Lecture Objectives

At the completion of this lecture you should be able to understand:
- what are forms and reports
- what are the design guidelines for forms and reports
- how to effectively display text, tables, lists and charts
- how to assess usability

Forms and Reports

- Form and report design are key ingredients for successful information systems - especially for users
- Each input data flow to a process will generally be associated with a form
- Each output data flow from a process will be associated with either a form or a report
- Forms and reports can be paper-based or screen-based

Designing Forms and Reports

1. Collect initial requirements
   - who will use the form or report
   - what is its purpose
   - when is it needed or used
   - where does it need to be delivered
   - how many people need to use it
2. Construct initial prototype
3. Users review and evaluate prototype
   - Iterate

Formatting Forms and Reports

- General guidelines:
  - Meaningful titles
    - clear and specific, revision-no, date
  - Meaningful information
    - needed and useable information
  - Balanced layout
    - spacing, margins, balanced and clearly labelled
  - Easy navigation
    - easy forward/backward moves, current position clear
### Example - Loan of Books

**Translate this into a form**

1. **user ID**
   - registered borrowers

2. **verify borrower**
   - item catalogue
   - N.B. internal data flows unlabelled for simplicity

3. **identify required items**
   - check availability of required items
   - loans

4. **record loan**
   - due dates

5. **close dialog**
   - confirm loan requirements

**Notes:**
1. display items are distinguished from active items.
2. sequence of steps continues down the page.

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### Poor Form Design

- **Vague Title**
- **Difficult to read, information packed tightly**
- **No use of different intensity, fonts, etc.**
- **No navigation information**

### Good Form Design

- **Clear Title**
- **Easy to read, clear balanced layout**
- **Intensity differences, boxing, font sizes**
- **Clear navigation information**

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### Colour vs No Colour

- **Benefits of colour**
  - strikes the eye, draws attention to warnings
  - accents an uninteresting display
  - facilitates discrimination

- **Problems with colour**
  - colour blindness
  - resolution may degrade
  - printing or conversion to other media may not easily translate

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### Guidelines for colour

- **Be consistent**
- **Use harmonious colours for balance**
- **Use contrasting colours to highlight**
- **Colour should enlighten, not dazzle**
- **Use colour to emphasise, to prioritise**
- **Use colour to make new points, e.g. fresh data**
- **Note personal preferences**
### Guidelines for text

- Serif for body text. Sans Serif for headlines.
- Specialty typefaces for headlines
- Select simple type styles
- Use only 1 or 2 styles
- Retain those styles throughout
- Yellow or White on Black or Blue is best
- Do not change background colours frequently

### Poor Text Design

- Vague title
- Fixed, upper case text
- Single spacing

### Good Text Design

- Clear title
- Mixed case
- Spacing between sections
- Clear navigation information

### Designing Tables and Lists

- Use meaningful labels
  - for all rows and columns; relabel after change of page
- Formatting columns, rows and text
  - sort in meaningful order
  - place blank row after every 5 lines in long columns
  - be consistent with typefaces and fonts
- Formatting numeric, textual and alphanumeric data
  - right justify numeric data, left justify textual data

### Good Table Design

- Clear separate column labels
- Numeric data
- Right justified

### Formatting Information to Avoid Bias

- Sources of bias to avoid include
  - providing information that does not match the user’s task
  - providing charts with too many items
  - using columns and highlights improperly
  - providing charts that use improper scaling
**General Design Guidelines for Usability**

- Consistency - of operation
- Efficiency - related to user task
- Ease - output self explanatory
- Format - consistent format between entry and display
- Flexibility - must be convenient to user

**Assessing Usability**

- Usability typically refers to
  - speed … efficient completion of task
  - accuracy … output provides what is expected
  - satisfaction … output is liked

**References**

Chapter 14, 15

Whitten, J.L. & Bentley, L.D. and Dittman, K.C.,  
Chapter 13, 14, 15