client:

LAST MATCH: TOMMY'S ACTIVITY

Price	Up/Down
Time	Value

BUY ORDERS TO BE MATCHED: SELL ORDERS

SHILLS	PRICE	SHARES	TIME
--------	-------	--------	------

The BookViewer shows you supply and demand for a stock: the top 15 buy and sell orders for each stock that are waiting to be matched are listed by price. Buy order on the left, sell order on the right. The colors in the BookViewer help visually group orders at the same price.

Please type a symbol and hit 'go'..

### Top 20 Active Stocks on Island

#	Stock	Shares Matched	LAST TRADE PRICE	Open Orders	NET CHANGE
1	JDSU	8,729,773	54.5000	656	+0.3750
2	ESCO	7,959,792	39.2200	1,396	+0.9200
3	INTC	7,725,890	30.6875	1,232	-0.0875
4	INPR	7,011,078	137.7500	666	+0.7500
5	ETSI	4,000,000	4.44	860	+0.0000

### Price Tester

Symbol: 

Time: hh:mm:ss [ ] [ ] [ ] [ ]

[Help] [GO]

Date	Time	Size	Price	SM.L.
01/23	3:59:59P	100	30.2500	
01/23	3:59:59P	200	30.2500	

### LIMIT ORDER TESTER

See if there's a match for your limit order.

STOCK: QUANTITY: 

File Edit View Favorites Tools Help

Address: [www.myisland.com](http://www.myisland.com) [Go]

### Welcome to my.island

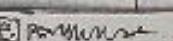
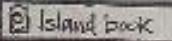
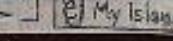
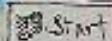
My.Island helps you track supply and demand and view second-by-second trading activity for stock trading on Island, and receive instant alerts on your stocks; all in real time.

Using BookViewer to your left you can view supply and demand, and real-time prices for stocks trades on Island.

Above, use the Top 20 to see the most actively traded stocks on Island. Use the Price Tester to test your last trade against prices on Island.

Set Alerts to receive instant notification of stock trading activity.

Use its browser window to go to a broker site, research site, or simply surf the web.





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## POPUP STIL ALT 1-3



most  
selected  
properties  
standard prop

more  
details;  
properties

prop, font, etc,  
format, border

more, delete  
text & style...  
font...

be able to larger, edit - layout,  
format, align, move, copy, paste, my font?  
edit - layout bigger many options,  
handle from "format" for word, prop, ... and?

## FLYTA NOD I YTAN

prop 1:  
position, color

2:

Över hela  
skärmen är röd  
och inte i en  
separat fönster.

Hur att  
förflytta

Hur flyttar  
jag det?

Vad har jag  
nu gjort?

Det är röd  
fönster och finns  
inte i en  
separat fönster.

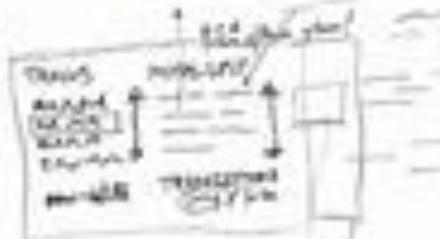


TRY!

andra konfigurationer i bildet i ytan?

Är det

det som  
jag vill ha  
eller inte?



TILLÄGG

side panel

## STIL EDIT TRÄVS

na tillägg  
A-tillägg  
C-tillägg  
D-tillägg  
E-tillägg  
F-tillägg  
TILLÄGG



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# SKISSNING I KONCEPTFAS



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# Metaforer





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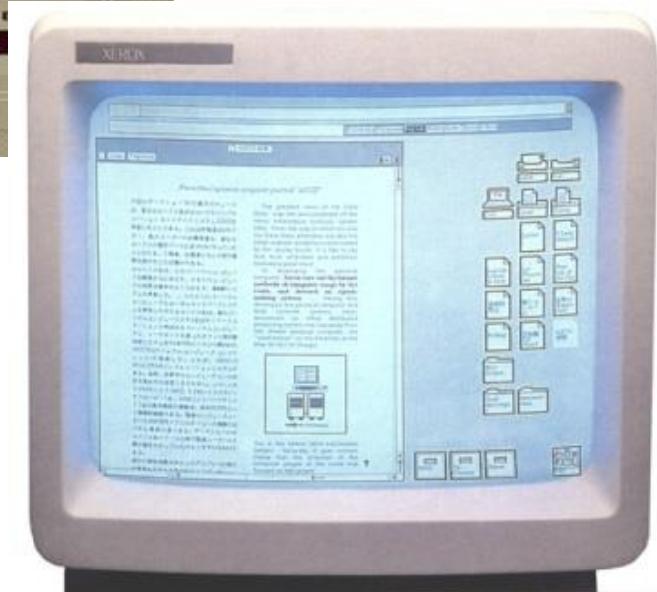
# Metaforer





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# Skeumorphism





# Metaforer

- Verktyget
- Media
- Person



# Skissning, konceptfas

- Skissobjektet
  - Konceptet
  - Idén
- Skissmetoden
  - Researchbaserad
  - Divergens
  - Uttrycksfullhet, inlevelse
  - Konceptbilder, storyboard



# Konceptskiss fr designspel





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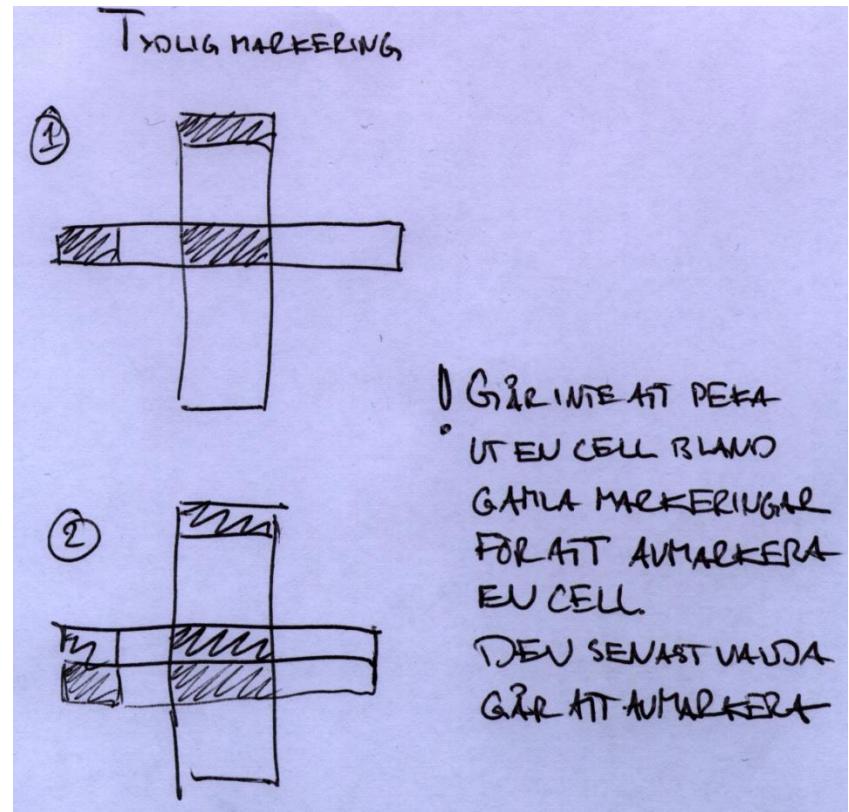
# Idé





# Detalj & upplösning

- Realtidsövervakning
  - Limited control
  - Life on its own
  - Professional users



Did you enjoy  
travelling with MidAir?

Yes

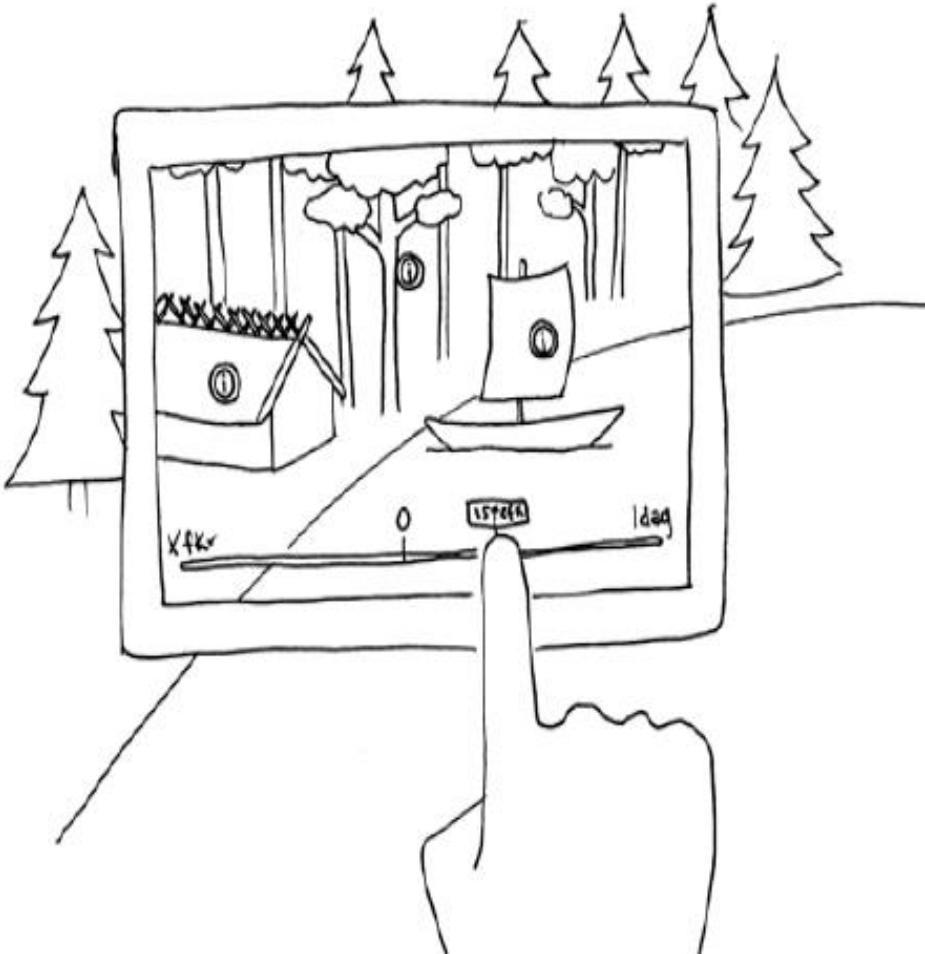
No

# Konceptbild 1



Genom mobilen kan guidedeltagarna se guidens virtuella sidekick. I Vimmerby skulle den kunna utgöras av t.ex. en rumpnisse, som lämpligt nog ständigt frågar "varför då då?" och ger guiden tillfälle att förklara vidare om det ena och det andra.

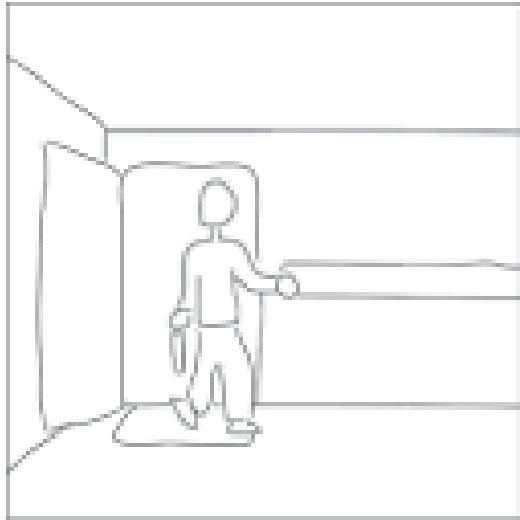
## Konceptbild 2



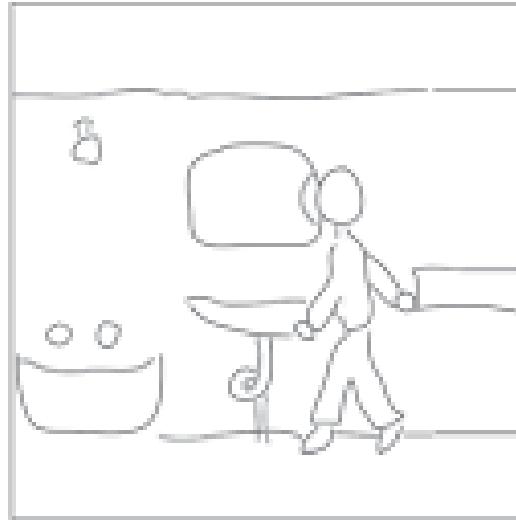
En funktion som gör att du på vissa utvalda ställen kan rikta mobilkameran mot en vy och få upp ett "tidsfilter". Filtret visar hur platsen man filmar antas ha sett ut förr i tiden. Genom att dra i ett reglage kan man se hur vyn skulle ha sett ut från istiden, fram till nutid.



# Storyboard



John comes back from work.  
He turns on the music by using touch-sensitive  
wall panels as he walks in.



John enters bathroom to wash.  
He touches the wall into to raise the volume at  
the bathroom.



John gets ready to sleep.  
He changes the genre and lowers the volume  
and sets to sleep mode by interacting the wall  
behind the bed.

- Linear, narrative description



checka frillan...!



inkommande samtal...



hör och tal-slingan tas upp



lunch i solen med dagens aktiekurser...



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Sofia opens her door by drawing her "signature code" on her door. She likes this cool detail.



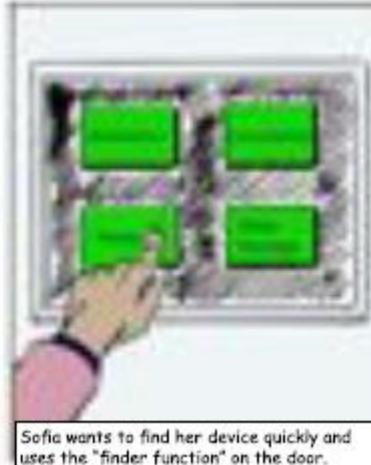
As the effective woman she is, she hates wasting time on all those small things.



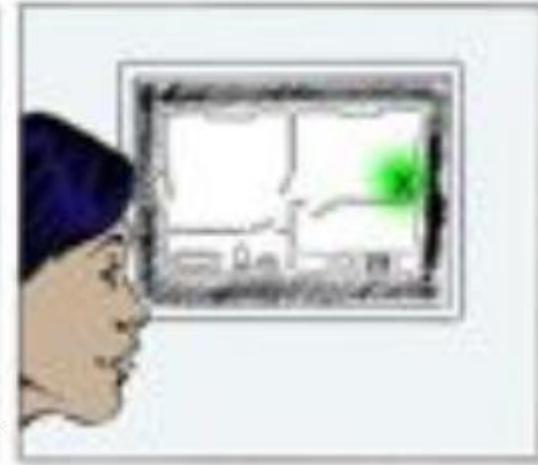
A movement over the edge of the door, locks it.



When she have closed the door, she watches a message that her boyfriend has left for her.

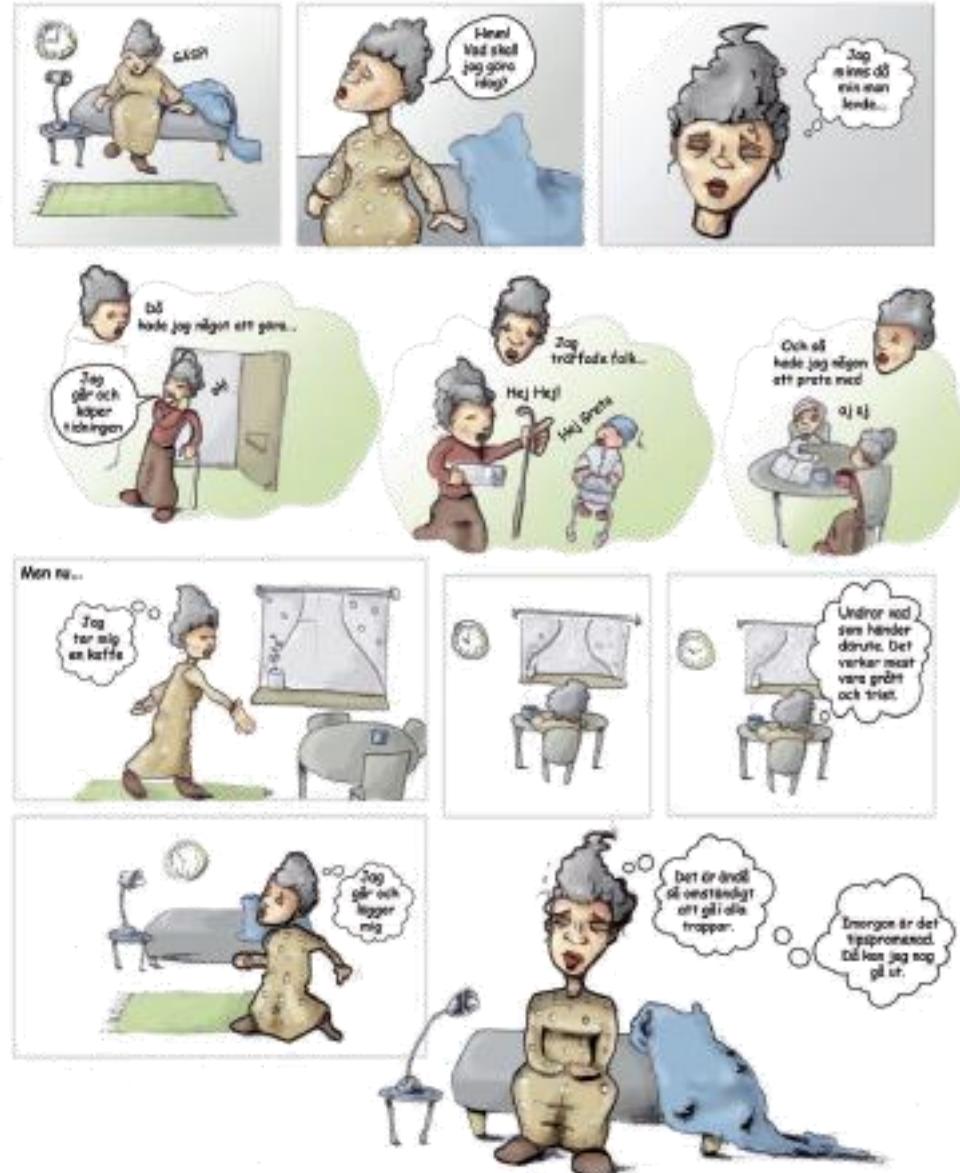


Sofia wants to find her device quickly and uses the "finder function" on the door.





# Gretas morgon



everyday halloween





# Övning

- Jobba i par med att göra konceptskisser av ”att använda mobilen/paden som verktyg för parkeringsavgift/betalning”
- Jobba metafordrivet
  - Som ett hotell
  - Som en labyrinth
  - Som en ...



# Hur ta sig dit?

- Divergens
  - Svårare än med detaljdesign; konkretion
- Strukturerad brainstorming
  - Krävs struktur för att utforska designrymd
- Speedsketching
  - Driver design baserat på research



# Divergens

- Roll/individ/användardriven
  - Variera användare och generera koncept som är meningsfulla för dem
- Situations/kontextdriven
  - Variera situationer/kontexter och generera koncept som tar tillvara dessa



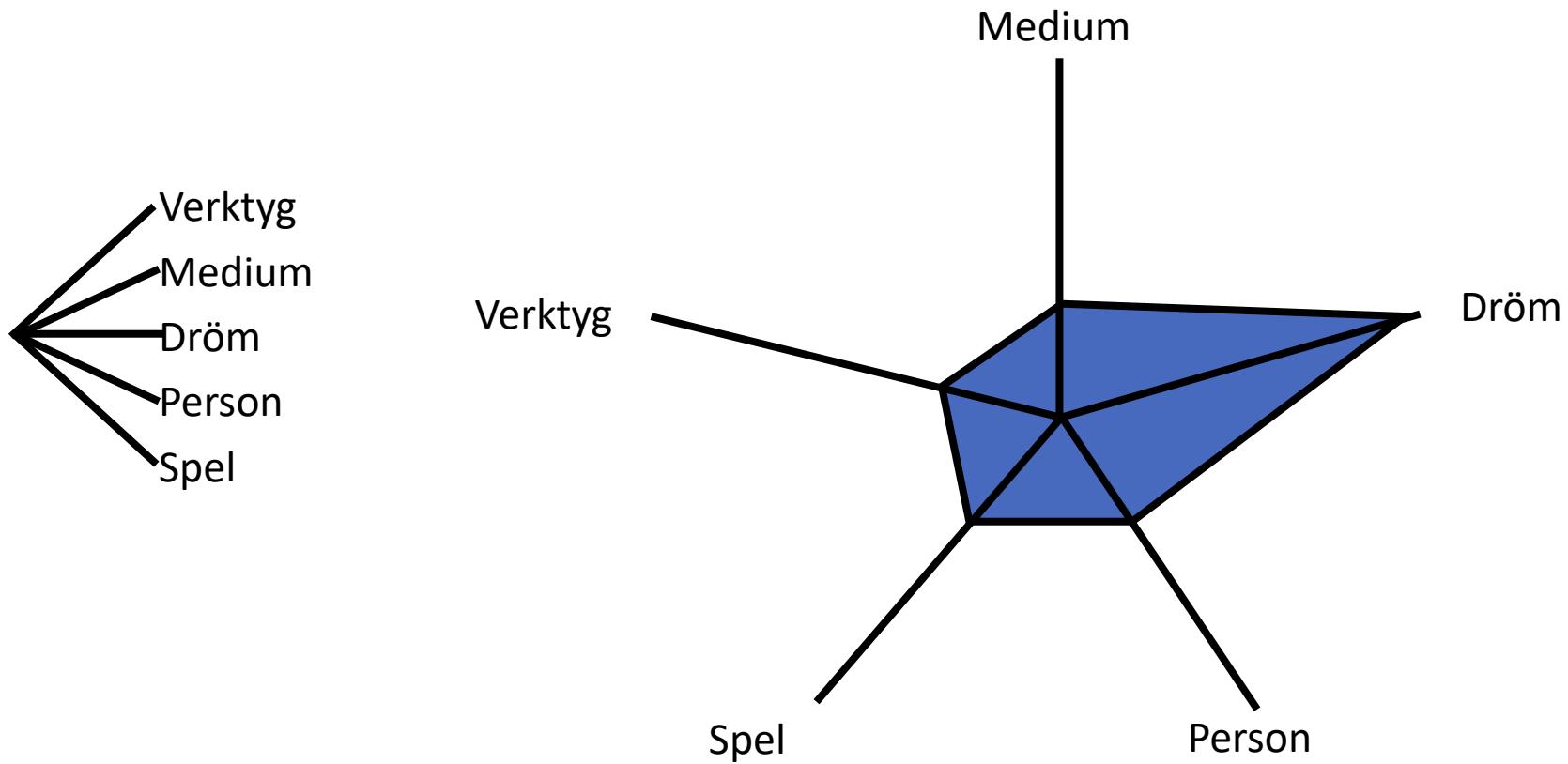
# Divergens

- Funktionsdriven
  - Isolera huvudfunktioner och generera koncept som fokusera på just den
- Metafordriven
  - Identifiera meningsfulla metaforer och variera dessa, generera koncept som uppfyller dessa
- Kvalitetsdriven



# Metafordriven divergens

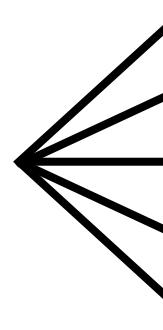
## Det ska vara som en/ett:





# Kvalitetsdriven divergens

## Den skall präglas av:

- 
- Upptäckarlusta
  - Stämningsfullhet
  - Fantasifullhet
  - Örraskning
  - Suggestivitet



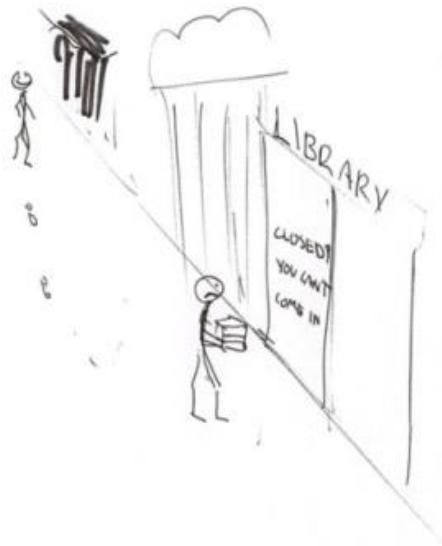
# Speed sketching

- En fokuserad och koncentrerad metod som bygger på deltagarnas skissförmåga.
  - Tillämpningsområde behövs
  - Designmål behövs
  - Situationsbeskrivningar behövs

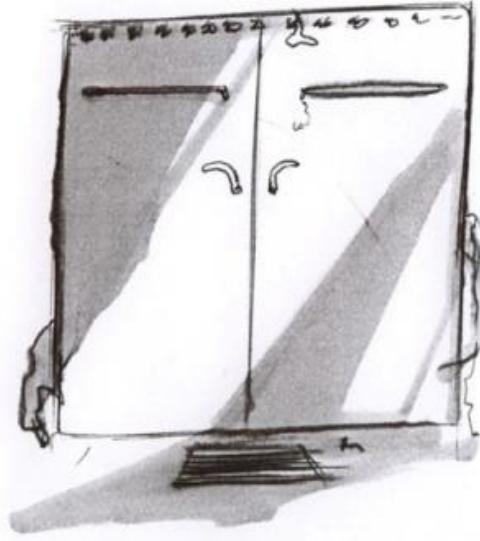


# Speed sketching

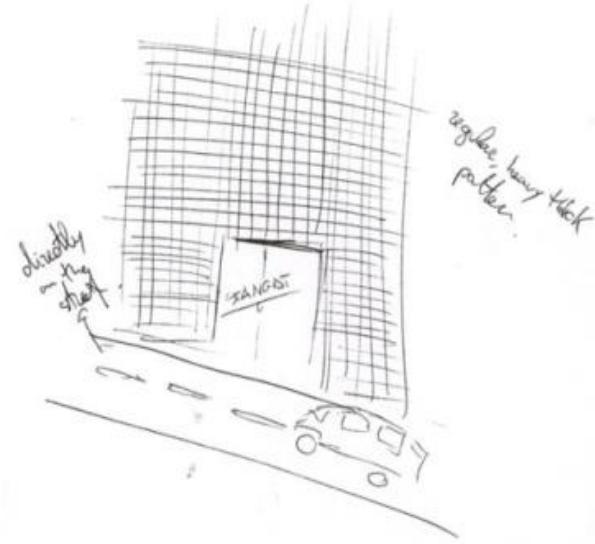
- Alla sätter sig in i grunddata
- En situation läses upp (tex mardrömsscenario)
- Under 5-10 minuter skissar deltagarna alla lösningar/idéer
- Nästa situation läses upp (...)
- ...



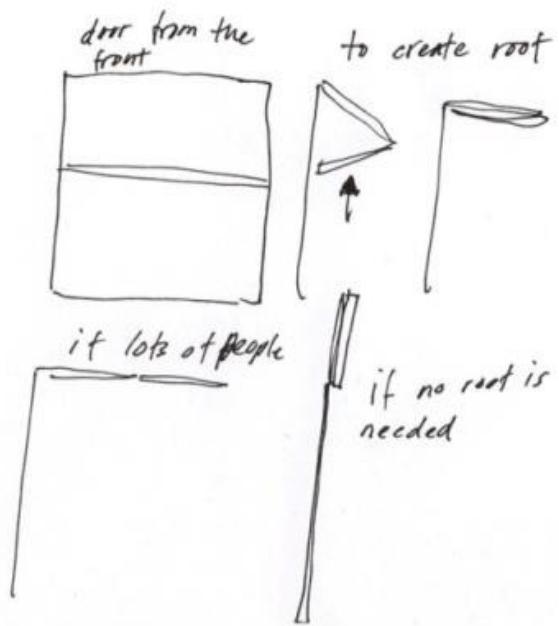
Designer 1



Designer 2



Designer 3



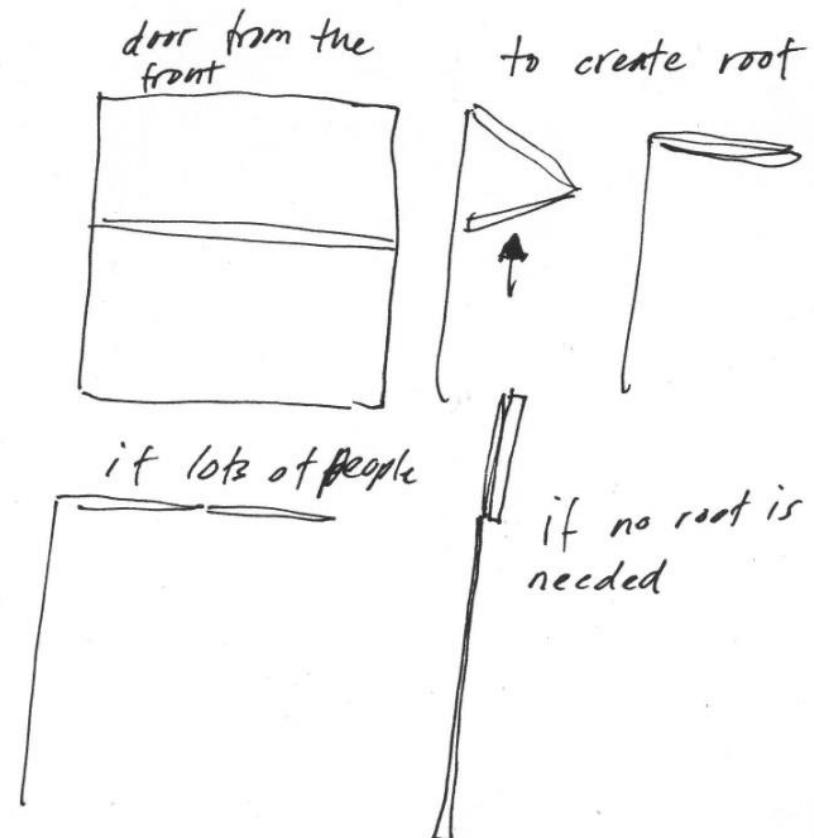
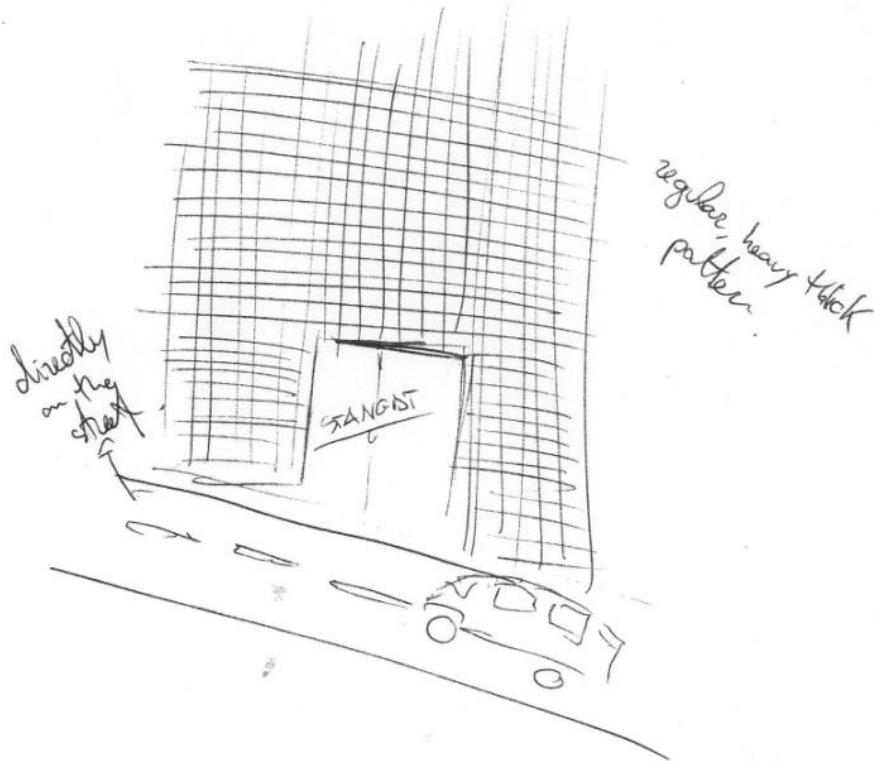
Designer 4



Designer 5



## HUMAN-CENTERED SYSTEMS





# Konceptskisser i video

- Parking
- Answering machine
- The Exciter



HUMAN-CENTERED SYSTEMS

Stefan Holmlid

# Konceptskisser, smf

- Systematisk och strukturerad divergens
- Uttrycksfullt och inlevelse
- Konceptbilder – Vad
- Storyboard – Hur