Web-Page design & form design

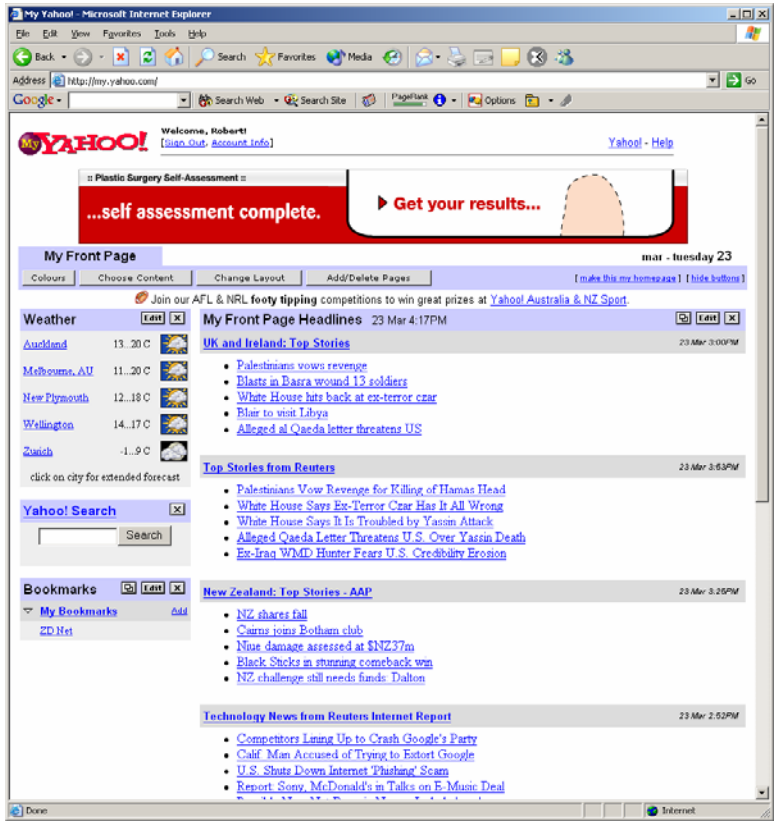
- Web page design
  - Page design
  - Content design
  - Site design
- Form designs
  - Basic principles
  - User action and control
  - Appropriate appearance
  - International UIs
- Prototyping

Web-page design interlude

- Page design
- Content design
- Site design
  - `Based on Jakob Nielsen's "Designing Web Usability" 2000, New Riders

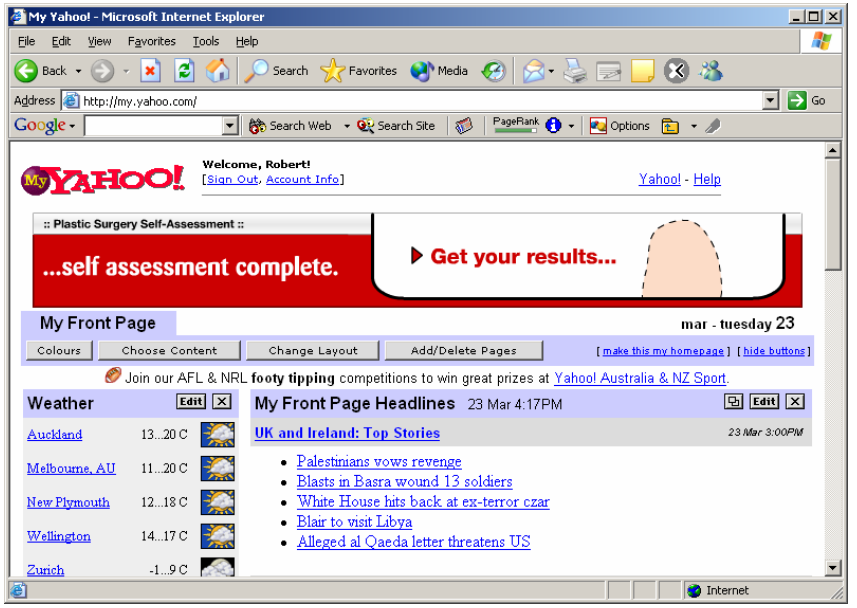
Page design: Screen real estate

- How much of the screen is used for major content? There's a lot of other stuff you might put on the screen
  - Window toolbars
  - Titles
  - Logos
  - Navigation
  - Banner ads
  - White space
- Aim for 50-80% of space devoted to content
- Systematically go through your web page and ask "is this needed?" if the answer is NO then take it out



Page design: Cross-platform design

- Users platforms are diverse
  - PC, hand-held, cell-phone
  - Screen acreage differs by a factor of 100
  - Bandwidth differs by a factor of 1000
- Design for all screen resolutions
  - E.g., variable screen widths and printing
- Avoid non-standard content
- Avoid specific browsers and browser versions



Page design

- Separating meaning and presentation
  - that is the point of markup languages like html and xml
  - E.g., heading tags (H1, H2, …)
- Response times
  - Fast as possible
    - 0.1 second user feels system is 'instantaneous'
    - 1 second user can retain flow of work
    - 10 second limit for keeping user attention
  - Predictability, try to smooth out variability at server end
  - Limit use of images (or reduce image size/colour depth)
  - Link to same image to utilise cached copies, tile an image
  - Glimpse the first screenful

Assume 0.5 sec latency

Page design

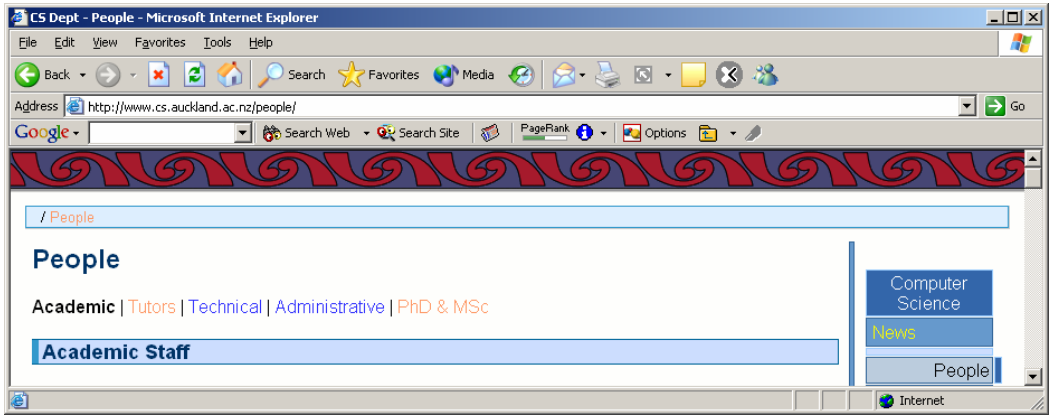
Linking

- Describe links properly (ie not 'click here')
- Use TITLE for links to set context of link
- Use standard colouring for links
- Use same URL for the same page
- Allow links off your site, gives value added to your site
- Have linkable pages on your site (permanent URLs)

- Use style sheets
- Provide printable versions of long pages
  - Most users prefer hard copy as pages often disappear

Content design

- Write for the web
  - Keep text short (screen reading is 15% slower than paper)
  - Use a copy editor (good writing, spelling, etc)
  - Make text scannable (structure, headings, bullets, highlight)
  - Plain language
  - Chunk pages
- Use good page titles
  - not in graphics
  - Visible in search engines, bookmarks, history
- Make text legible (colours/contrast, size, not uppercase



Content design

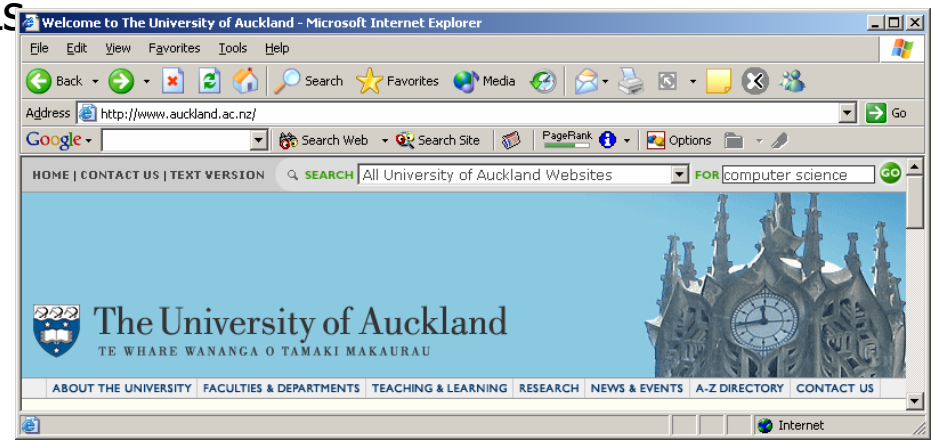
- Animation
  - Most users dislike, ignored because of banner advertising
  - Good for: showing continuity in transitions, indicating dimensionality in transitions, illustrating change over time, multiplexing the display, enriching graphical representations, visualising 3D structures, attracting attention
- Video/Audio where appropriate
- 3D graphics
  - Difficult to navigate, rotated text is difficult to read

Site design

- The home page
  - What is the site for? How to navigate? How to search?
  - What size page? Width most important – but try for 1 screen at 1024x768
- Where are you in the site?
  - Deep linking from search engines
    - Where are you - navigation trees
    - Where have you been, where can you go
- Users control navigation in your site
  - In a navigation UI: aggregate, summarise, filter, truncate, provide example-based representations

Site design

- Search capabilities
  - ½ of users are search-dominant, 1/5 are link-dominated
  - Boolean search is not used properly
    - cats AND dogs
    - "cats and dogs"
  - Use title and user's descriptions in results listings
  - Search box should be wide enough for a complex query
  - Use someone else's site search (e.g., Google search appliance)
- URL design
  - Short and comprehensible (less than 75 chars for emailing)
  - No 'linkrot' - support your old URLs
- User discussions?
  - Require significant and constant attention



wider still ...

- style issues
  - platform standards, consistency
  - Style sheets for organisation standards
  - Side bars and menus – some sites have 3-4 menus :(
    - Just how many layers of frames/logos/menus to put around your content can be tricky in a large organization (Uni, gov't)
- navigation issues
  - embedded applications
    - Question of when to pop things up in a separate window – will the user understand, or get lost?
  - links to other apps, the Web

screen design and layout

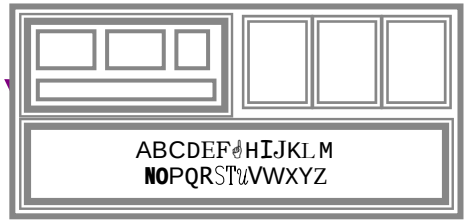
Dix , Alan
Finlay, Janet
Abowd, Gregory
Beale, Russell

basic principles

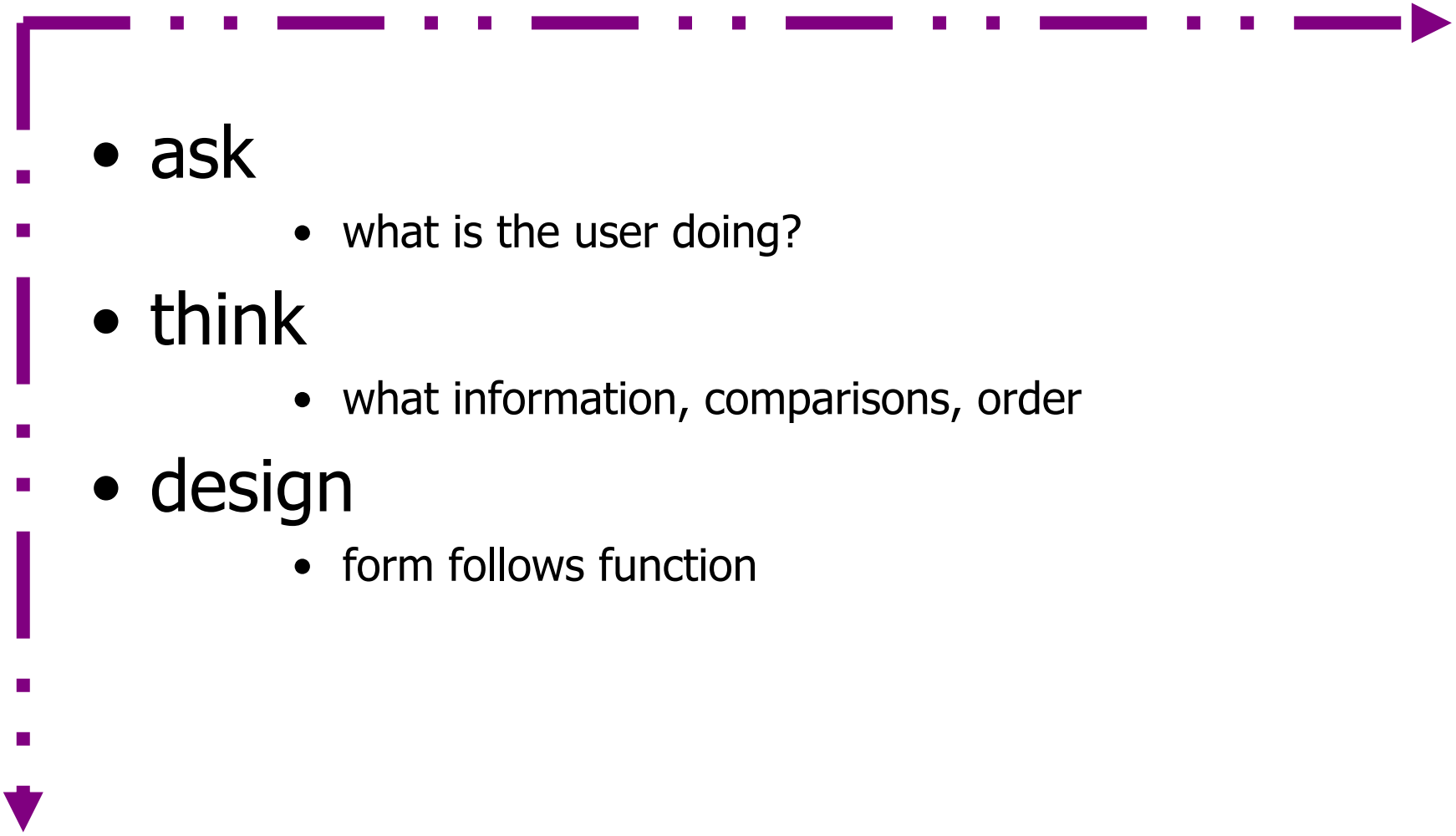
grouping, structure, order

alignment

use of white space



basic principles

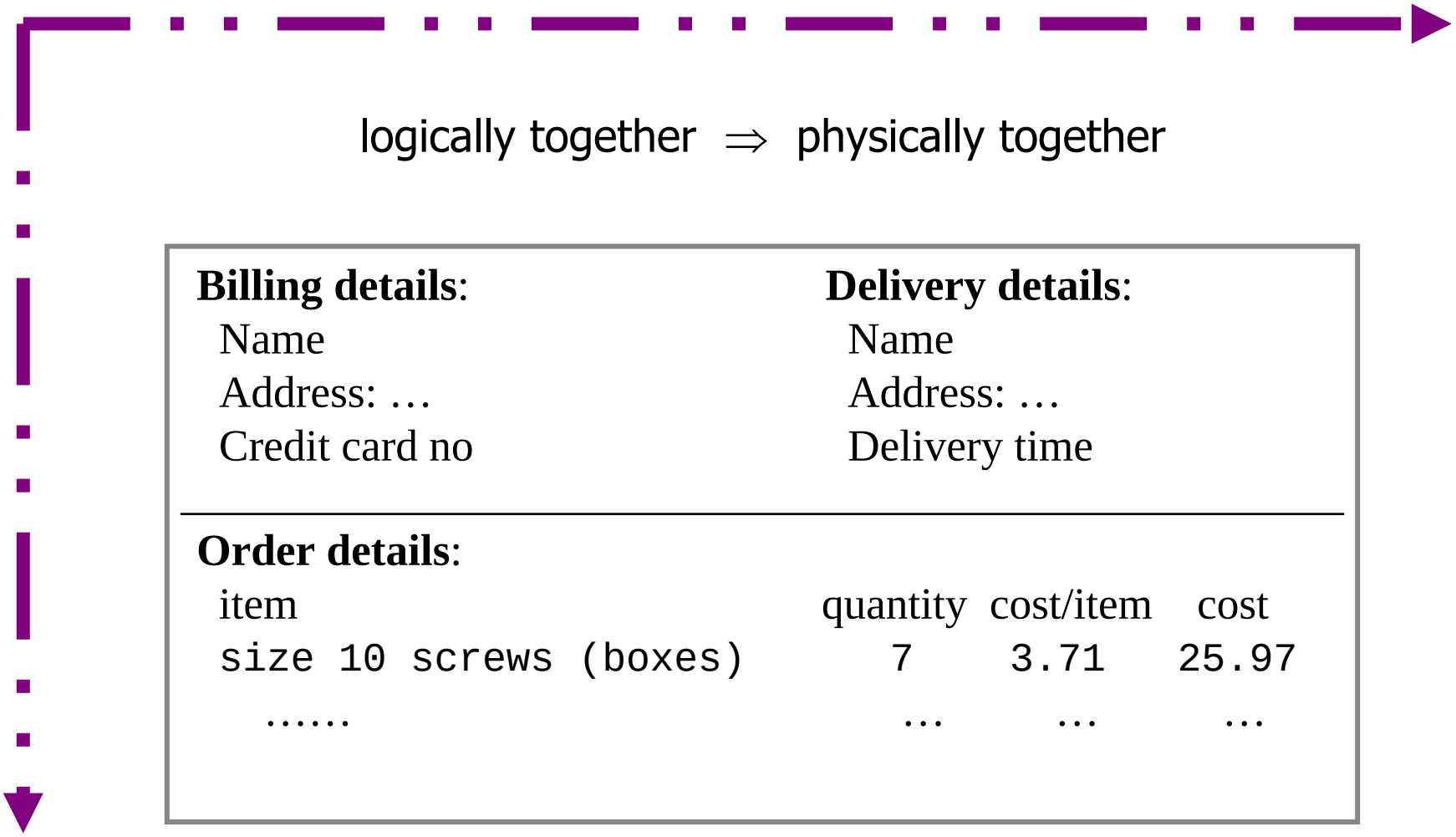


- ask
  - what is the user doing?
- think
  - what information, comparisons, order
- design
  - form follows function

available tools

- grouping of items
- order of items
- decoration - fonts, boxes etc.
- alignment of items
- white space between items

grouping and structure



logically together ⇒ physically together

Billing details:
Name
Address: …
Credit card no

Delivery details:
Name
Address: …
Delivery time

Order details:

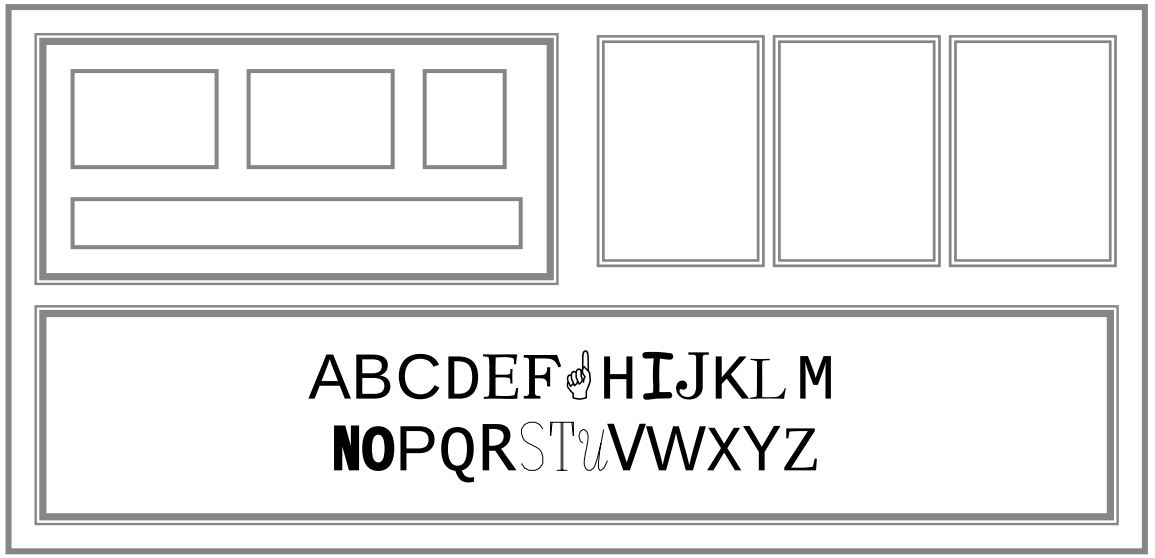
item	quantity	cost/item	cost
size 10 screws (boxes)	7	3.71	25.97
……	…	…	…

order of groups and items

- think! - what is natural order
- should match screen order!
  - use boxes, space etc.
  - set up tabbing right!
- instructions
  - beware the cake recipe syndrome!
    ... mix milk and flour, add the eggs after beating them

decoration

- use boxes to group logical items
- use fonts for emphasis, headings
- but not too many!!

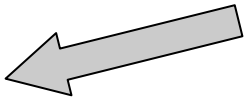


alignment - text

- you read from left to right (English and European)

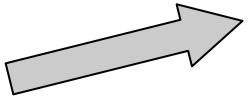
  $\Rightarrow$ align left hand side

Willy Wonka and the Chocolate Factory
Winston Churchill - A Biography
Wizard of Oz
Xena - Warrior Princess



boring but readable!

fine for special effects but hard to scan



Willy Wonka and the Chocolate Factory
Winston Churchill - A Biography
Wizard of Oz
Xena - Warrior Princess

alignment - names

- Usually scanning for surnames ⇒ make it easy!

Alan Dix
Janet Finlay
Gregory Abowd
Russell Beale

Alan Dix
Janet Finlay
Gregory Abowd
Russell Beale

Dix , Alan
Finlay, Janet
Abowd, Gregory
Beale, Russell

alignment - numbers

think purpose!

which is biggest?

532.56
179.3
256.317
15
73.948
1035

visually:

long number = big number

align decimal points

or right align integers

627.865
1.005763
382.583
2502.56
432.935

Better still

standardise on number of decimals

multiple columns

scanning across gaps hard: (often hard to avoid with large data base fields)

sherbert	75
toffee	120
chocolate	35
fruit gums	27

sherbert	75
toffee	120
chocolate	35
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sherbert	75
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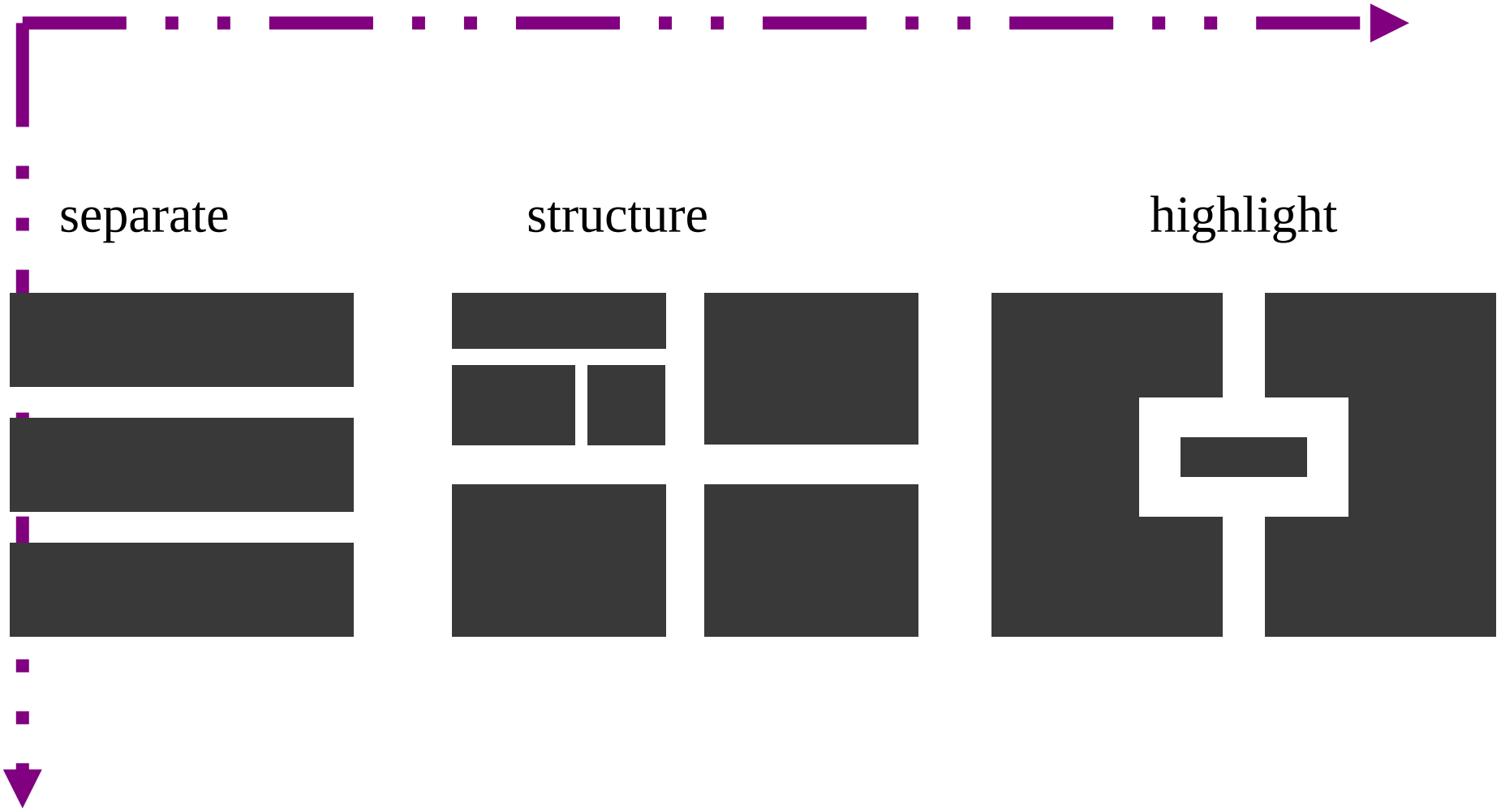
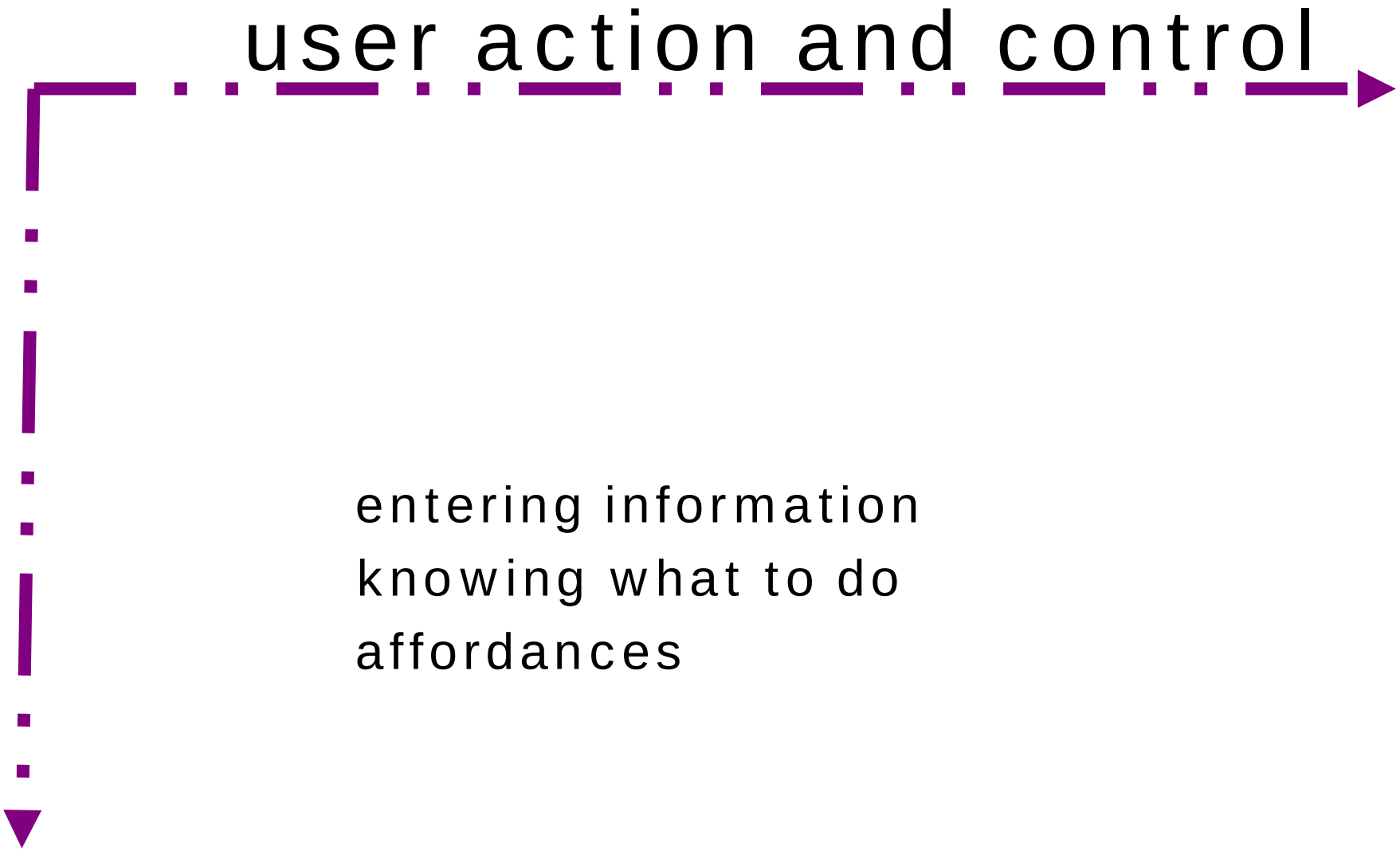
space to

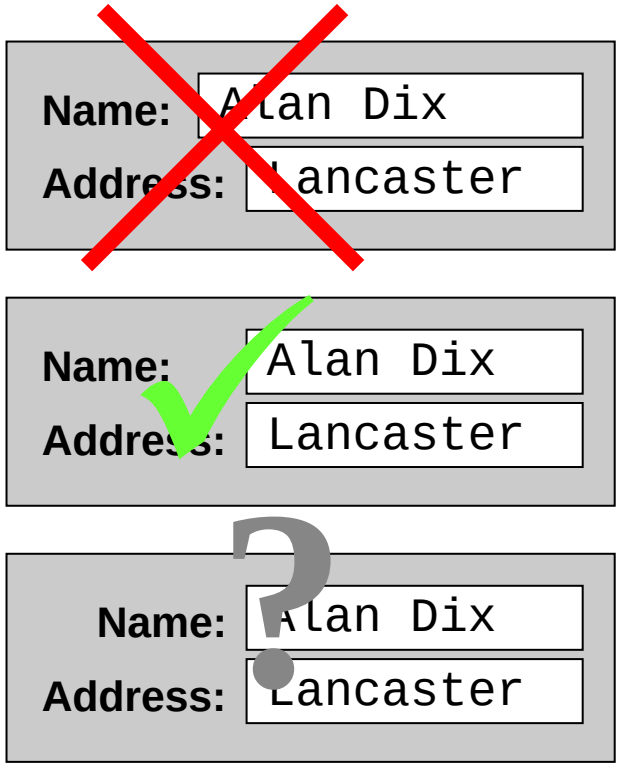




entering information
knowing what to do
affordances

entering information

- forms, dialogue boxes
  - presentation + data input
  - similar layout issues
  - alignment - N.B. different label lengths
- logical layout
  - use task analysis
  - groupings
  - natural order for entering information
    - top-bottom, left-right (depending on culture)
    - set tab order for keyboard entry
- What other ways could these boxes have been arranged?



knowing what to do

- what is active what is passive
  - where do you click
  - where do you type
- consistent style helps
  - e.g. web underlined links
- labels and icons
  - standards for common actions
  - language – bold = current state or action

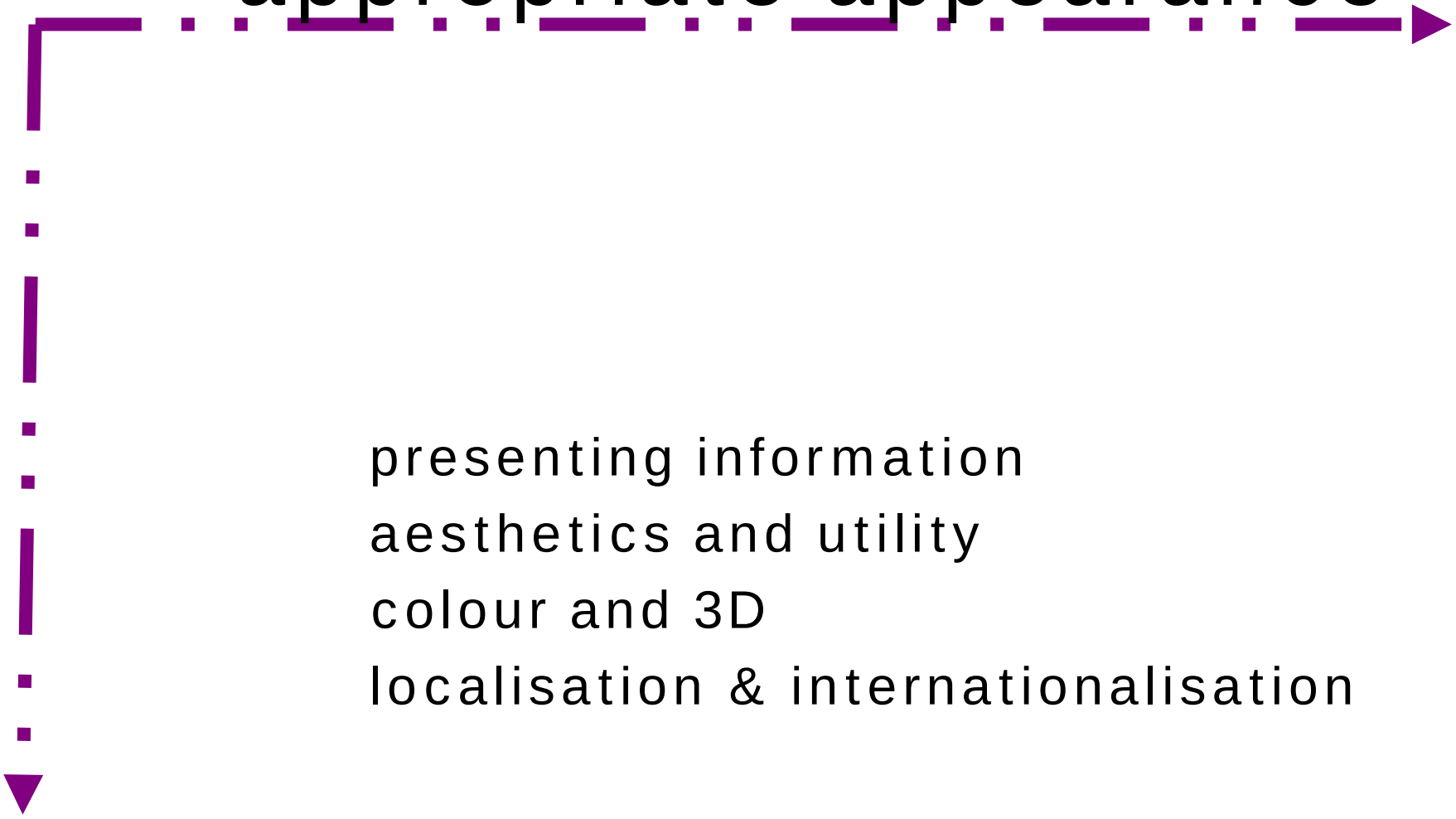
affordances

- psychological term
- for physical objects
  - shape and size suggest actions
    - pick up, twist, throw
  - also cultural – buttons 'afford' pushing
- for screen objects
  - button–like object 'affords' mouse click
  - physical-like objects suggest use
- culture of computer use
  - icons 'afford' clicking
  - or even double clicking … not like real buttons!

mug handle

'affords' grasping

appropriate appearance



presenting information

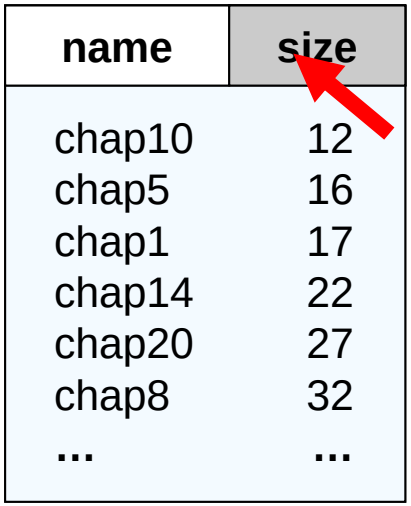
aesthetics and utility

colour and 3D

localisation & internationalisation

presenting information

- purpose matters
  - sort order (which column, numeric alphabetic)
  - text vs. diagram
  - scatter graph vs. histogram
- use paper presentation principles!
- but add interactivity
  - softens design choices
    - e.g. re-ordering columns

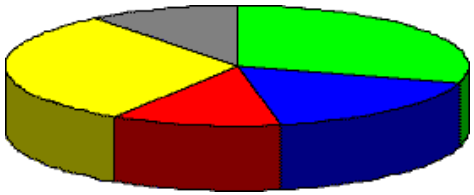


aesthetics and utility

- aesthetically pleasing designs
  - increase user satisfaction and improve productivity
- beauty and utility may conflict
  - mixed up visual styles ⇒ easy to distinguish
  - clean design – little differentiation ⇒ confusing
  - backgrounds behind text
    … good to look at, but hard to read
- but can work together
  - e.g. the design of the counter
  - in consumer products – key differentiator (e.g. iMac)

colour and 3D

- both often used very badly!
- colour
  - older monitors limited palette
  - colour over used because 'it is there'
  - beware colour blind!
  - use sparingly to reinforce other information
- 3D effects
  - good for physical information and some graphs
  - but can be functionally poor…
    e.g. text in perspective!! 3D pie charts



bad use of colour

- over use - without very good reason (e.g. kids' site)
- colour blindness
- poor use of contrast
- do adjust your set!
  - adjust your monitor to greys only
  - can you still read your screen?

International UIs

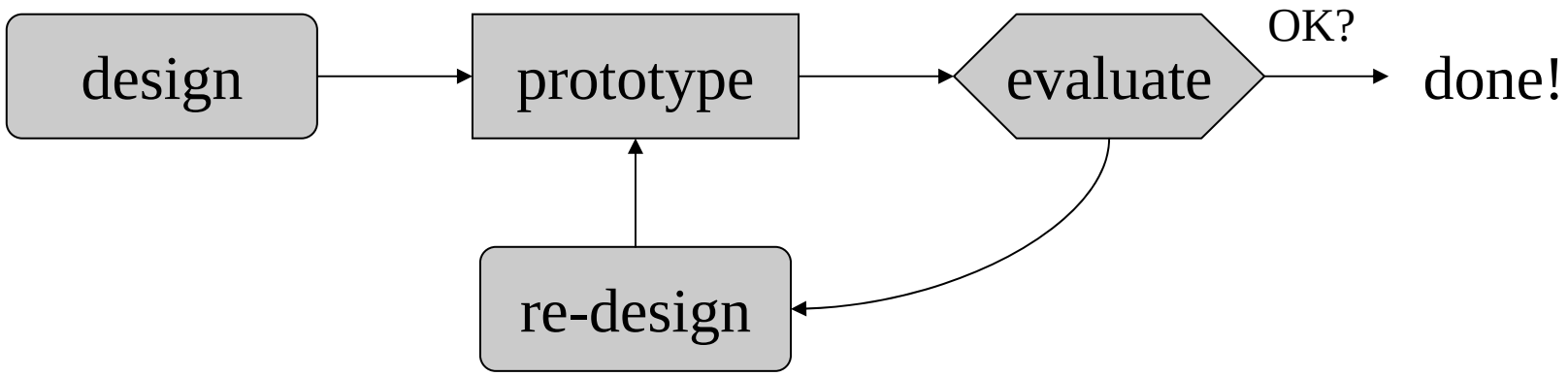
- International graphical interfaces
  - Resemblance icons 
  - Reference icons 
  - Arbitrary icons 
  - Non-iconic graphics can also be problematic 
- International usability engineering
  - Follow same usability engineering process for each interface
  - Avoid complicated language, idiom, or local culture references
- Simply change language?
  - use 'resource' database instead of literal text
    … but changes sizes, left-right order etc.

International UIs

- Guidelines for internationalisation
  - Use the appropriate character set
    - Difficulties translating between lowercase and uppercase (Æ & æ)
    - Sorting order can be different (e.g., ß)
  - Time and measurement vary
    - Dates are problematic (e.g., D/M/Y, M/D/Y, Y.M.D, Y-M-D, etc)
      - Perhaps force month to be written (e.g., 17-Sep-01)
    - Metric or imperial units (e.g., °C or °F)
  - Numbers and currency vary
    - Separators differ (e.g., $10,000.00 and 10.000,00 kr)
  - Separate interface resources from system's functionality
  - Allow users to specify locale for their interface (e.g., Fiji or NZ)

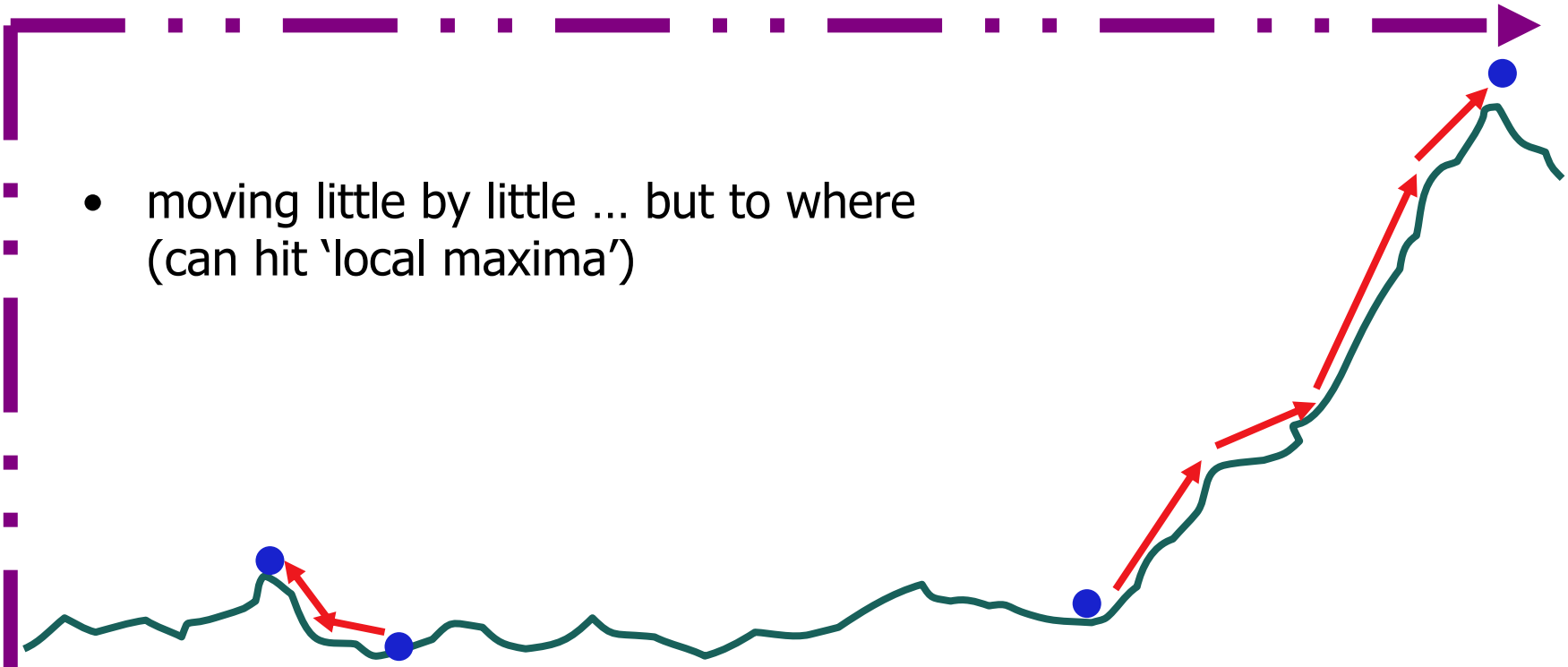
prototyping

- you never get it right first time
- if at first you don't succeed ...



pitfalls of prototyping

- moving little by little … but to where (can hit 'local maxima')



1. need a good start point
2. need to understand what is wrong

Thoughts on Kangas & Kinnunen

- There's never 'enough' time or resources
  - You do what usability testing you can
  - Sometimes you're brought in 'too late' (or at least later than is ideal); i.e., the product is already implemented or there's huge pressure to beat a competitor to market
    - You still make the best of it
    - Late is better than never
    - Fast and cheap is better than nothing
  - Small can be good
    - E.g., interviewing 6-8 people about requirements or seeing how they use a paper prototype can be sufficient even for a serious product

Thoughts on K&K (contd).

- Paper prototyping is **good**
  - Minimal commitment, quick to implement, quick to change, sufficient for significant user feedback
  - However, it's no substitute for interaction with a working prototype to be assured of the usability of detailed interaction
- Don't add features that aren't wanted – you clutter the design
- Put the product in *context*
  - User's must be in a realistic context to give useful feedback / to expose shortcomings of a candidate design
- It's all even more important with mobile devices
  - Easy to get it wrong

Thoughts on Picture Scenarios

- Dynamic use context is the outstanding characteristic of mobile appliance use and more difficult to capture than other characteristics of mobile devices like screen size or restricted input mechanisms
- Designers need methods that are able to express these changing use situations at early design phases
- Picture Scenarios express dynamic use context

Picture Scenarios (contd.)

- Picture scenarios are able to represent different aspects of use context such as cognitive, social, and physical and their dynamic interplay over time or parallel in time
- Design workshops with different stakeholders (users, designers from academia and designers from industry) showed that the picture scenarios guide the discussion and serve as springboard for design ideas that can be envisioned and reflected on the scenarios
- In this regard, the picture scenarios can be used as "contextual prototypes" for first evaluation of design ideas
- (from Sonja Pedell's page - http://www.dis.unimelb.edu.au/people/pgrad/sonjap.html)