Design & Prototypage

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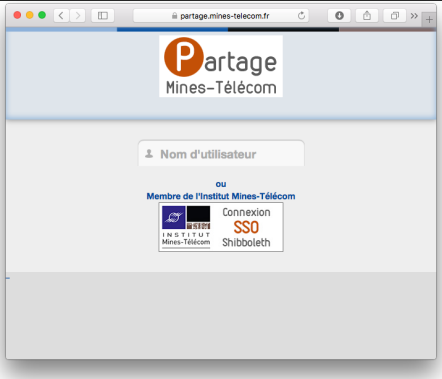

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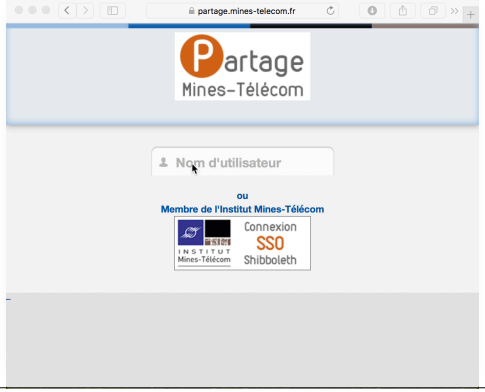

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Besoins Utilisateur

Motivation

User	Design goal
Low motivation, discretionary use	Ease of learning
Low motivation, mandatory use	Control, power
High motivation, due to fear	Ease of learning, robustness, control
High motivation, due to interest	Power, ease of use

Knowledge & Experience

Experience		
task	system	Design goals:
low	low	– Many syntactic & semantic prompts
high	high	– Efficient commands, concise syntax
low	high	– Semantic help facilities
high	low	– Lots of syntactic prompting

Job & Task Implications

Frequency of use

- High — Ease of use
- Low — Ease of learning & remembering

Task implications

- High — Ease of use
- Low — Ease of learning

System use

- Mandatory — Ease of use
- Discretionary — Ease of learning

Define Tasks

Consider the *whole* system

Determine *who or what* should perform each task and each step : *e.g.* the system remembers the login, but the user remembers the password

Determine criteria: efficiency, cognitive effort, time

Task *x* should take no more than *y* seconds

A new user should be able to create a new account in 5 minutes

Brainstorming

Brainstorming

Génération d'idées

Marche mieux si tout le monde a déjà fait une réflection initiale

Tout le monde propose d'idées

On ne les critique pas

Design & Prototyping

Prototyping the Interface

Why prototype?

- Creating the system is expensive

Start with low-fidelity mockups

Progress to prototypes

- Storyboards, task diagrams, *etc.*

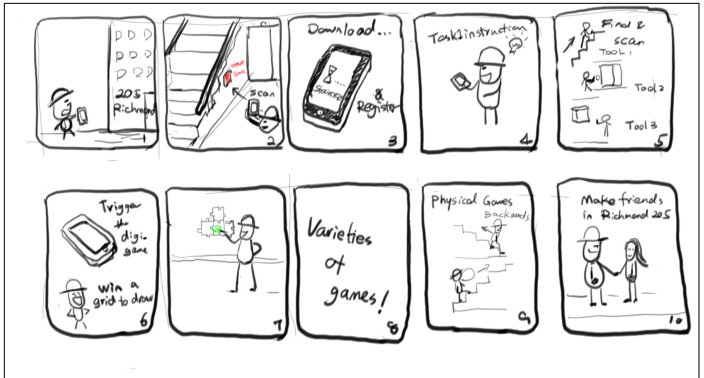
Design the Interface

Storyboards

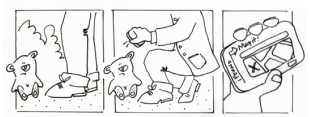
Shows off

- Sequence
- Tasks
- Context

Rarely shows interface itself



STORYBOARD: iFound®



On a walk through the park, Marco stumbles across a teddy bear fallen on the side of the path.

Realizing it must be lost, he uses his mobile phone to photograph it where he found it, and takes the bear home.

Once home, Marco uploads the photo to iFound®. The MapIt! function uses the GPS from the photo to record where the bear was found.

As soon as the iFound® match list is generated, Marco sees a photo of the very same bear he has just found. He immediately contacts the finder and they arrange a way to get the bear back to its owner.

The teddy bear is handed off to a very relieved mom.

When it is recorded that the bear has made it safely home, Marco receives a "thank you" email from iFound®, offering him a choice of coupons for anything form ice cream to flowers. Marco's choice provides useful information to corporate sponsors.

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Sketches

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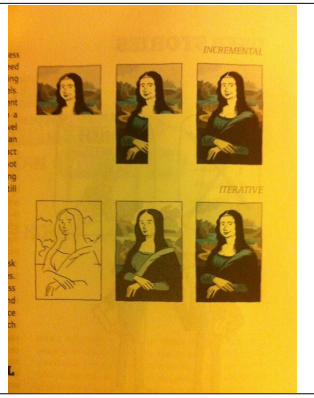

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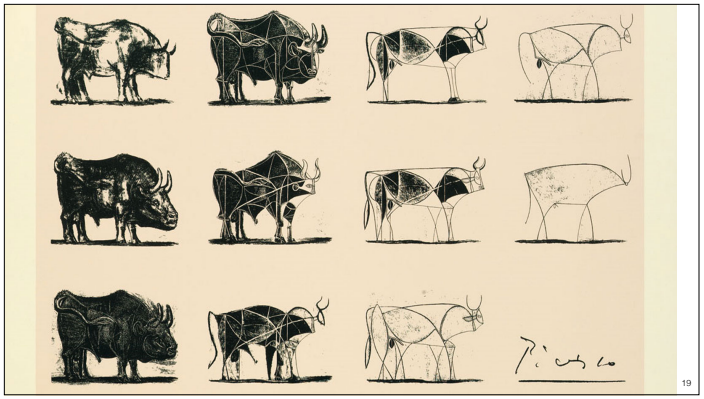
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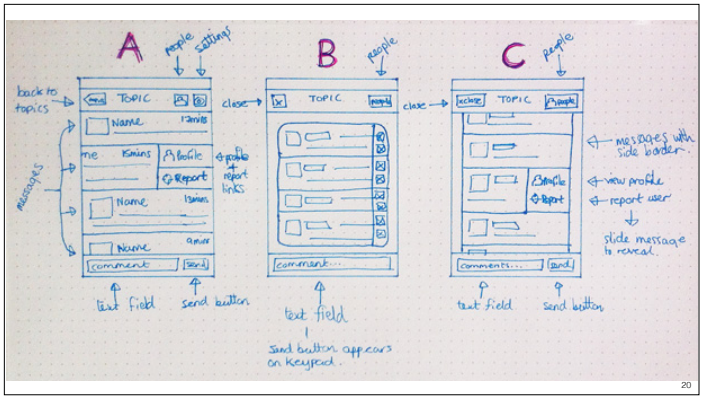
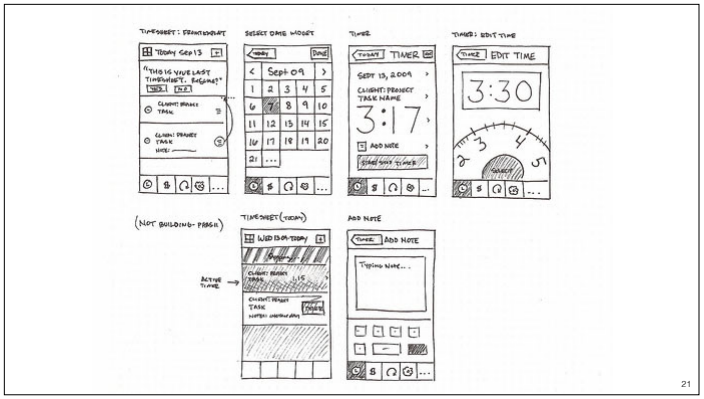

A
people
settings
B
people
C
people
back to topics
close
close
TOPIC
Name
me
Profile
Report
comment
send
comment...
comments...
messages
profile + report links
messages with side border
view profile
report user
slide message to reveal
text field
send button
text field
send button appears on keypad
text field
send button
20


TIMESHEET: FRONTPORT
TODAY SEP 13
"THIS IS YOUR LAST TIMESHEET. BEGIN?"
YES
NO
SELECT DATE WIDGET
Sept 09
TIMER
TODAY
TIMER
SEPT 13, 2009
3:17
ADD NOTE
TIMER: EDIT TIME
EDIT TIME
3:30
(NOT BUILDING - PASS)
TIMESHEET (TODAY)
ADD NOTE
Typing Name...
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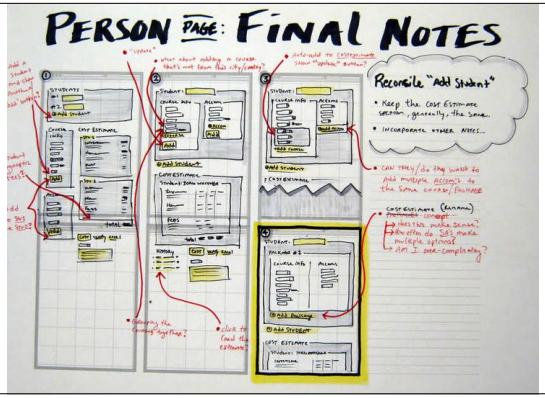

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Paper & Physical Prototyping

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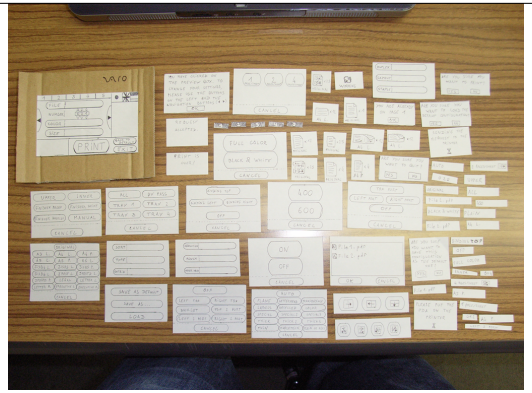

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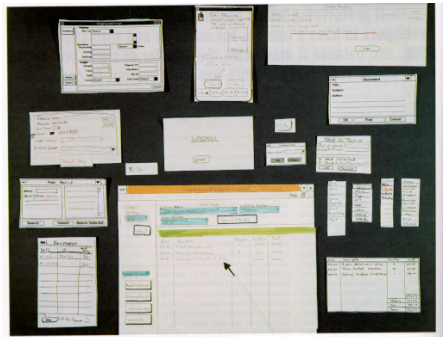

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Wireframe Prototypes

Paper or digital

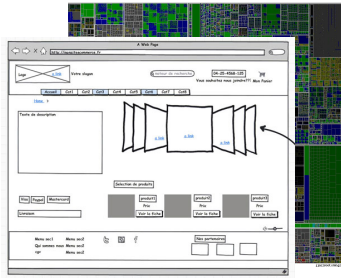
Layout & functionality

Tools :

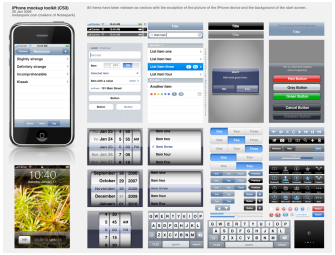
OmniGraffle

Browser plugins

e.g. Pencil project



6. Prototypage : mockup



Wizard of Oz

Simulate the system with a human wizard

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Prototyping tools

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Usability Principles

Usability Principles

Many different kinds

- No cookbooks, checklists, magic recipes
- Shneiderman, *Designing the User Interface*
- Dix, Finlay, Abowd, Beale, *Human-Computer Interaction*

Usability Principles

Learnability

- Support for learning for users of all levels

Flexibility

- Multiple ways for performing tasks

Robustness

- Support recovery

Learnability

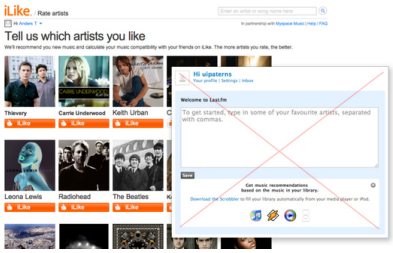
Ease with which new users can begin effective interaction

Performance improvement from session to session

Principles

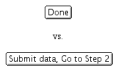
Predictability, Synthesizability, Familiarity, Generalizability, and Consistency

Recognition over Recall



Predictability

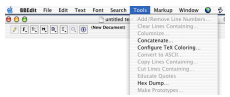
I think that this action will do…



Operation visibility – can see all available actions

e.g. menus versus command-line

Grayed menu items



Predictability

VS.

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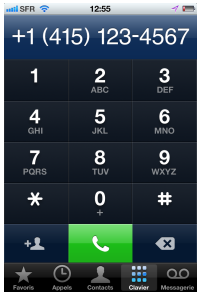
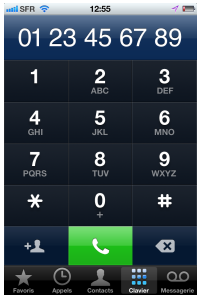
Chunking





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Flexibility

Minimize modality, Multithreading, Task Migratability, Substitutivity, Customizability

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Robustness

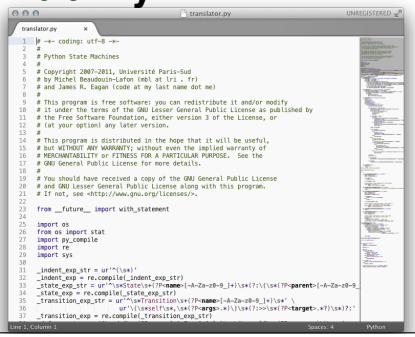
Observability

Recoverability

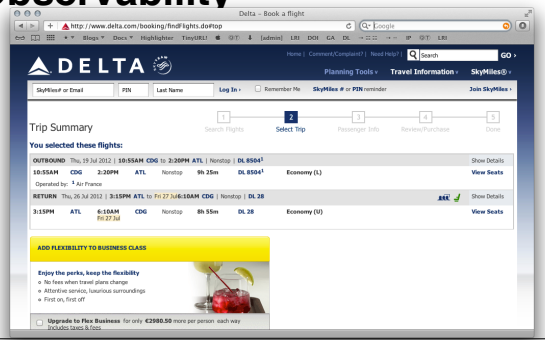
Responsiveness

Task Conformance

Observability



Observability



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L'homme aux cercles bleus: Amazon.fr: Fred Vargas: Livres
amazon.fr
L'homme aux cercles bleus [Broché]
Fred Vargas
Ajouter au panier
Produits fréquemment achetés ensemble

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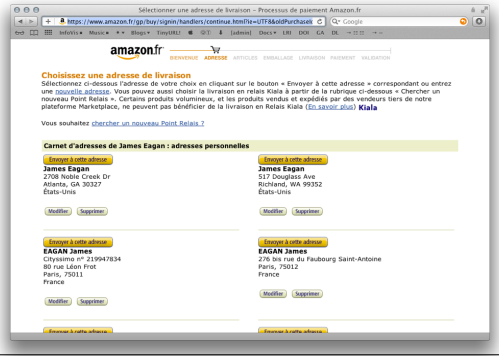
Sélectionner une adresse de livraison – Processus de paiement Amazon.fr
amazon.fr
Choisissez une adresse de livraison
Carnet d'adresses de James Eagan : adresses personnelles
James Eagan
2708 Noble Creek Dr
Atlanta, GA 30327
États-Unis
James Eagan
517 Douglass Ave
Richland, WA 99352
États-Unis
EAGAN James
Cityssimo n° 219947834
80 rue Léon Frot
Paris, 75011
France
EAGAN James
276 bis rue du Faubourg Saint-Antoine
Paris, 75012
France

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Modèles Mentaux

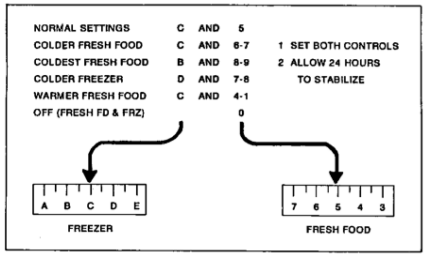
La représentation mentale de l'utilisateur du système

Sa perception de comment marche le système

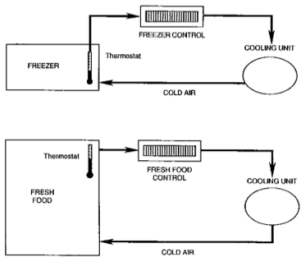
Don Norman

Design of Everyday Things

Interface d'un Frigo



Modèle d’un Frigo



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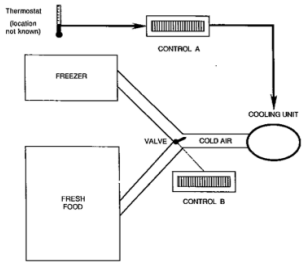
Modèle d’un Frigo



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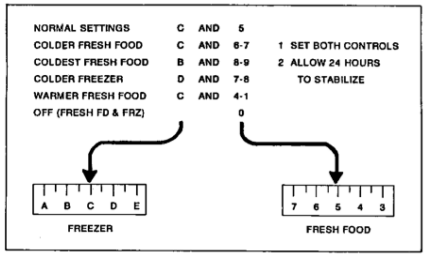
Interface d’un Frigo



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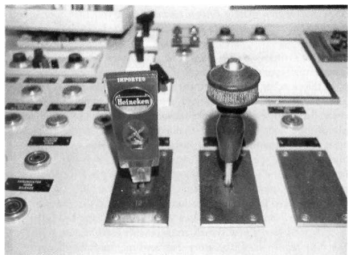
Make Controls Look & Feel Different



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Paradox of Choice

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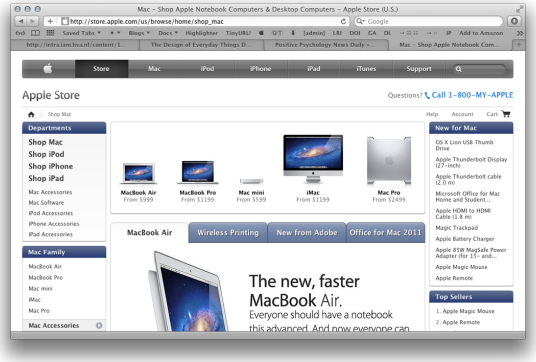

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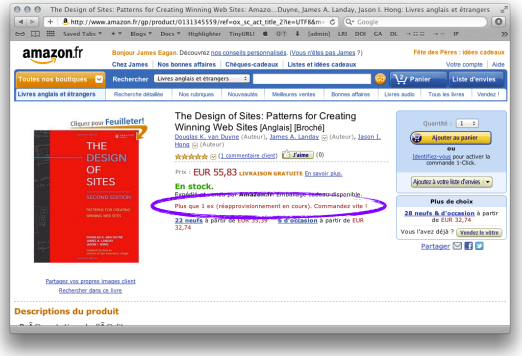
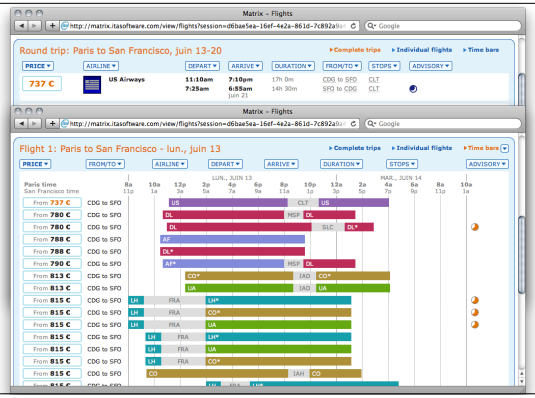
Invoke Scarcity

If it costs a lot, it must be good!

Only two left in this size!





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[Source : James Hudson, PayPal]

62

[Source : James Hudson, PayPal]

63

[Source : James Hudson, PayPal]

64

33 % conversion

66 % conversion

[Source : James Hudson, PayPal]

65

[Source : James Hudson, PayPal]

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Slips & errors

Slip — on sait ce qu'il faut faire, mais on ne le fait pas

« Ce matni un lapin a tué un chaussure »

Erreur de closure