

# Envisionment

- Techniques for
  - **Envisioning** design ideas
  - **Communicating** design ideas

# Envisionment

Making ideas concrete, so we can:

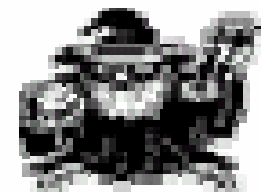
- Work through design details
- Assess practicalities and suitability
- Communicate ideas
  - With users
    - Explore and expand requirements
    - Evaluate ideas
  - With other members of the design team

# Different roles for envisionment

- Part of each stage in the life cycle
- Different representations for different purposes
  - Generation, communication and evaluation of ideas
    - ‘back of an envelope’ sketch might be used for communicating with a colleague, but not with a client
  - Many techniques, all generate some sort of graphical or textual representation (or model)
- Choice depends on project constraints, type of project, preferred working style, company procedures, etc.

# Metaphors

- We use metaphors when we want to convey an abstract concept in a more familiar and accessible form
- Metaphors are used in interfaces for:
  - objects on the screen
  - types of user interaction
  - the way the system responds
  - command names ..



## Brainstorming with Interface Metaphors

- Brainstorming can be used to develop and expand existing metaphors:
  - New uses for the object
  - Adapt the object to be like something else
  - Modify the object for a new purpose
  - Magnify -- add to the object
  - Minimize -- subtract from the object
  - Substitute something similar
  - Rearrange or reverse the information
  - Combine the information into an ensemble

# Is there a suitable metaphor?

- Interface metaphors combine familiar knowledge with new knowledge in a way that will help the user understand the product.
- Three steps: understand functionality, identify potential problem areas, generate metaphors
- Evaluate metaphors:
  - How much structure does it provide?
  - How much is relevant to the problem?
  - Is it easy to represent?
  - Will the audience understand it?
  - How extensible is it?

# Some envisionment techniques

- Scenarios
  - 'stories' about potential use
- Sketches
  - Of concepts, layouts and physical design
- Navigation maps
  - Showing logic and flow
- Storyboards
  - Showing steps in interaction
- Moodboards
  - Help to generate look and feel
- Prototypes
  - Bring the dynamics to life



# Scenarios

- ‘Short stories’ about people and activities using technology in context
  - Use everyday language
- Include details about people and interaction
  - Forces consideration of practicalities
  - More or less detailed depending on the stage of the design

# How big is a scenario?

- It depends on how it is being used
- Often used in conjunction with prototypes
- As as the basis of evaluation

# Grounding the design in practicalities

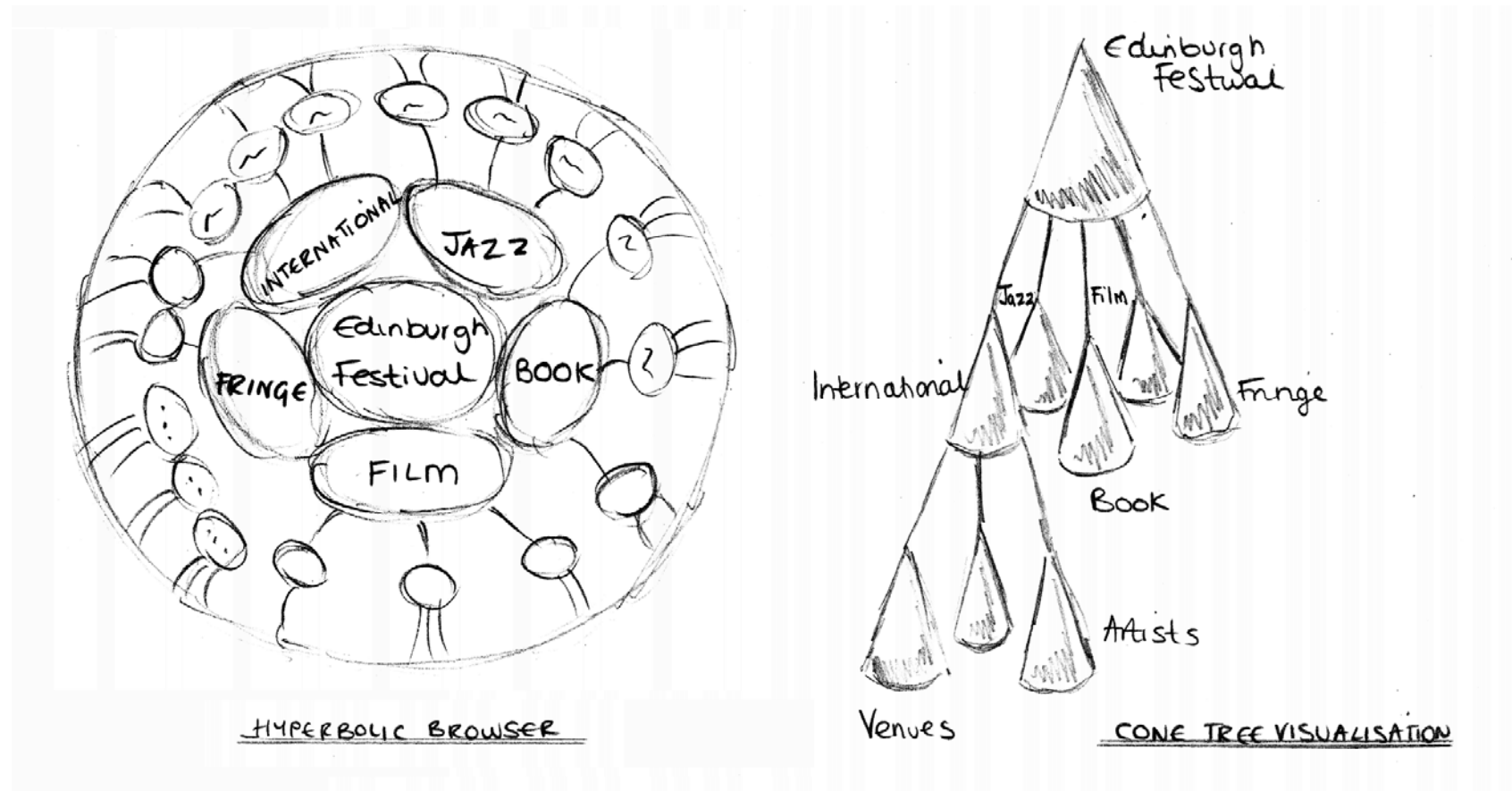
- “If we design it like that what will happen when Granny tries to use it?”
- “The older engineers may be self-conscious about working through the tutorial.”
- “What happens when the remote disappears down the back of the sofa?”
- “How do we know that the right person is using the training software?”

# Things to note

- Relevant information about the user
- Details of interaction sequence and presentation
- Often give names to the participants in a scenario to make the interaction seem more real (... but not essential)
- A concrete example of the system being used, not a generalised account of all the possible functions and alternative results

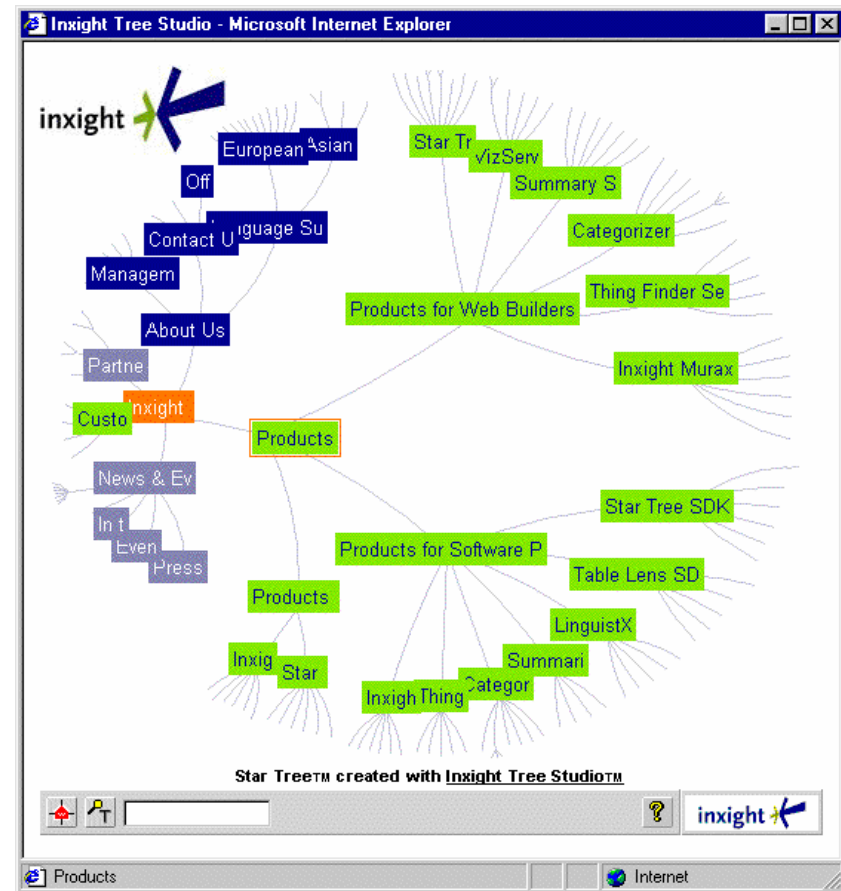
# Sketches

- For exploring concepts
  - Often in quite an abstract way
- For documenting screen layouts
  - As 'pencil and paper' sketches
  - Or produced with drawing tools
  - Useful to add annotations
  - Often useful to make them look 'sketchy' if exploring with users
  - Presentation to clients may require something more slick

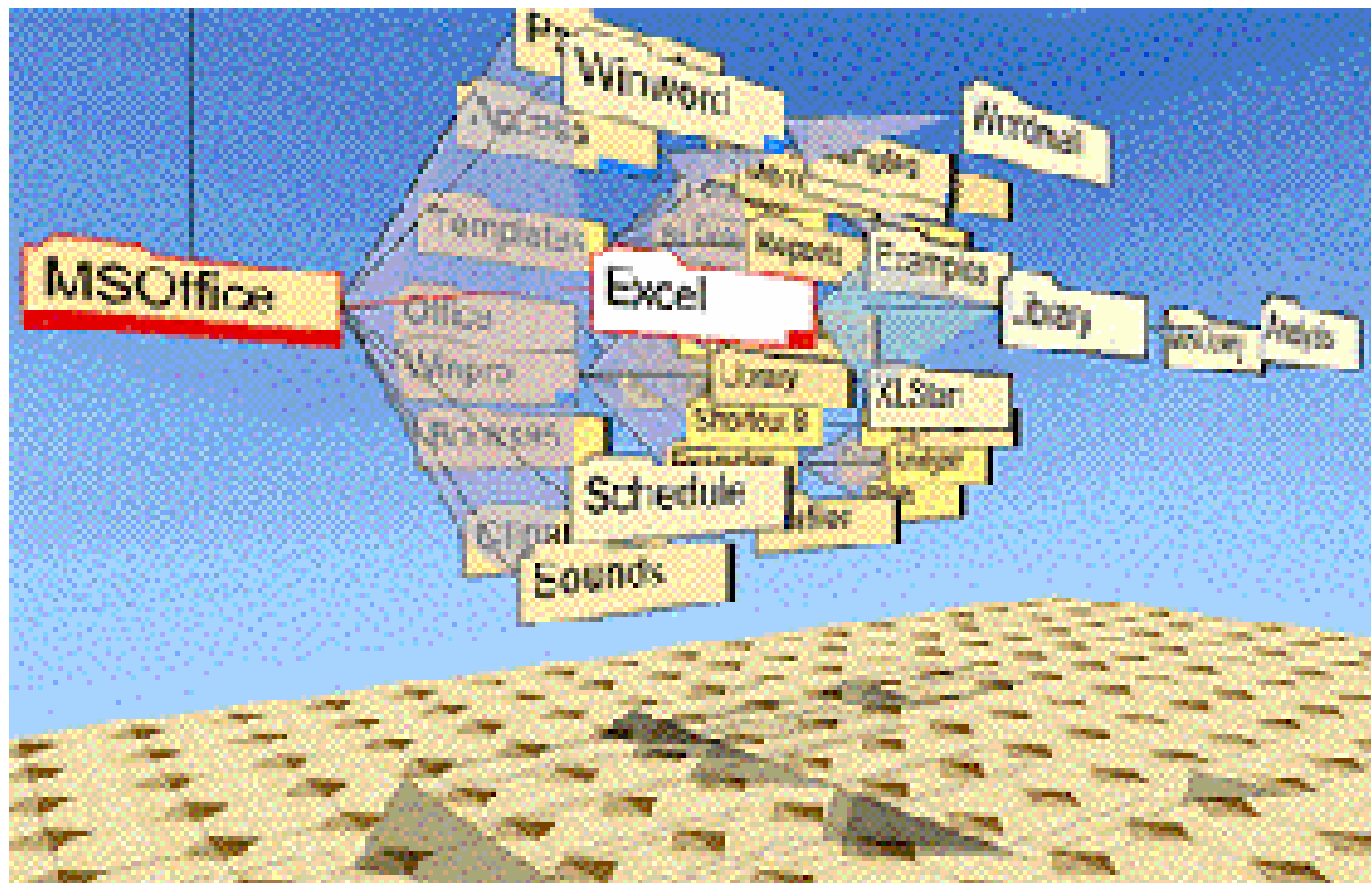


Sketches of possible visualizations.

# Hyperbolic trees

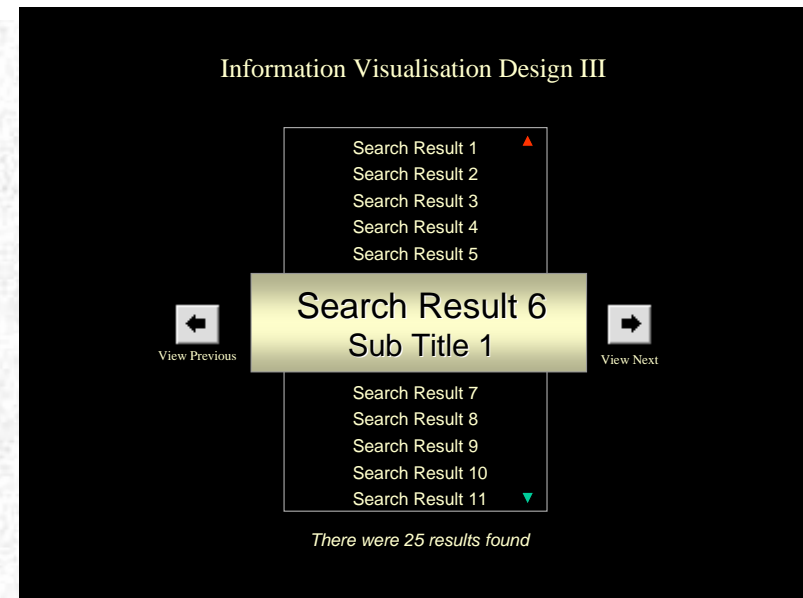
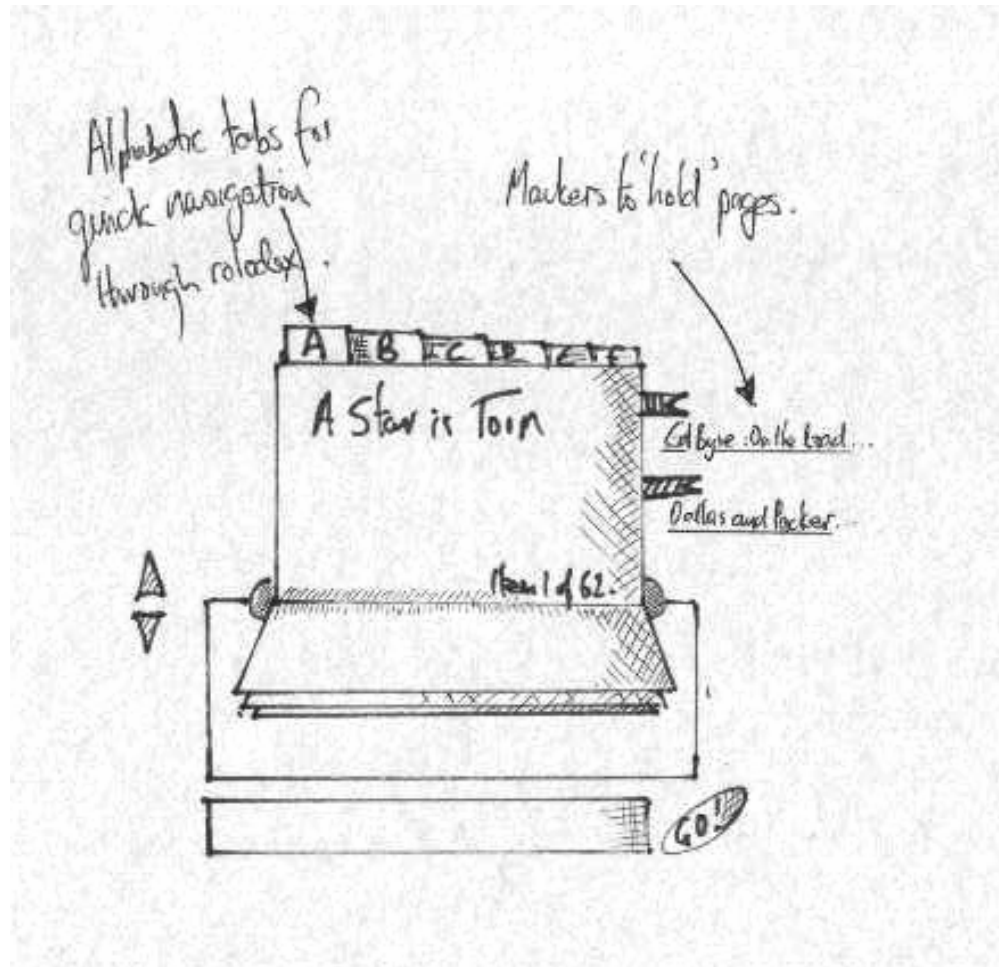


# The realisation





# Ideas for search results in a home information centre

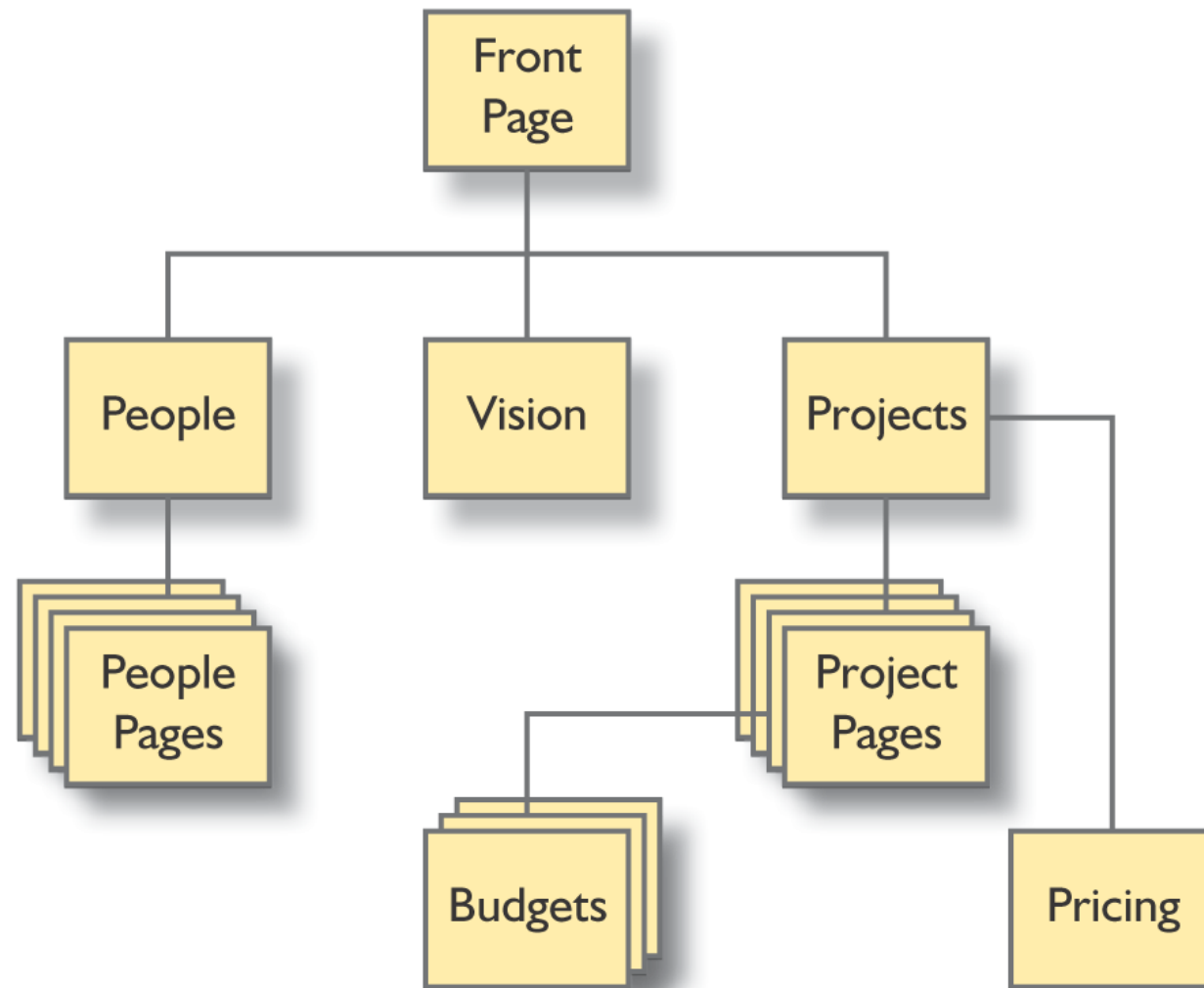


# Navigation maps

- Show pages/screens together with links and their direction
- Not just for web sites
- Help identify
  - Orphan pages/screens
  - Dead ends
  - Over complex structures

# How to do it

- Represent each page as a box
- Connect the boxes with uni- or bi-directional arrows (these are the links)
- Typically everything goes home (but think e-shopping)
- Checks for logic



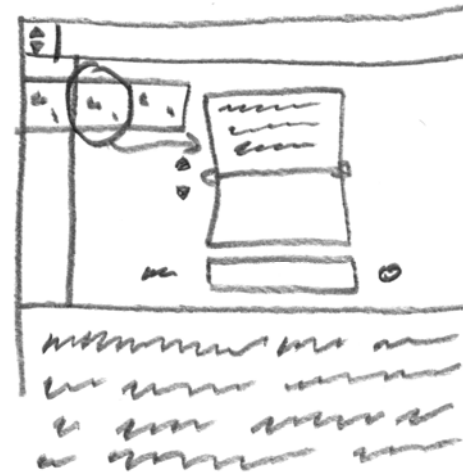
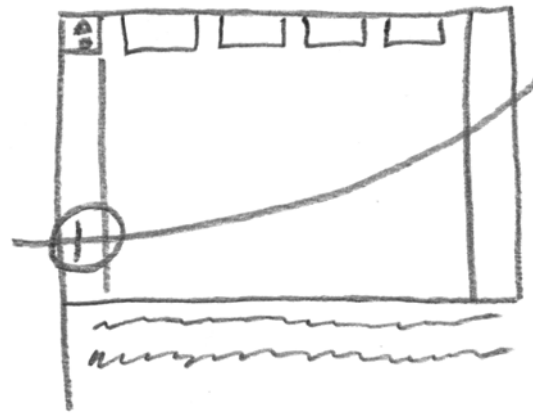
Navigation map for a website.

# Storyboards

- Technique from film-making
- Series of scenes/frames from the user experience point of view
- communicate the feel of the 'flow' of the design
- usually based on scenarios

# Types of storyboards

- **traditional:** frames with a sketch of what is on screen (sometimes with some text underneath)
- **scored:** for very dynamic designs can use notation that shows motion/animation effects
- **text only:** what images/text/other media are on screen, what's happening



Sketched storyboard for the HIC.

- Think designing a software application, not shooting a movie
- Matches the interaction metaphor of Flash & Director



# Moodboards

- Widely used in interior design/advertising
- Gather together visual stimuli that capture the essence of the design
  - Photos, other images, textures, shapes, quotes...
- Inspiration not specification
- Can also be generated by clients or users
- Useful in developing team vision
- Online moodboards?



30+ singles

De leuke mannen zijn op



Postfeminism



# Prototyping

- Brings the design to life
- Clarifies requirements
- Supports user involvement and feedback
- Improves communication

# Prototyping saves money

Finding and fixing a software problem  
after delivery

is 100 times more expensive than

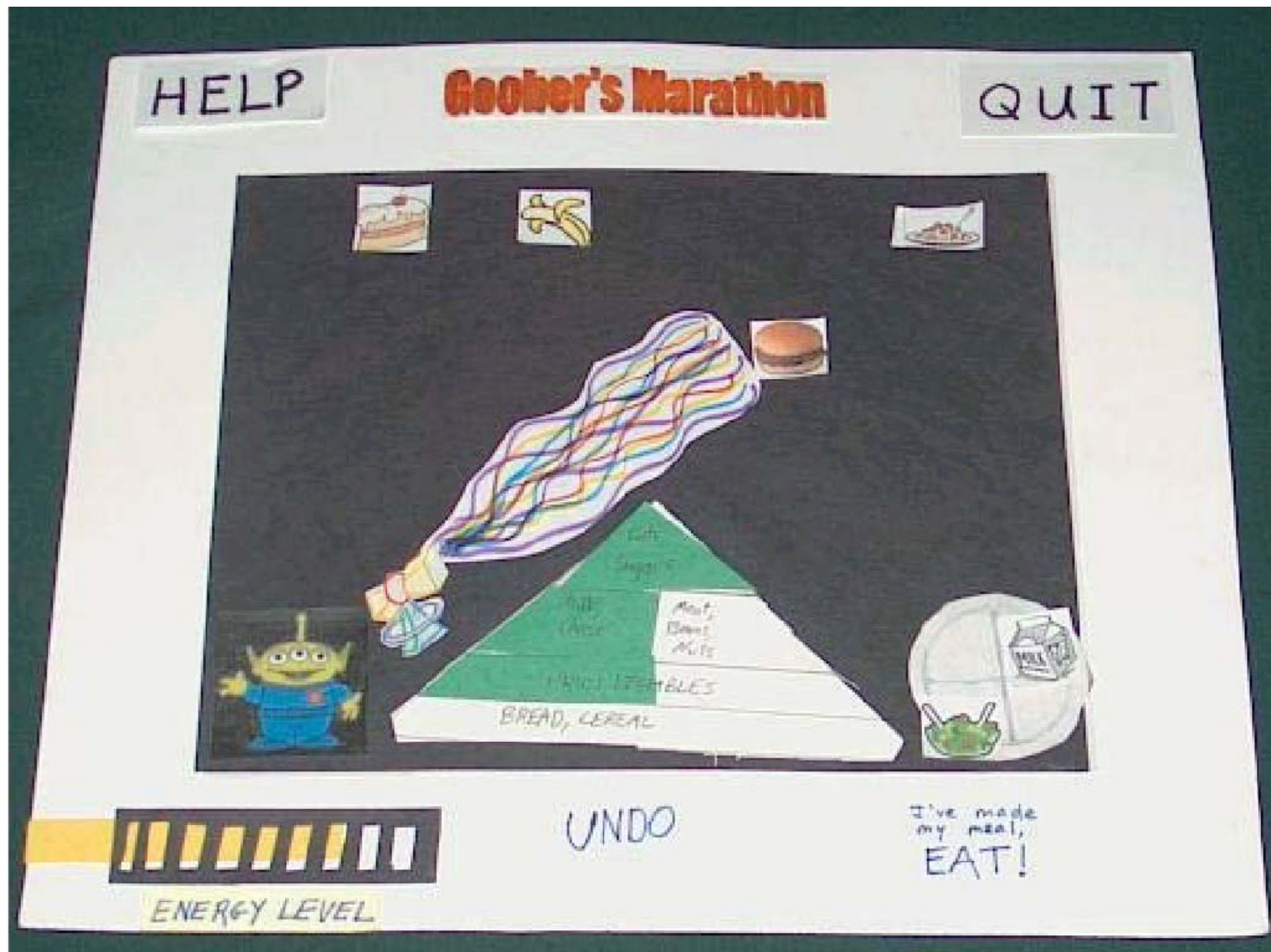
finding and fixing it during the  
requirements and early design phases.

# Types of prototype

- Lo-fidelity (throwaway/paper/early) prototyping
  - Uses paper-based 'Blue Peter' techniques
  - Cheap and easy, but don't get carried away
  - Accessible to more techno-phobic users
  - Encourages user interaction
- Hi-fidelity prototyping
  - In software
  - Realistic and professional-looking
  - Identifies software problems early
  - But can be difficult to throw bad ideas away



## Lo-fidelity prototype

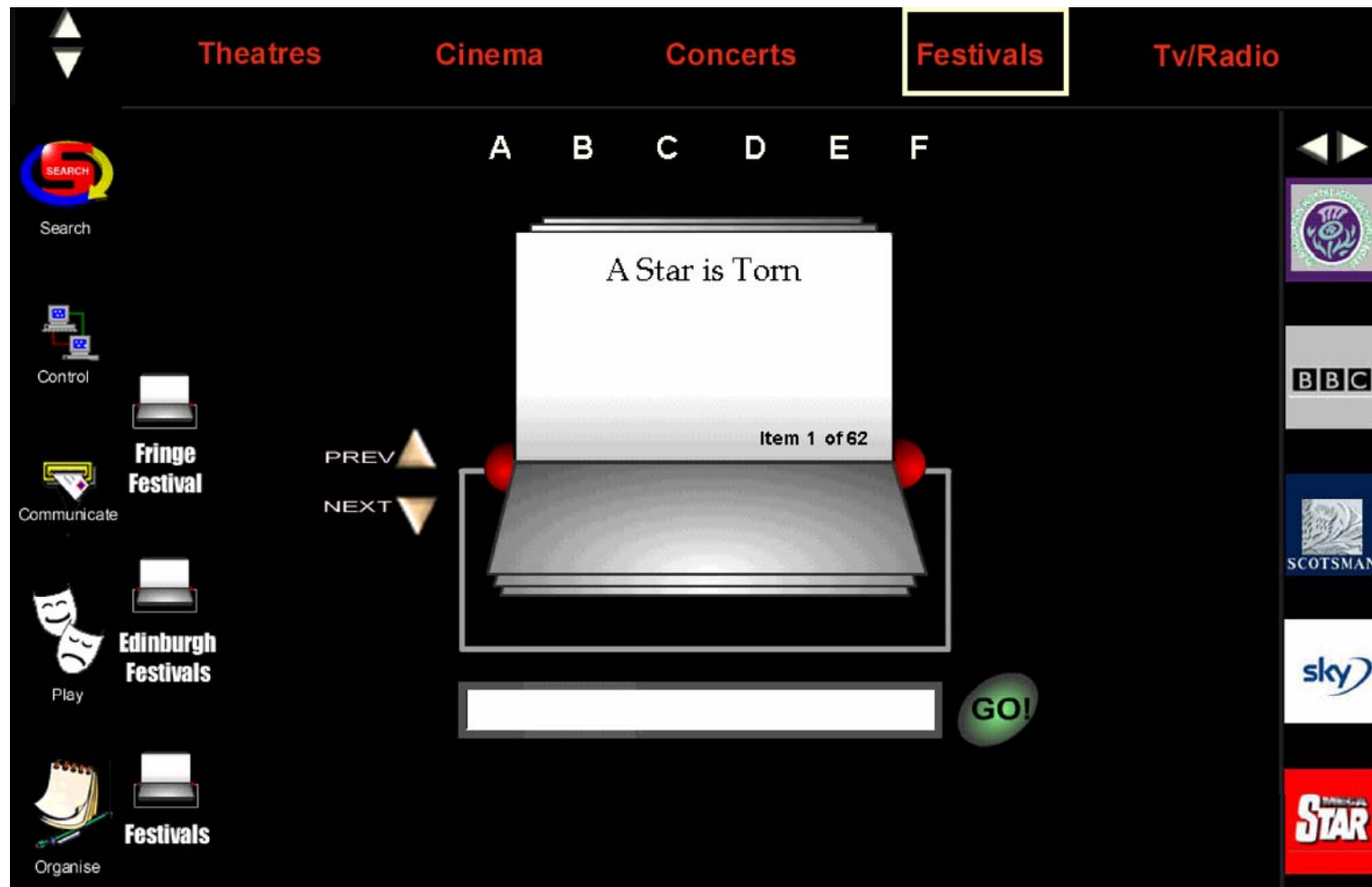




## Lo-fidelity prototype

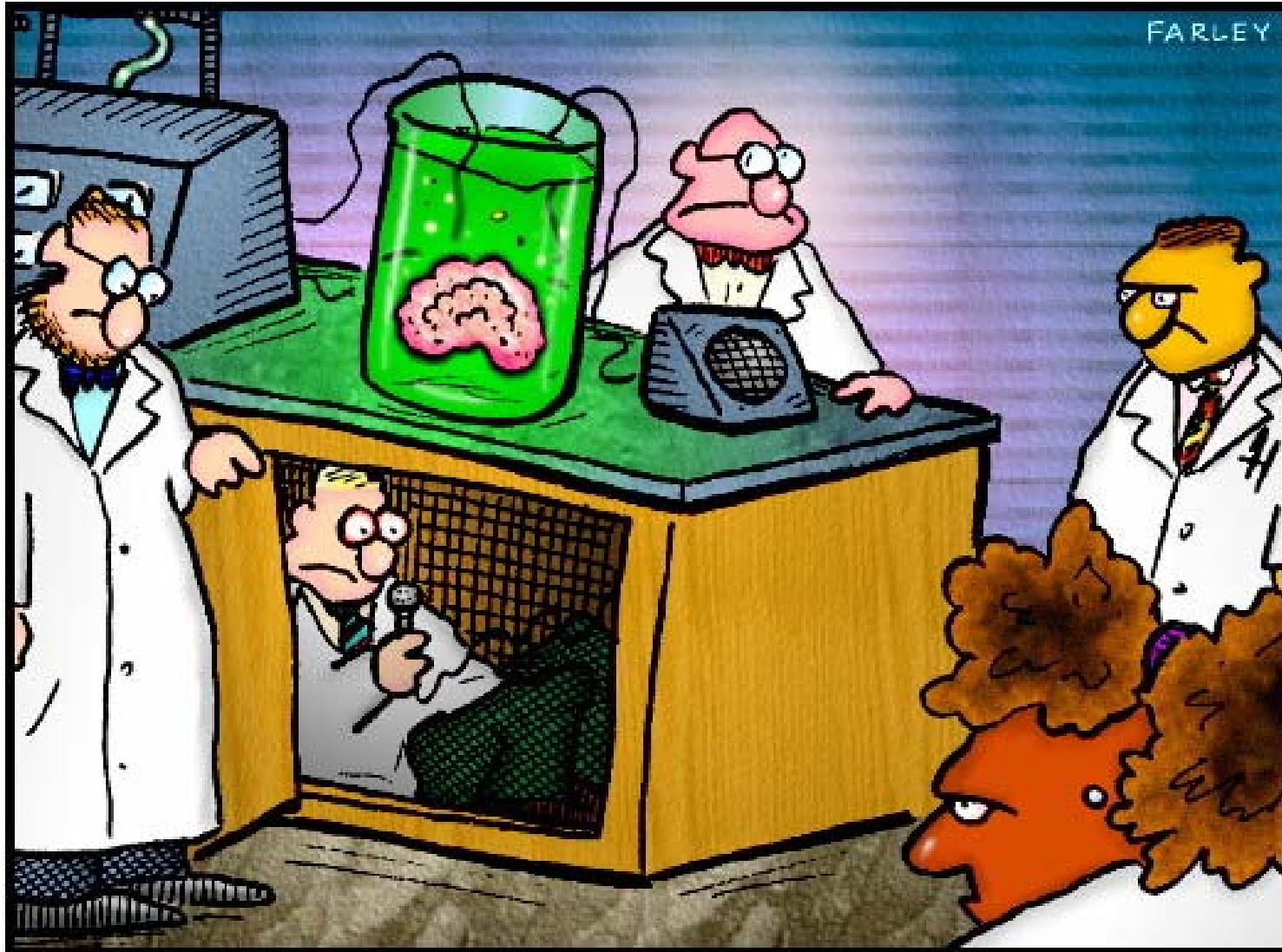


# A hi-fidelity prototype for the HIC (built in Director)



# Other terms:

- Horizontal prototype
  - All or most aspects of user interface, little functionality
- Vertical prototype
  - One or two threads of interaction in depth
- Incremental (or evolutionary) prototype
  - Designed, developed and evaluated stage-by-stage, eventually becomes the final product
- Wizard of Oz
  - Take no notice of the man behind the curtain
  - Overtaken by rapid software development tools



Doctor Whirtzle's controversial "talking brain in a jar" is revealed for the shameless fraud that it was.

# Involving users

- Prototypes support user involvement in design and evaluation
- Highly desirable for usable and useful products
- Users can
  - Simply observe and comment as the prototype is explained/demonstrated
  - Have hands-on use (even with paper prototypes)
  - Be co-designers

# But take care

- May raise unrealistic expectations
- No substitute for careful analysis and design
- Users or developers may be reluctant to lose the work put into less successful ideas
- Needs careful project control

## In conclusion:

- Envisionment including Prototyping is at the heart of the HCI design process
- Choose techniques according to situation, resources and your own skills