

Techniques

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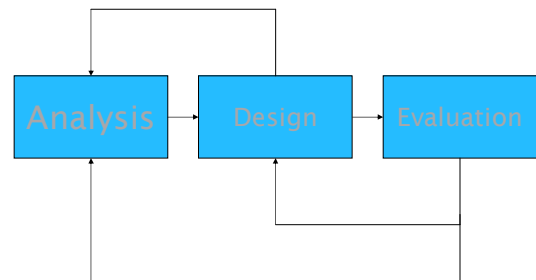


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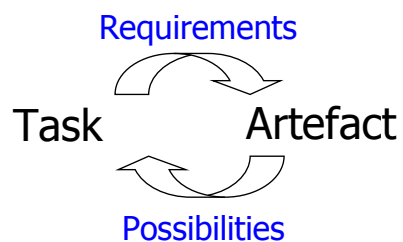


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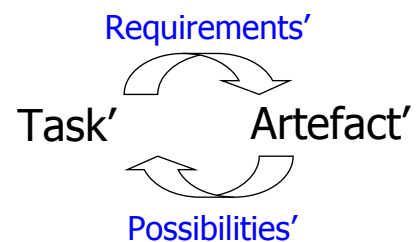
Achieving useful & usable products



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ISO 9241-11

Usability:

Extent to which a product can be used by specified *users* to achieve specified *goals* with effectiveness, efficiency and satisfaction in a specified *context of use*.

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Who?

- ▶ User
- ▶ Users
- ▶ Indirect users
- ▶ Client / Customer
- ▶ Organization / Stakeholders
- ▶ “Whoever pays”

- ▶ Target group analysis

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Target group analysis

- ▶ Categories & roles
- ▶ Knowledge & preferences
- ▶ Prioritize!



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What?

- ▶ Present tasks
- ▶ Present goals
- ▶ Future goals
- ▶ Future tasks

- ▶ Business analysis!

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What?

“People don’t want drills, they want holes.”
Theodore Levitt, Harvard

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What?

“If I had asked people what they wanted,
they would have said faster horses.”
Henry Ford

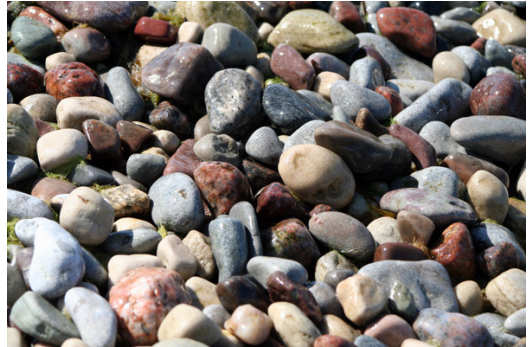
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What?

- ▶ Sony Walkman
- ▶ Amazon's "one-click-buy"

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Requirements gathering / discovery



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Requirements capture



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Focus group



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Interview

- ▶ Unstructured
- ▶ Semi-structured
- ▶ Structured

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Observation



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Observation – before

- ▶ Who does what?
- ▶ What will you see?
- ▶ Prepare!
- ▶ What do you believe is most important?
- ▶ Be prepared for the unexpected!

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Observation – during

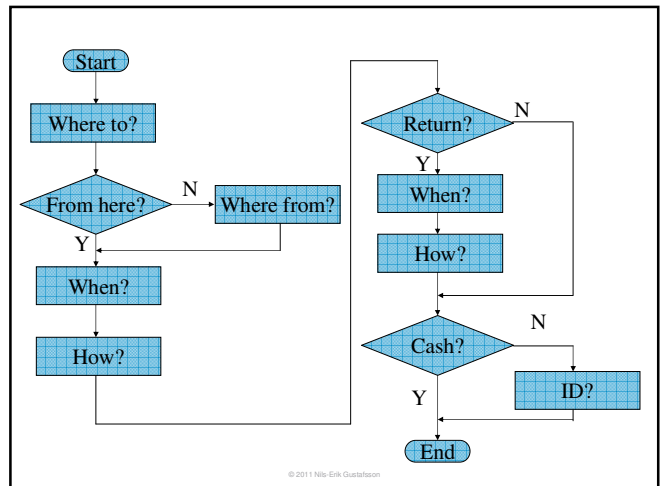
- ▶ Explain purpose, roles & who gets to see what
- ▶ Get permission
- ▶ Observe – discrete or asking
- ▶ Document (paper, sound, image, video)
- ▶ What do you think is most important?
- ▶ Be prepared for the unexpected!

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Observation – after

- ▶ Go through documentation
- ▶ Ask for clarification
- ▶ What didn't happen?
- ▶ Ideas & wishes?
- ▶ Feedback!
- ▶ Reward?

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1 - FÄRDBILJETT OCH SITTPÅSILJETT

Från	160	Tåg	
Till	1	Platsbiljett. .	Nej Ja
Vagn	0	Audelning . .	IR Rok
Bilj.slag . .	Enkel ToR	Önskemål . .	Sal Kupé BK
Datum	891212	Avg 0-4(natt)	Nej Ja
Antal	1		
Varav barn . .			
Klass	Zkl 1kl		
Rabatt	Nej Stud Pens Upl Mtjr Suk		
Konto	Nej Tågb Kort C K		
Utskrift	Separat Gemensam		

Bokning tom 89-12-12

1=HJÄLP 2=STANDU 3=MENY 4=LÄS 5=F+SITT 6=F+SOU 7=SITT 8=SOU 9=AUBEST 10=UTSKR

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31 - TIDTABELLSUPPLYSNING

Från	160	Röda avgångar . .	Nej Ja
Till	1	Auresa tidigast . .	
		senast	24
Antal närmaste		Ankomst tidigast . .	
förbindelse(r)		senast	24
Period:			
fr.o.m.		ÖNSKAD KOMFORT:	
t.o.m.		Sov	Nej Ja
		Sov direkt	Nej Ja
Måndag	Nej Ja	Ligg	Nej Ja
Tisdag	Nej Ja	Ligg direkt	Nej Ja
Onsdag	Nej Ja	Sitt 1 kl	Nej Ja
Torsdag	Nej Ja	Barnkupé	Nej Ja
Freitag	Nej Ja	Resturang vagn . .	Nej Ja
Lördag	Nej Ja	Servering	Nej Ja
Söndag	Nej Ja		
R-dag	Nej Ja	Max byten	4
		Listning	Fullst Kompakt

Bokning tom 89-12-12

1=HJÄLP 2=STANDU 3=MENY 4=LÄS 5=F+SITT 6=F+SOU 7=SITT 8=SOU 9=AUBEST 10=UTSKR

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Biljettbeställning

Avresedatum

Från: Stockholm C

Till: Göteborg

Vuxen Barn Djur

1 0 0

Sitt o Ligg o Sov

Aud: 2 kl icke rök

90-01-01

Stockholm C - Göteborg C

IC	6.00 - 9.57 (3.57)	101
IC	6.10 - 10.45 (4.27)	121
CE	7.00 - 10.57 (3.67)	103
	8.18 - 12.45 (4.27)	125

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Biljettbeställning

Avresedatum

Från: Uppsala

Till: Stockholm C

Vuxen Barn Djur

1 0 0

Sitt o Ligg o Sov

Aud: 2 kl icke rök

90-01-01

Uppsala - Stockholm C

IC	6.00 - 9.57 (3.57)	101
IC	6.10 - 10.45 (4.27)	121
CE	7.00 - 10.57 (3.67)	103
	8.18 - 12.45 (4.27)	125

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Biljettbeställning

Avresedatum

Från: Stockholm C

Till: Uppsala

Vuxen Barn Djur

1 0 0

Sitt o Ligg o Sov

Aud: 2 kl icke rök

90-01-01

Stockholm C - Uppsala

IC 6.34 - 7.18 (0.44) 670

B7R 2 kl. sittvagn

LT 75 70 HB 75

R 20 pl 59 55 IR 60 pl

200 cm

21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

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Ticket vending system

- ▶ Don't take "hostages"
- ▶ Observe real work
- ▶ Interview
- ▶ Identify goals, not processes
- ▶ Try to think along new lines
- ▶ Prototype

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Communicate

- ▶ Persona
- ▶ Scenario
- ▶ Storyboard
- ▶ Play
- ▶ Sketches

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Persona

- ▶ Fictitious (or based on real people)
- ▶ Caricature
- ▶ Unnecessary details, e.g., hobbies
- ▶ Comes alive
- ▶ Gives focus
- ▶ "Bob would never use this function!"

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Persona

Bob is a stressed business man who is always “just-in-time”. He doesn’t care for newfangled technology and still uses an ancient mobile with few and simple functions.

On the whole, he’d rather be playing golf, but he enjoys his work, which sometimes entails some travel – mostly within Scandinavia.

He has a wife and two teenage daughters, who help him out when his computer doesn’t work.

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Scenario

- ▶ *Who?*
- ▶ *What?*
- ▶ *How?* (Context of use)

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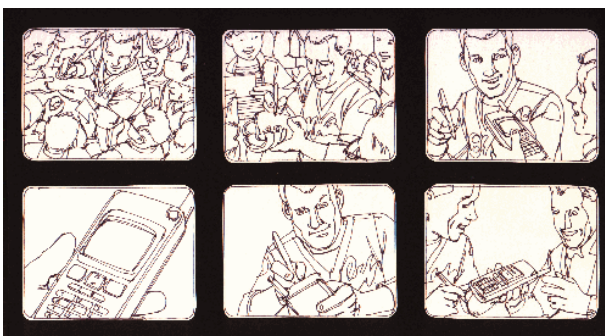
Scenario

Bob is in a hurry when he arrives late to the airport on his way to an important business meeting in Italy. Suddenly he realises that he needs Italian Lira!

Luckily, he sees an advanced ATM which can handle withdrawals in foreign currencies. Bob has only ever used a regular ATM before, and feels a bit nervous and stressed as he tries to withdraw the equivalent of SEK 2000.

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Storyboard



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Prototype, NE

prototype, (f. Lat. *proto_tupos* 'original', f. Greek *prato_tupos*) original model, that later designs are based upon.

In industrial product development an experimental model with correct function, construction and appearance but different manufacturing method.

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Sketch, NE

Sketch (Ital. *schizzo* 'sketch'; 'sprinkle', 'crumb'), outline, fast, summary pictorial (originally) or verbal presentation. ...

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Why sketches? Requirements!

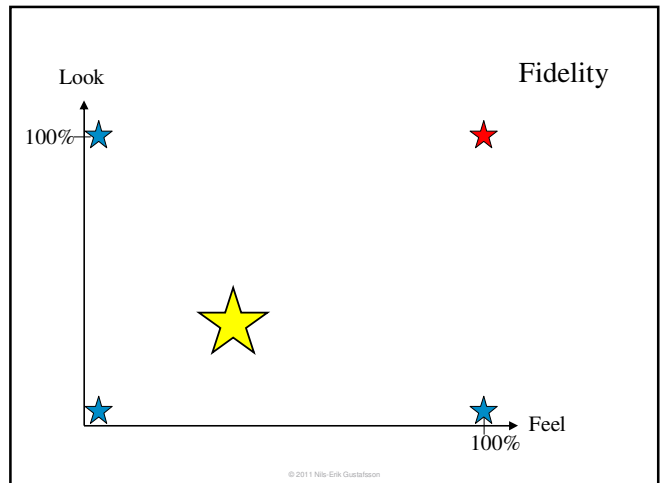
- ▶ Elicit
- ▶ Communicate
- ▶ Verify

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Why sketches? Solutions!

- ▶ Communicate
- ▶ Verify

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Why sketches? Difficult!

“Anything worth doing is worth doing badly – at first.”
– Dick Karpinski

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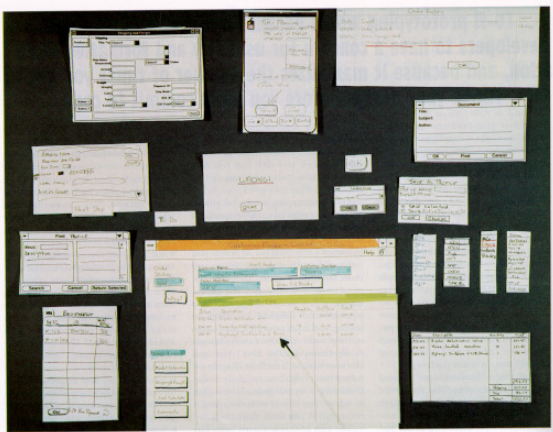
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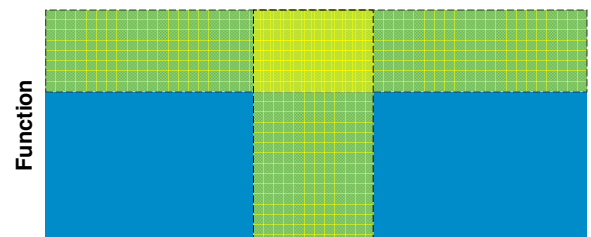
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Wide or narrow?

User interface



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Wide

- ▶ Large part of the GUI
- ▶ Limited functionality
- ▶ Overview
- ▶ Difficult / impossible to test functions
- ▶ Navigation
- ▶ Graphical design

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Narrow

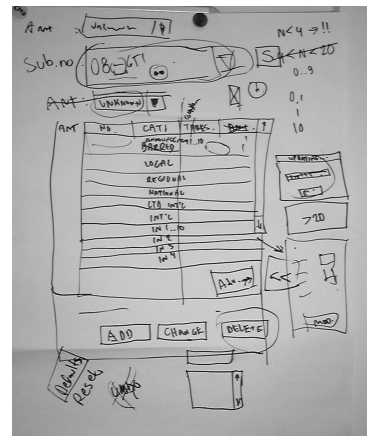
- ▶ Specific function
- ▶ Limited part of system
- ▶ “Feel” for functionality
- ▶ No overview
- ▶ Important / general function(s)
- ▶ Specific subsystems

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Difficulties

- ▶ Can be misleading
- ▶ Looks ready
- ▶ “Too good” – cannot be implemented
- ▶ Difficult to go from prototype to system

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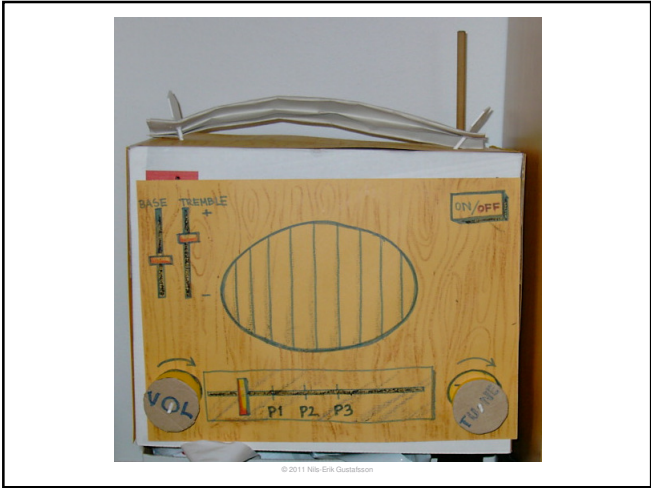
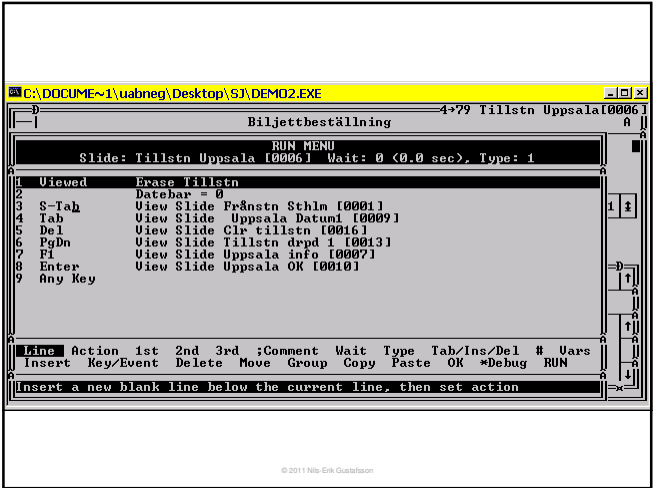
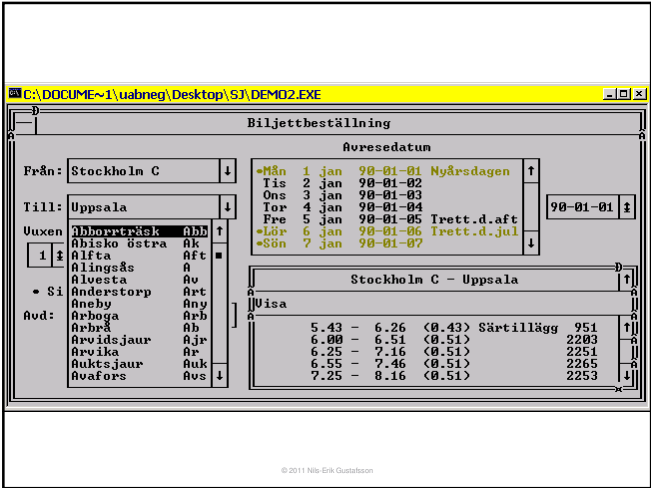
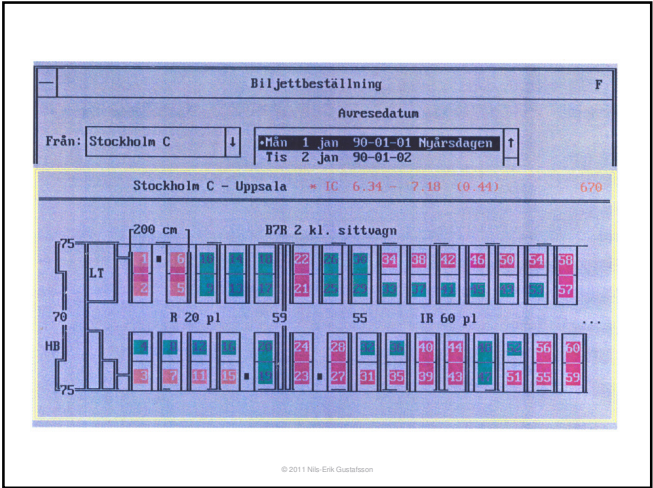
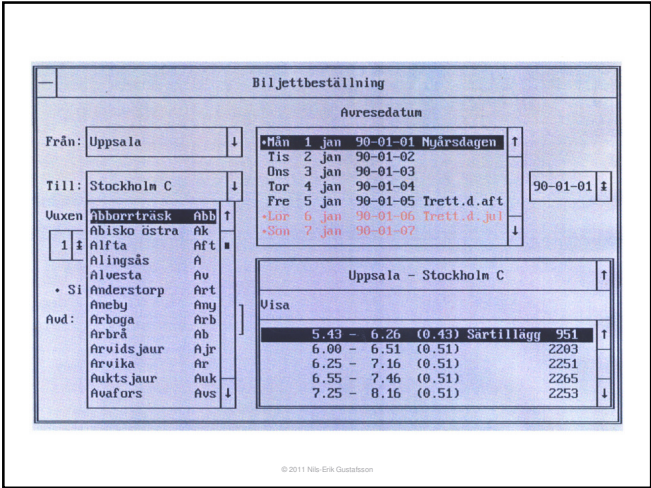
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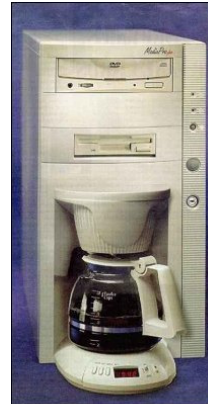
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Lo-Fi versus Hi-Fi sketch

- Price
- Iteration speed
- Dynamics (response time)
- Democracy
- Expectations
- Fun & creativity

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