

Exercises

The value of many of these exercises can be enhanced by discussing the results in open class.

■ Exercise 4.1 (Review)

For each of the following approaches to presentation write one sentence summarizing its essential features: (1) scrolling, (2) overview+detail, (3) distortion, (4) suppression and (5) zoom and pan.

■ Exercise 4.2 (Review)

What is the point of using a bifocal display? What are the principal features that make it potentially attractive? What problems might be encountered in using it within an application?

■ Exercise 4.3

Your PDA is fitted with a GPS facility and therefore 'knows where it is'. Sketch a design for a street map, with street names, which will draw attention to, and suggest the approximate location of, places of interest (restaurants, petrol stations, etc.) over an area equal to nine times the area covered by the PDA.

■ Exercise 4.4

Explore the potential offered by the distortion principle for a person using a mobile to text messages and, at the same time, be aware of other items of interest (e.g. recorded calls and text messages). Show how colour and position and any other encoding mechanism can be used to advantage. Justify the minimum size of icon used in the distorted region.

■ Exercise 4.5

Identify a city of modest size that tourists or professionals may have to visit (examples: Eindhoven in The Netherlands, York in England, Konstanz in Germany, Oslo in Norway, Boston and Seattle in the USA). The local Visitors' Bureau wishes to make available, for travel and sightseeing plan-

ning, a (printed) representation of local transport and places of interest as well as major transportation links to destinations from 50 to 200 miles away. Sketch a possible design using the overview+detail approach. Identify advantages and disadvantages of your design.

■ Exercise 4.6

Repeat Exercise 4.5, but employ the distortion technique to provide continuity between local and global detail.

■ Exercise 4.7

Figure 4.E.1 shows, in incomplete detail, one possible approach to answering Exercise 4.5. Here, geographical veracity has been sacrificed to allow a focus on possible individual activities classified as 'culture', 'transportation' and 'entertainment'. Walking distance has been indicated qualitatively by short cross-streets. Complete the design for the city you have selected in Exercise 4.5 and identify its advantages and disadvantages. (Courtesy Roel Vossen)

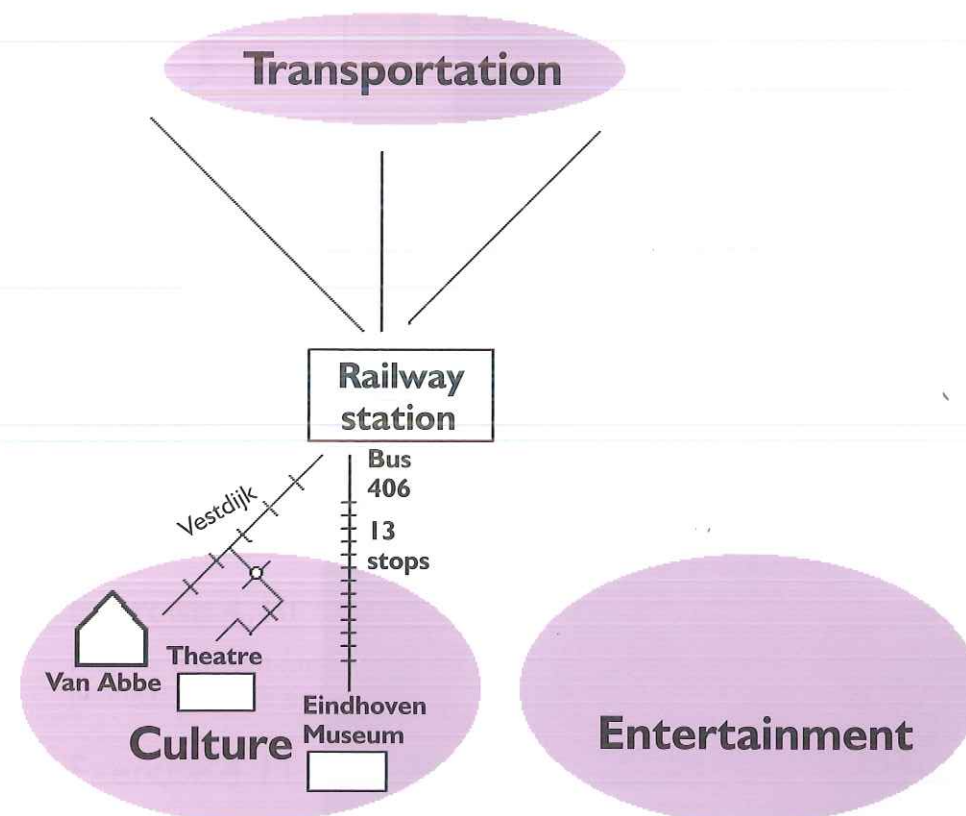


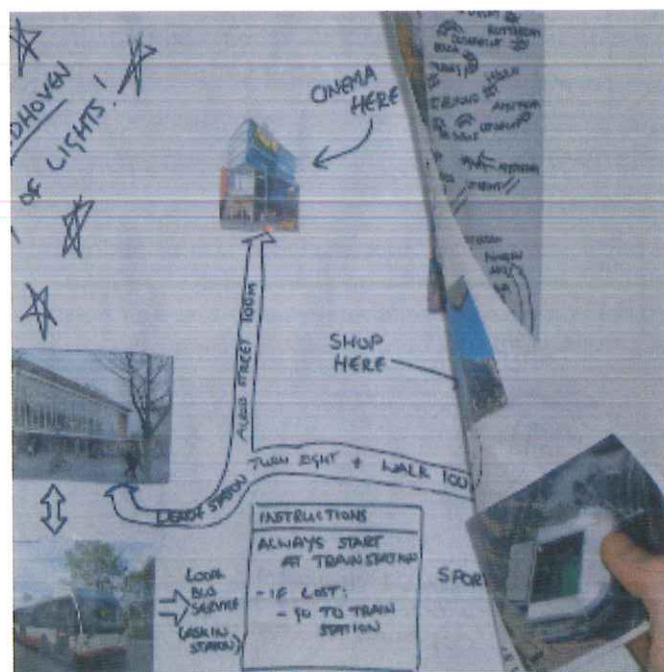
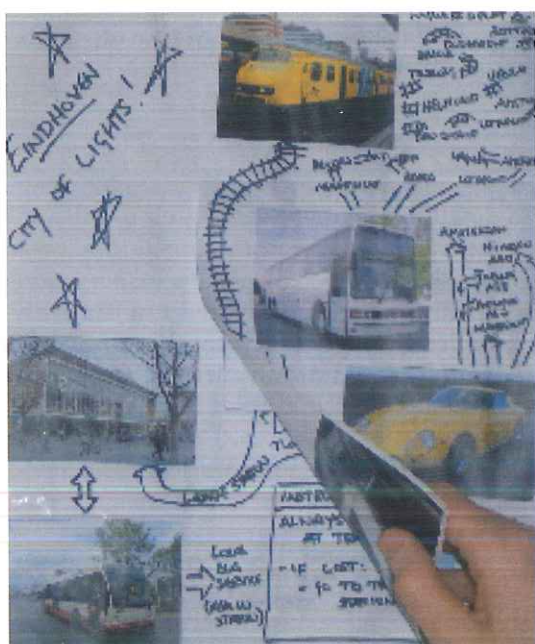
FIGURE 4.E.1
An initial sketch
to propose a
solution to
Exercise 4.5

Exercise 4.8

Figure 4.E.2 provides a partial view of an answer to Exercise 4.5 in which 'continuity' between overview and detail is a single entity, here the central railway station. Complete the design for your selected city and comment on its advantages and disadvantages. (Courtesy Oliver Moran)

FIGURE 4.E.2

'overview +
detail'
coloratory
sign relevant
Exercise 4.5



Exercise 4.9

Figure 4.E.3 illustrates one approach in response to Exercise 4.6. The visitor is provided with the means of simply constructing a 'visitor's cube' in which one side provides local detail of the city while other sides provide context. Decide how continuity can be achieved along the edges of the cube and complete the design for the city you selected in Exercise 4.5. Comment on the advantages and disadvantages of your design. (Courtesy Maurits Kaptein)

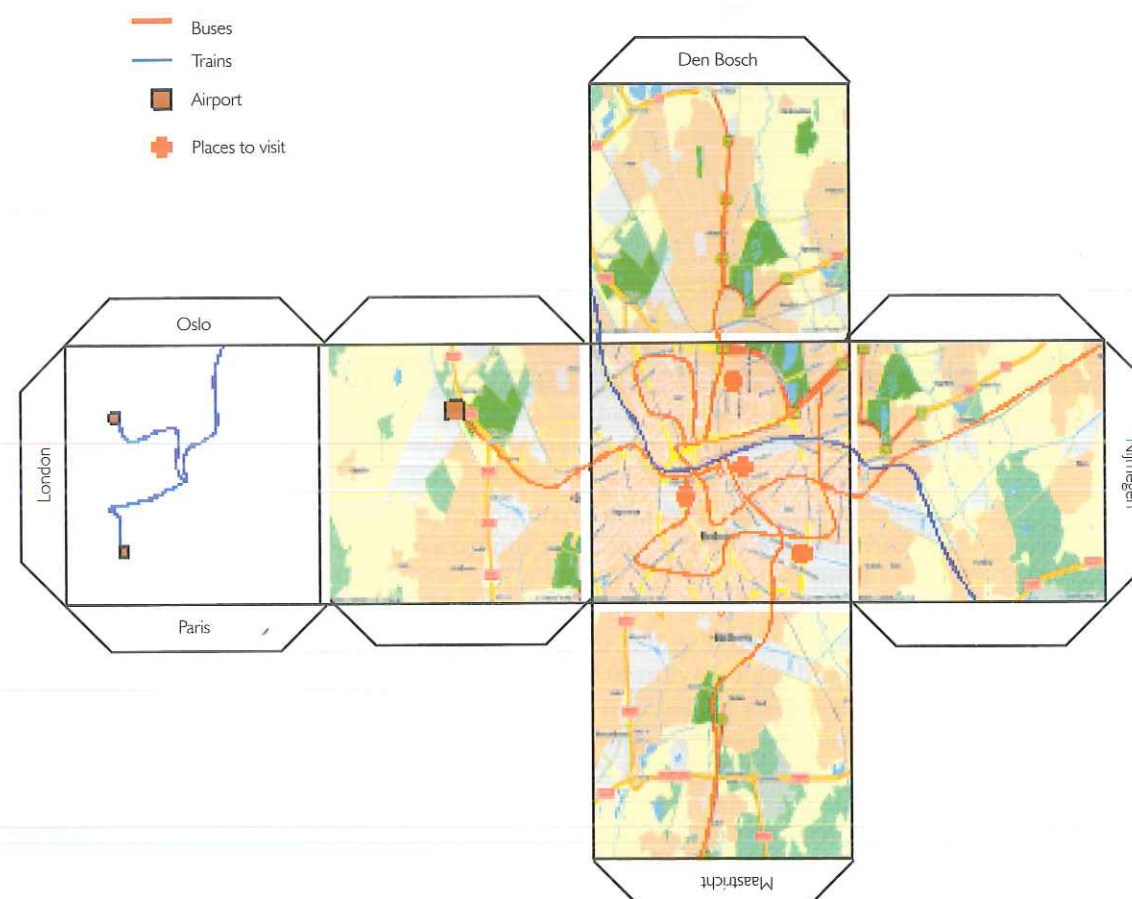


FIGURE 4.E.3 A suggested design in response to Exercise 4.6 (see Exercise 4.9)

Exercise 4.10

Propose a design for a facility which will enable a user to review up to 500 photographs with a view to selecting one to show to a friend.

Exercise 4.11

A particular tree map is so extensive that it cannot usefully be presented in its totality on the display of a PDA. Suggest possible solutions to the problem of examining the tree map using a PDA.