ALAN DIX, JANET FINLAY,
GREGORY D. ABOWD, RUSSELL BEALE
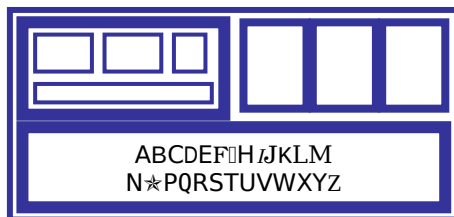HUMAN-COMPUTER
INTERACTION
THIRD EDITION

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

screen design and layout

basic principles
grouping, structure, order
alignment
use of white space

ABCDEFᴳHɪJKLM
N✶PQRSTUVWXYZ

HUMAN-COMPUTER INTERACTION

ALAN DIX, JANET FINLAY, GREGORY D. ABOWD, RUSSELL BEALE

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: **Delivery details**:
 Name   Name
 Address: …   Address: …
 Credit card no   Delivery time

Order details:

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

decoration

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

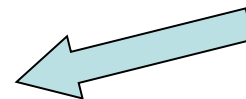ABCDEF□HɪJKLM
N☆PQRSTUVWXYZ
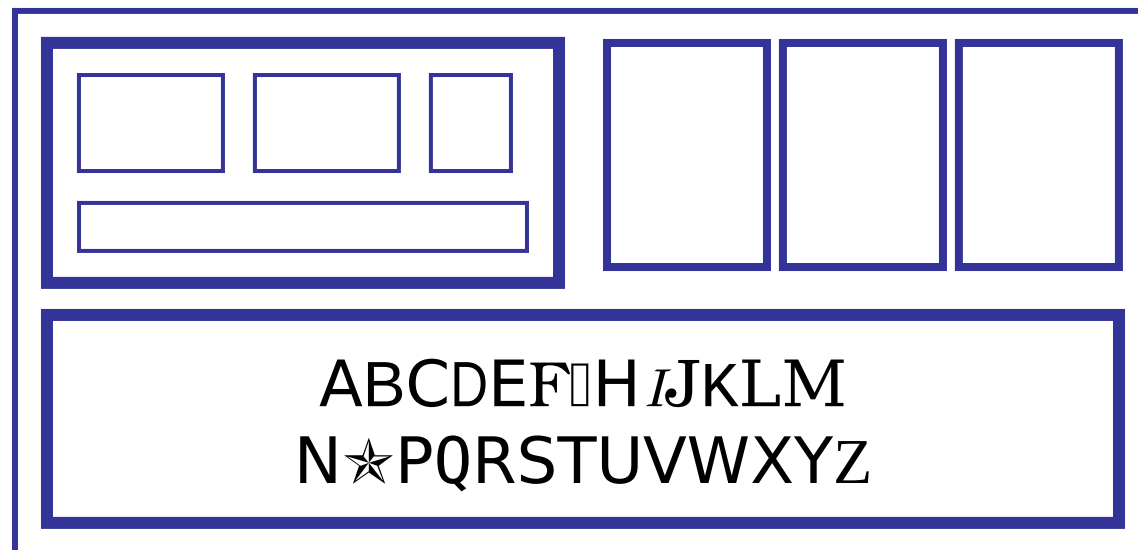
alignment - text

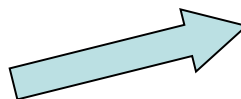- ## you read from left to right (English and European)

⇒ align left hand side

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

boring but
readable!

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

fine for special effects
but hard to scan

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
3.142
497.6256

alignment - numbers

visually:
 long number = big number

align decimal points
or right align integers

627.865
      1.005763
382.583
2502.56
      432.935
      2.0175
652.87
56.34

multiple columns

- scanning across gaps hard:

sherbert	75
toffee	120
chocolate	35
fruit gums	27
coconut dreams	85

multiple columns - 2

- use leaders

sherbert ————————————————	75
toffee —————————————————	120
chocolate ——————————————	35
fruit gums ——————————————	27
coconut dreams —————————	85

multiple columns - 3

- or greying   (vertical too)

sherbert	75
toffee	120
chocolate	35
fruit gums	27
coconut dreams	85

multiple columns - 4

- or even (with care!) 'bad' alignment

sherbert	75
toffee	120
chocolate	35
fruit gums	27
coconut dreams	85

White space to separate

space to structure

space to highlight

physical controls

- grouping of items

    defrost settings

    type of food

    time to cook

physical controls

- grouping of items

- order of items

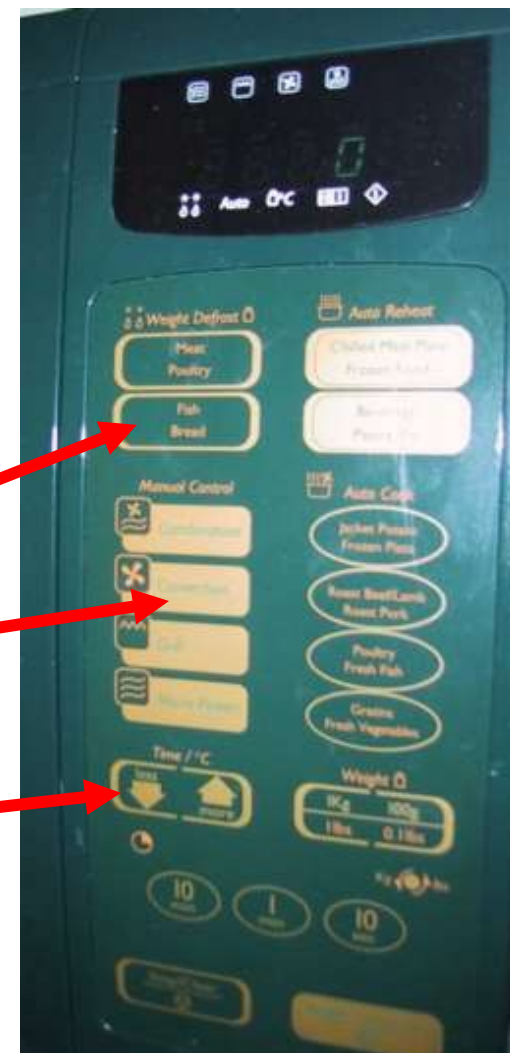 1) type of heating

  2) temperature

  3) time to cook

  4) start
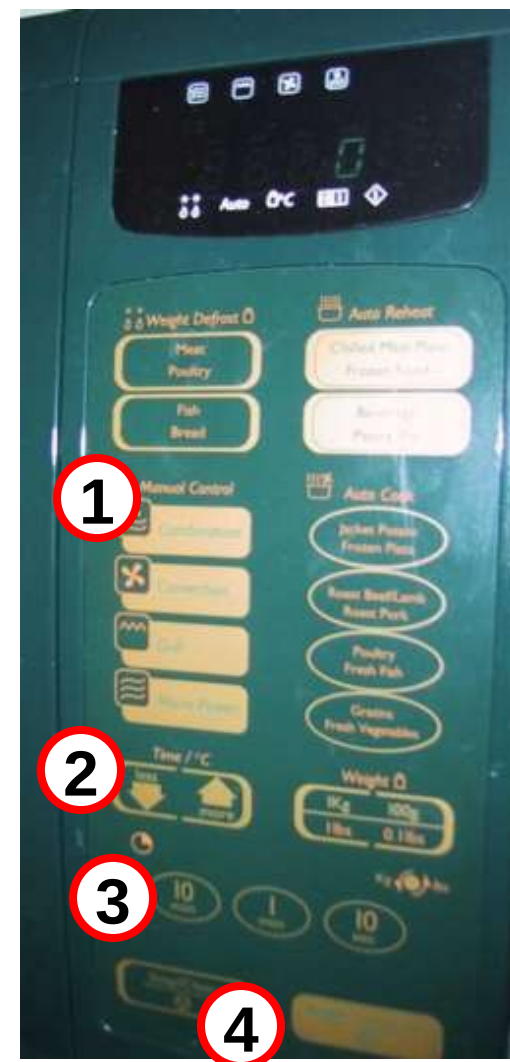
physical controls

- grouping of items

- order of items

- decoration

  different colours for different functions

  lines around related buttons (temp up/down)

physical controls

- grouping of items

- order of items

- decoration

- alignment

    centred text in buttons

    ? easy to scan ?

physical controls

- grouping of items

- order of items

- decoration

- alignment

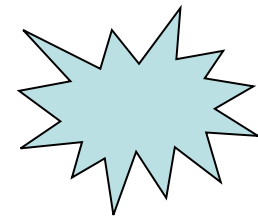- **white space**
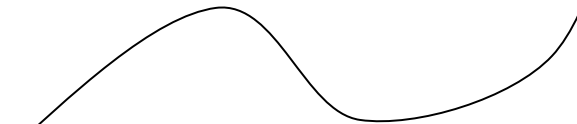
gaps to aid grouping
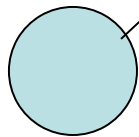
Navigation Design
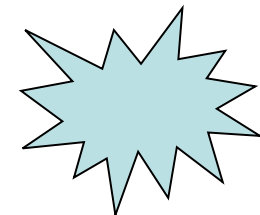
goal seeking
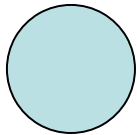
goal

start

goal seeking

goal

start

progress with local knowledge only ...

goal seeking

start
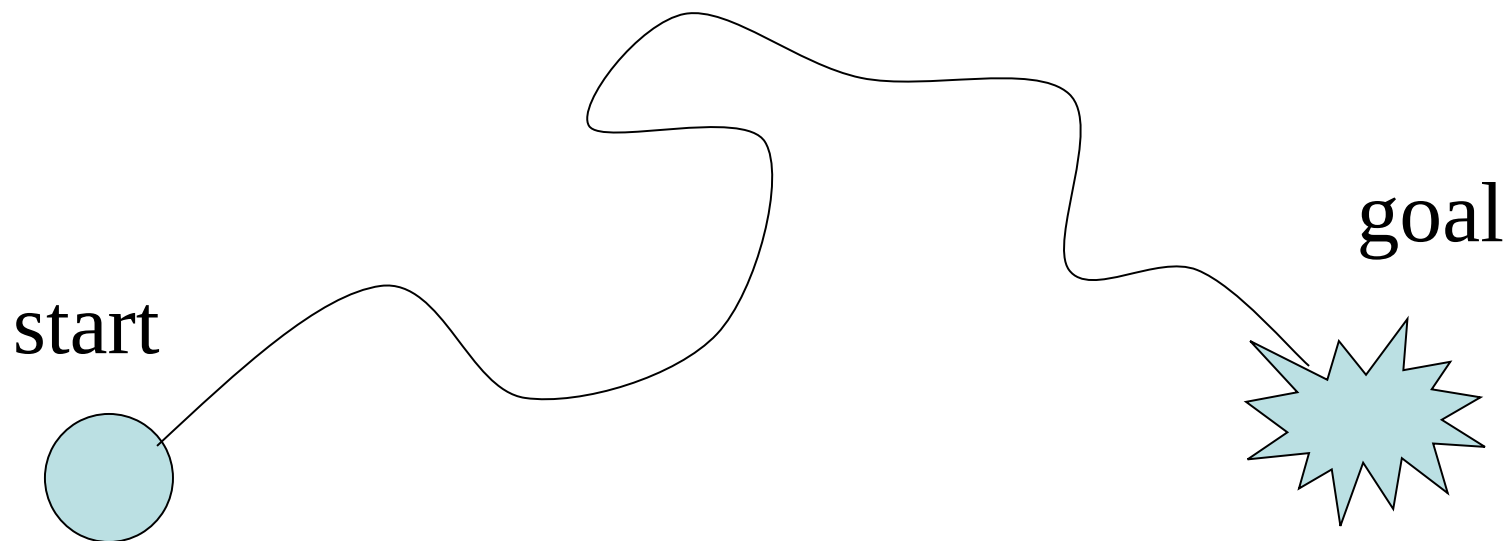
goal

... but can get to the goal
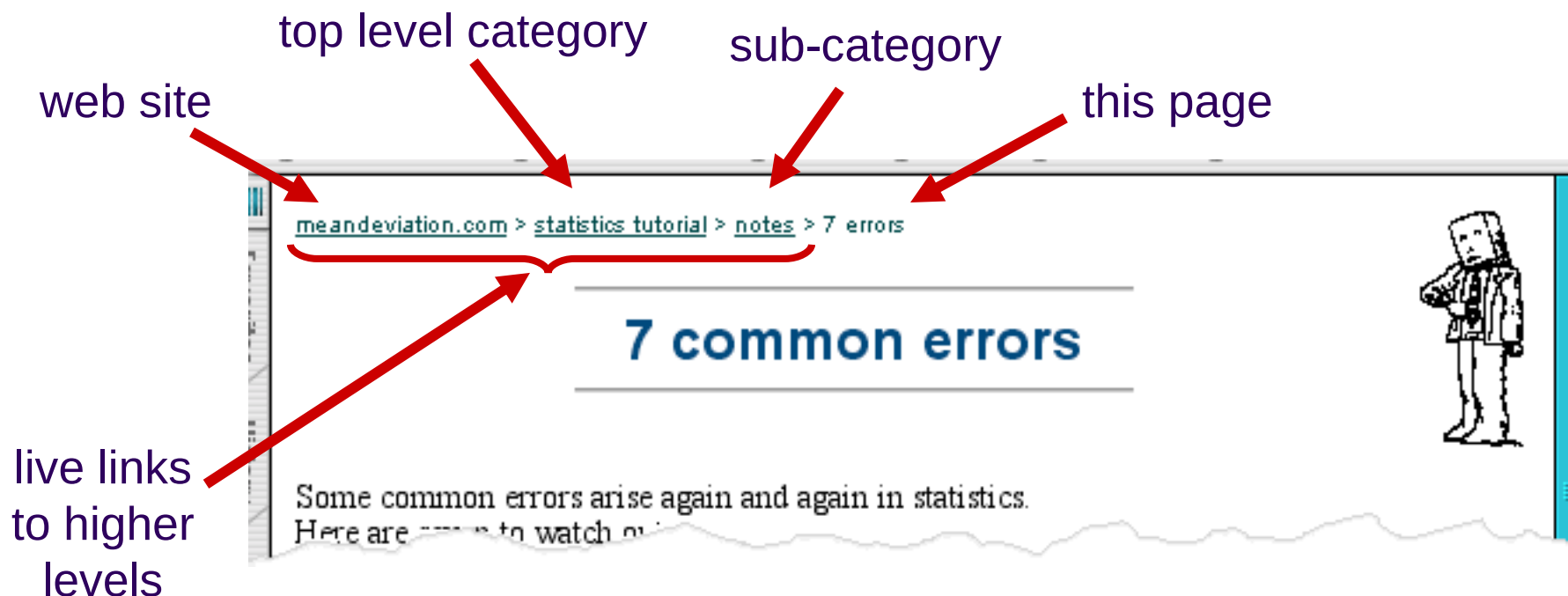
goal seeking

start

goal
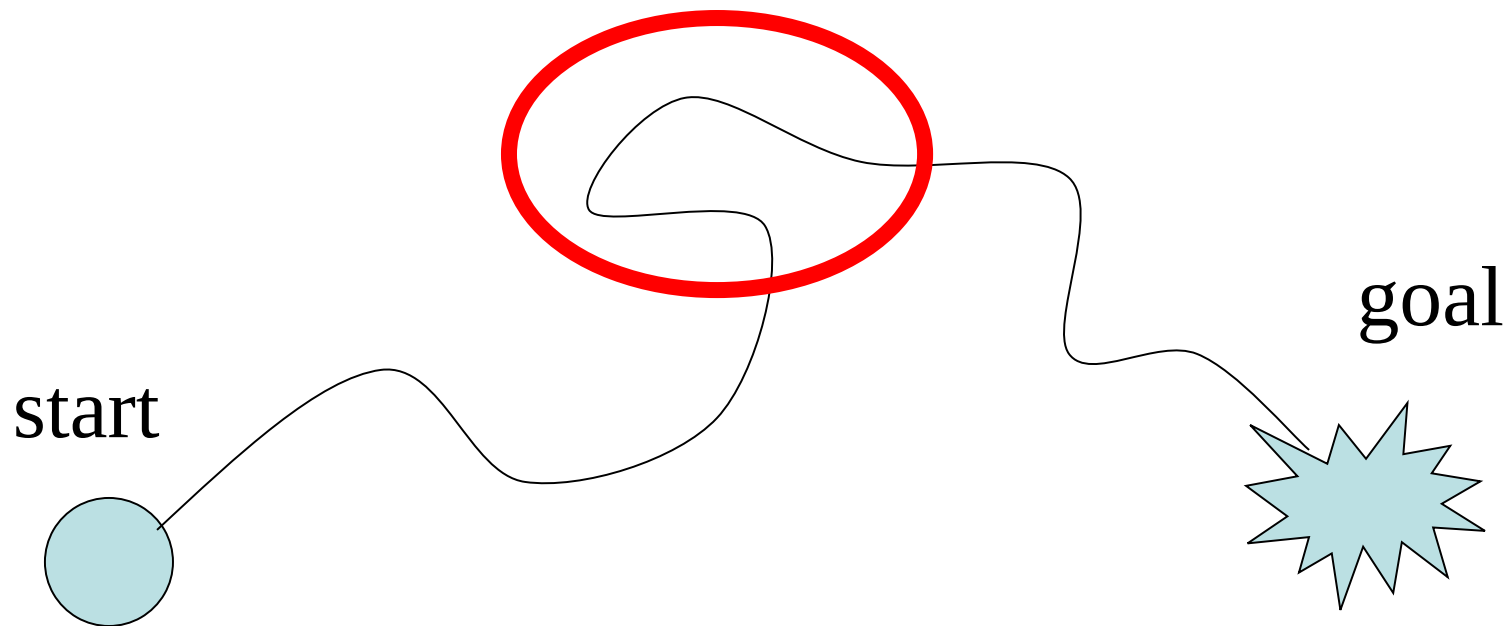
... try to avoid these bits!

four golden rules

- knowing where you are
- knowing what you can do
- knowing where you are going
  - or what will happen
- knowing where you've been
  - or what you've done

where you are – breadcrumbs

shows path through web site hierarchy

top level category

sub-category

web site

this page

meandeviation.com > statistics tutorial > notes > 7 errors

7 common errors

live links
to higher
levels

Some common errors arise again and again in statistics.
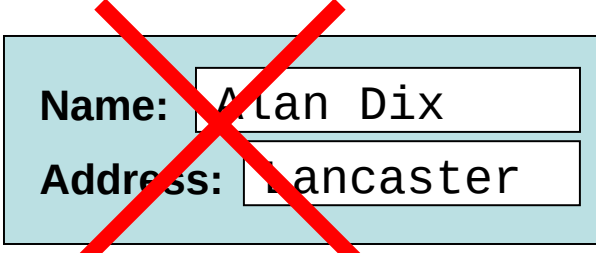Here are ____ to watch ___

user action and control

entering information
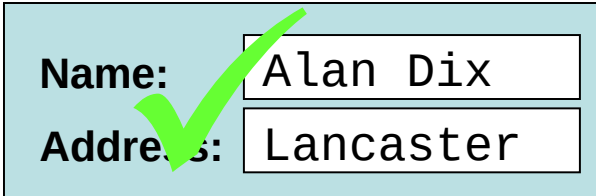knowing what to do
affordances

entering information

- forms, dialogue boxes
  - presentation + data input
  - alignment

- logical layout
  - groupings
  - natural order for entering informatic
    - top-bottom, left-right (depending on
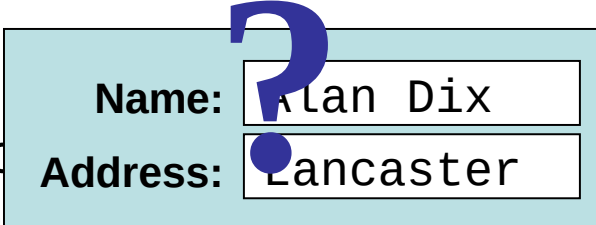   - set tab order for keyboard entry

Name: Alan Dix

Address: Lancaster

Name: Alan Dix

Address: Lancaster

Name: Alan Dix

Address: Lancaster

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

affordances

- The psychological idea of affordance says that things may suggest by their shape and other attributes what you can do to them.
  - shape and size suggest actions
    - pick up, twist, throw
- for screen objects
  - button–like object 'affords' mouse click
- 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

name	size
chap10	12
chap5	16
chap1	17
chap14	22
chap20	27
chap8	32
…	…

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

colour and 3D

- both often used very badly!
- Colour
  - colour over used because 'it is there'
  - beware colour blind!
  - use carefully to reinforce other information
- 3D effects
  - good for physical information and some graphs
  - but if over used …
            e.g. text in perspective!! 3D pie charts
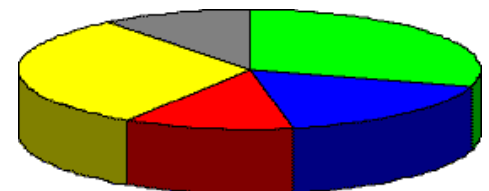
bad use of colour

- 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?

across countries and cultures

- localisation & internationalisation
  - changing interfaces for particular cultures/languages
- globalisation
  - try to choose symbols etc. that work everywhere

- deeper issues
  - cultural assumptions and values
  - meanings of symbols

Gesture	Country	Meaning
a circle	most countries	OK
	Japan	money
	France	zero
	Brazil	rude
	Germany	
	the US	great/good job
	Nigeria	rude
	Germany	No.1
	Japan	