Digital Innovation Development for Entrepreneurs

Models to Design

Digital Innovation Development for Entrepreneurs

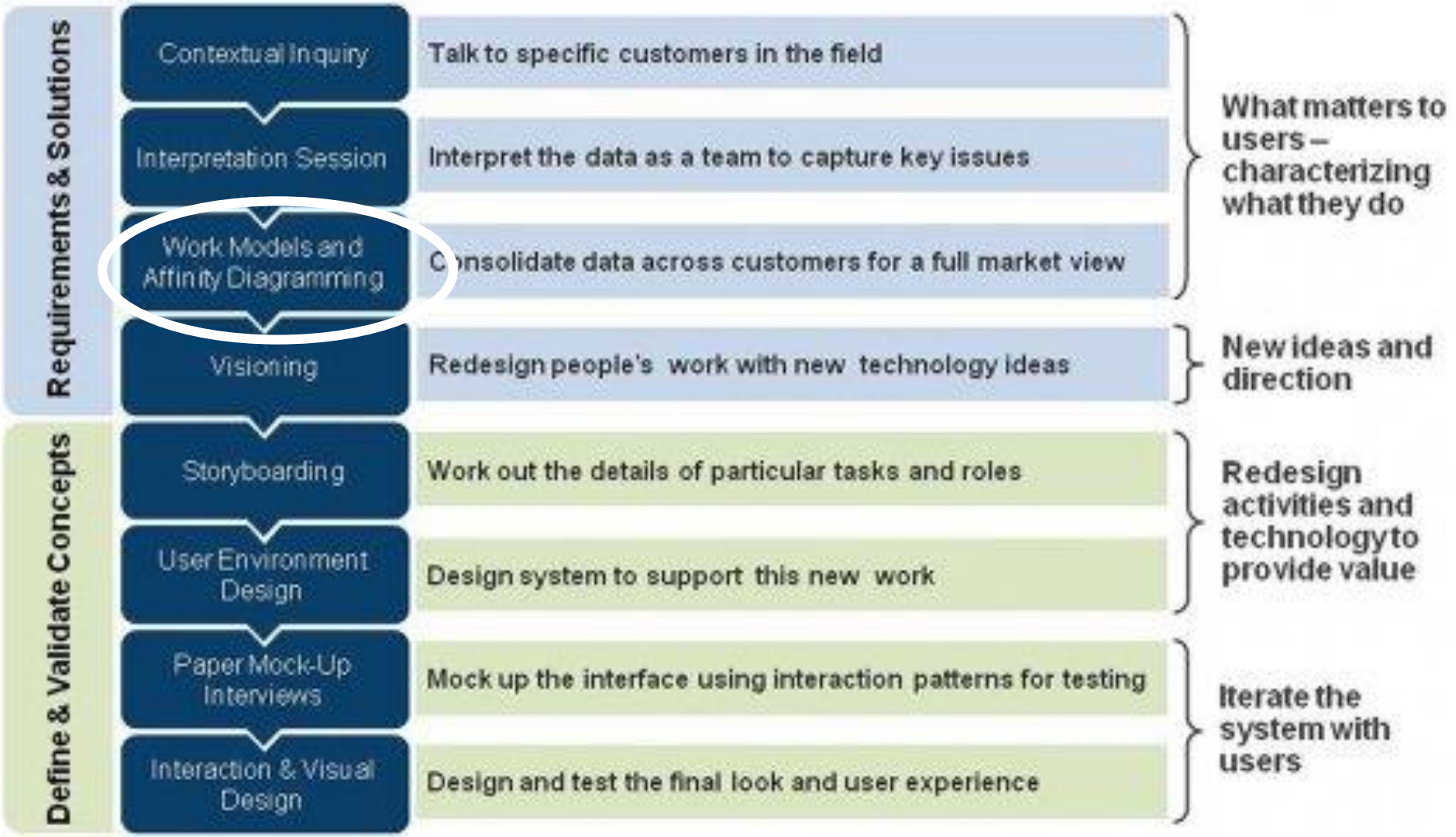
design

Progress

- Conceptual Inquiry completed
- interpretation of the information completed
- now we need to consolidate the conceptual data
- and form a vision

Putting it all together

- review the models
- look for ways to refine and improve the system
- start with the flow models, and the sequence models
- use any remaining models for additional detail
- look for common problems
- brainstorm possible solutions


Requirements & Solutions
Define & Validate Concepts
Contextual Inquiry
Interpretation Session
Work Models and Affinity Diagramming
Visioning
Storyboarding
User Environment Design
Paper Mock-Up Interviews
Interaction & Visual Design
Talk to specific customers in the field
Interpret the data as a team to capture key issues
Consolidate data across customers for a full market view
Redesign people's work with new technology ideas
Work out the details of particular tasks and roles
Design system to support this new work
Mock up the interface using interaction patterns for testing
Design and test the final look and user experience
What matters to users – characterizing what they do
New ideas and direction
Redesign activities and technology to provide value
Iterate the system with users

Affinity diagram – stage 1

- write each separate observation, task, requirement, etc. on a card or post-it note
  - keep it short, words not sentences
- write as many as it needs
  - it could be hundreds of notes
- build the diagram from the bottom-up
  - group common themes
- board the notes
  - use a whiteboard, wall or flipchart
  - discard unwanted duplicate information
- add group headings

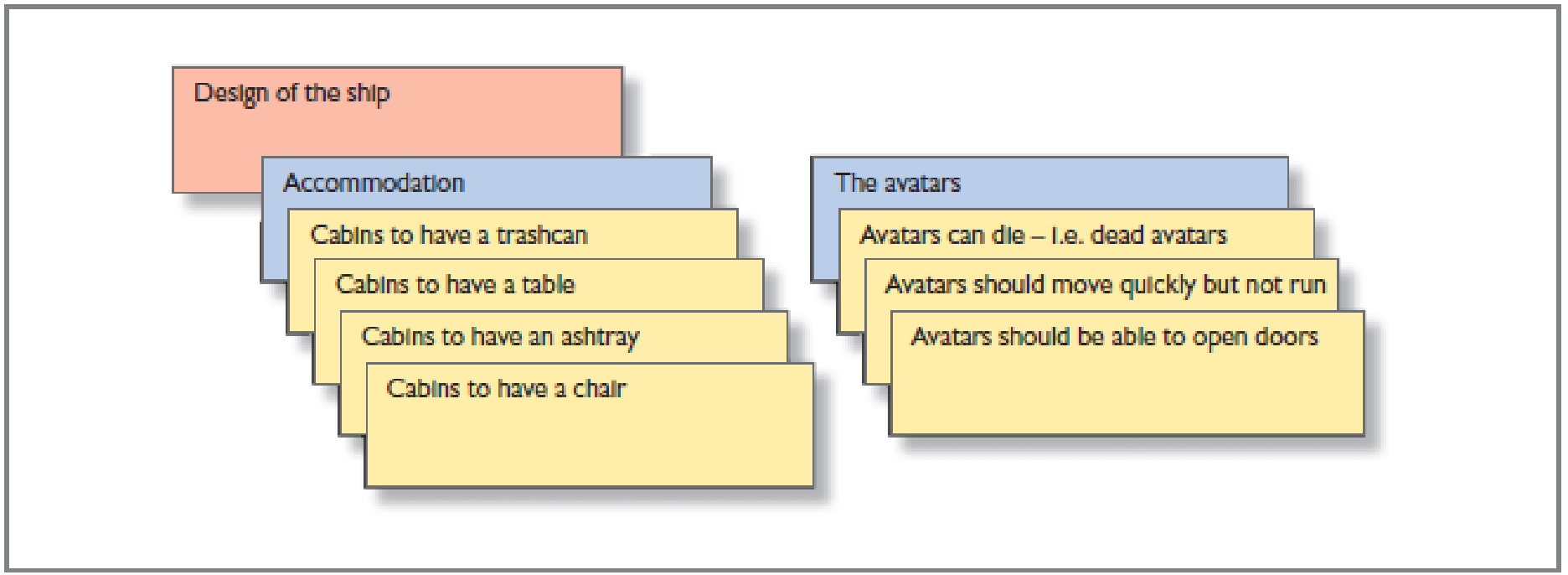
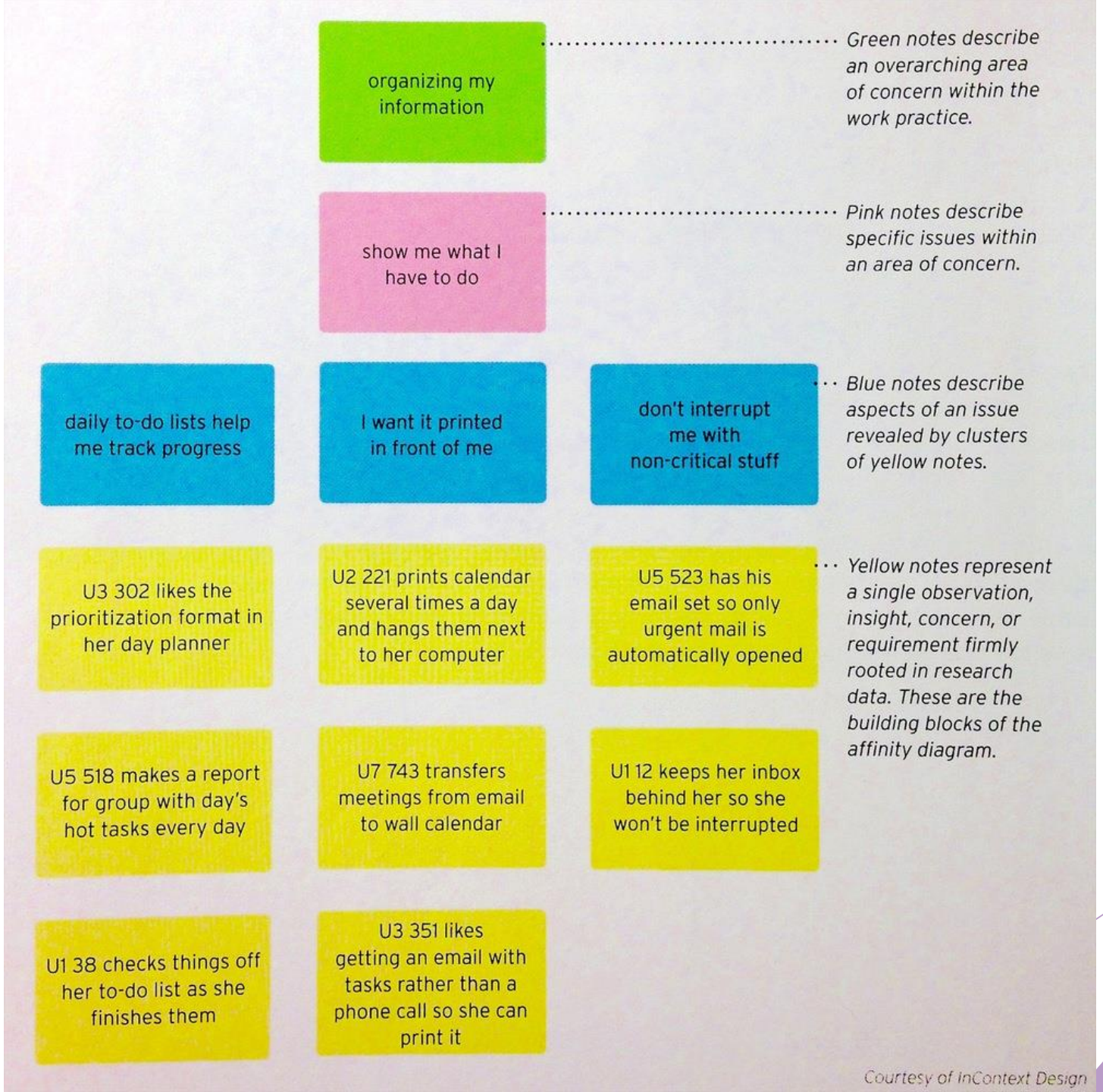


Figure 13.2 A partial affinity diagram for the DISCOVER training system

- note the use of colour to denote level
- the bottom notes are normally white or yellow
- notes containing headings are in blue

Affinity diagram – stage 1

- group the notes and create the blue heading notes
- group the blue notes and create header notes in pink
- pink notes are grouped and the header notes for the pink notes are green header notes
- this is the bottom-up process


organizing my information
Green notes describe an overarching area of concern within the work practice.
show me what I have to do
Pink notes describe specific issues within an area of concern.
daily to-do lists help me track progress
I want it printed in front of me
don't interrupt me with non-critical stuff
Blue notes describe aspects of an issue revealed by clusters of yellow notes.
U3 302 likes the prioritization format in her day planner
U2 221 prints calendar several times a day and hangs them next to her computer
U5 523 has his email set so only urgent mail is automatically opened
Yellow notes represent a single observation, insight, concern, or requirement firmly rooted in research data. These are the building blocks of the affinity diagram.
U5 518 makes a report for group with day's hot tasks every day
U7 743 transfers meetings from email to wall calendar
U1 12 keeps her inbox behind her so she won't be interrupted
U1 38 checks things off her to-do list as she finishes them
U3 351 likes getting an email with tasks rather than a phone call so she can print it
Courtesy of InContext Design

Developing a Vision

Vision

- a mixture of sketches and text
- encapsulates the main points of the new system
  - what are the main functions?
- review ideas
- vision outline

Developing a Vision

Vision

- interactions shown in storyboards
- system structure shown in User Environment Design (UEDs)
- paper prototyping (evaluation & testing)
- examples:
  - hi-tech
  - flash
  - family
  - traditional
  - warm & friendly
  - theme
- What is the difference/better from the (main) competitors?

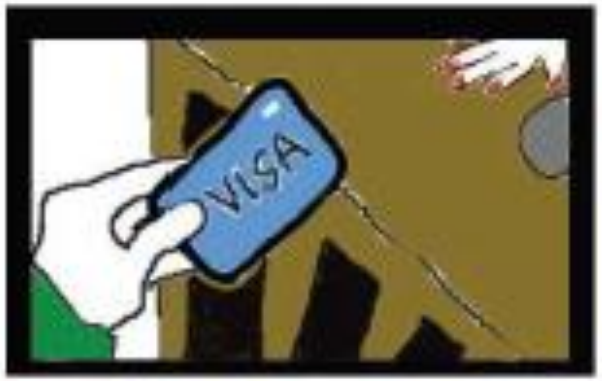
Storyboards

Constructing a storyboard

- cartoon
- from filmmaking
- notes key moments and interactions
- the ‘feel’ or ‘flow’ of the experience

1) On arrival at the hotel, the guest goes straight to the reception desk.

2) At the Reception desk, the receptionist types details of the guest into the computer and checks the guest in.



3) The receptionist asks for a credit card from the guest as a deposit.

4) The receptionist then gives the guest the key to their room.

Figure 13.4 A hotel storyboard showing a high-level impression of the registration process

Storyboards

Constructing a storyboard

- traditional
  - notes attached (below)
  - what will happed
  - dynamic not static
- scored
  - add notation for motion
  - e.g. type, colour, images, sound etc.
- text-only
  - complex sequences
  - what image, text, media etc.

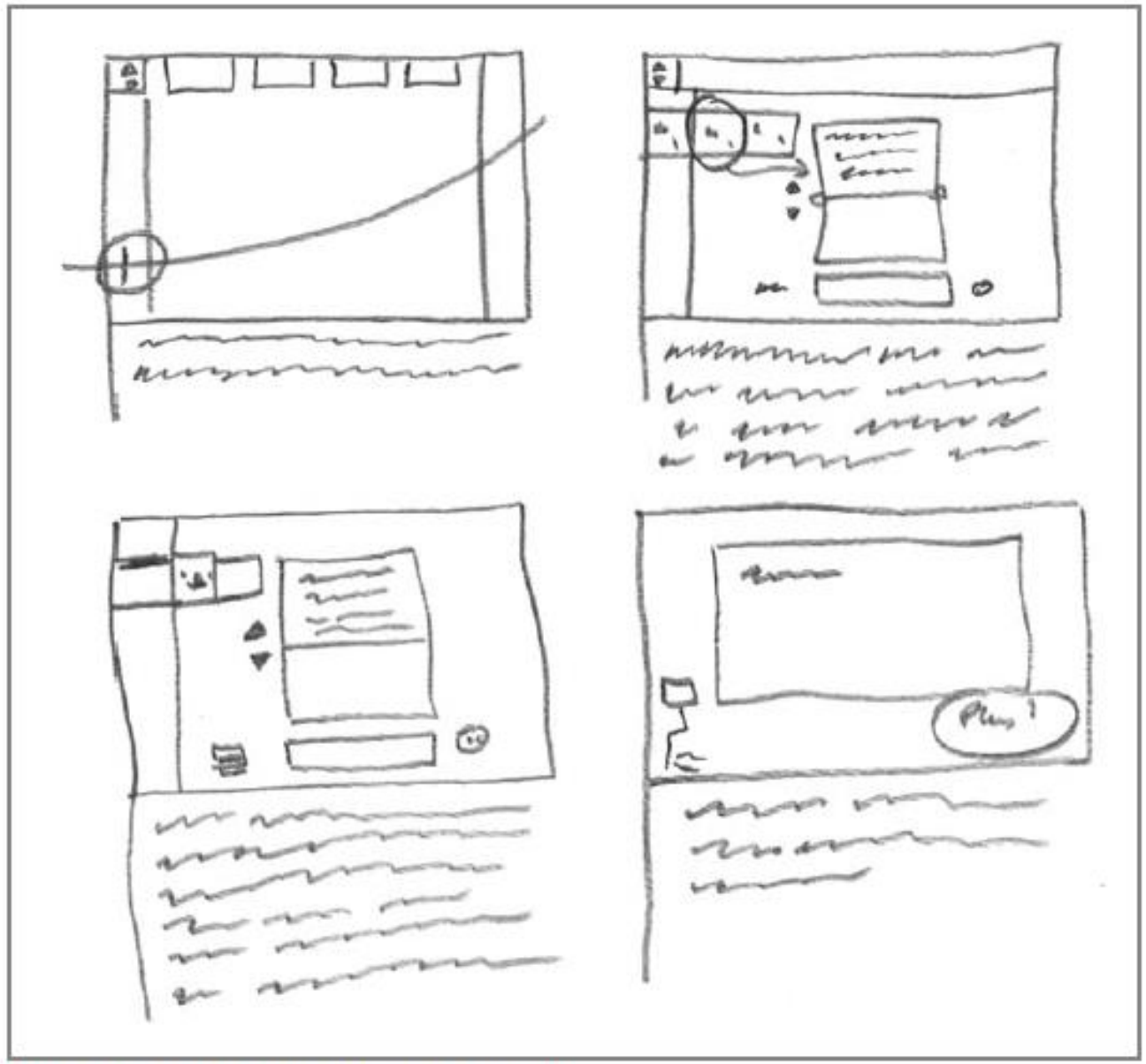


Figure 8.3 Sketched storyboard for the HIC

Storyboards

Constructing a storyboard

1. identify key tasks, choose one, review the models
2. draft a detailed design
   - consider alternative options
   - consider implications of the alternatives
3. check the redesign against the sequence models
   - are the intents OK?
4. sketch
5. repeat for all the tasks & review

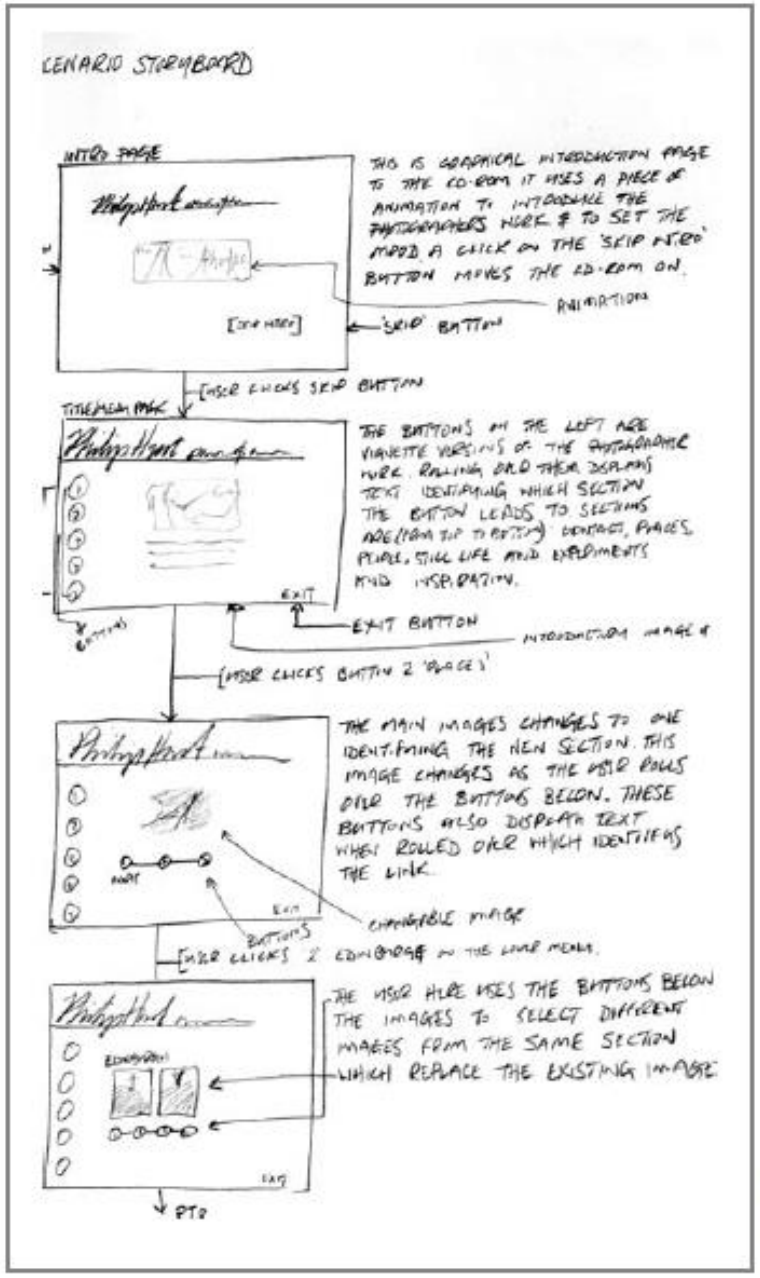


Figure 8.4 Part of a storyboard for a photographer's website

1) On arrival at the hotel, the guest goes straight to the reception desk.

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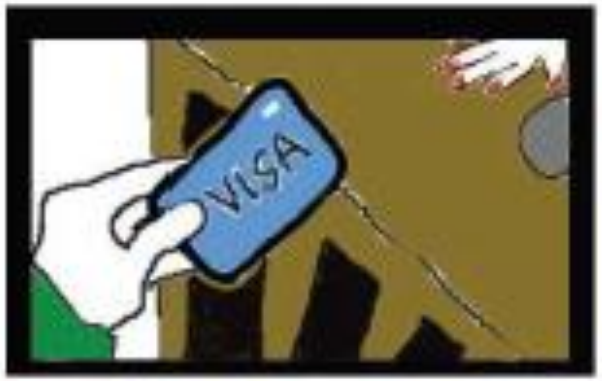

3) The receptionist asks for a credit card from the guest as a deposit.

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Figure 13.4 A hotel storyboard showing a high-level impression of the registration process

Frame 1. The guest arrives at the reception desk and announces 'I have a reservation and I wish to check in'. The receptionist stops what she is doing and asks for the guest's name.

Frame 2. The receptionist then consults the hotel's information system *and* accesses the database to match the guest's name against reservations. The name is found and the receptionist updates the database to indicate that the guest has arrived and allocates a room to her.

Frame 3. The receptionist then asks the guest for her credit card in order to secure payment. The card is swiped and its details are entered into the hotel's information system.

Frame 4. Finally, the receptionist gets the room key from the key board and hands it to the guest.

Design

The story so far – we have:

- Contextual Inquiry
- models
- diagrams
- a vision
- and storyboards

Consolidate these and create ideas for the new design

Paper Prototyping

Design

- use paper to show the design
- animate the UI
- use a sheet of paper or card
- same size as the screen
- include the main items that are permanently displayed on the screen

Paper Prototyping

Design

- add post-its, card, transparencies, or other removable items to mimic windows, menus etc.
- remember changes e.g. colour – link visited
- try out different layouts for the permanent elements
- develop a demo

Paper Prototyping

Design

- get users to walkthrough tasks
- ask why (user did something)?
- take notes of reactions, suggestions, confusions, etc.
- check effectiveness

Paper Prototyping

Design

- how many designs?
- how many alternatives?
- write your findings, observations
- what happened (good / bad)
- document experiments (before / planning, expectations)
- document the system

References

- Benyon D. (2010) *Designing Interactive systems*, 2nd Edition, Addison Welsey, Harlow
- Holtzblatt, K. and Beyer, H. (2014): Contextual Design. In: Soegaard, Mads and Dam, Rikke Friis (eds.). "The Encyclopedia of Human-Computer Interaction, 2nd Ed.". Aarhus, Denmark: The Interaction Design Foundation. [online] Available from: https://www.interaction-design.org/encyclopedia/contextual_design.html [Accessed: 8th Jan 2015]

Thank you!

any questions?