

# Structuring Your Documents to Maximize Reuse



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Joint meeting of  
STC Washington DC chapter/  
STC DC Usability SIG/  
DC-CHI

Gaithersburg, MD  
February 2001

# Topics for the evening



- What's the problem?
  - Problems for writers
  - Problems for organizations
  
- What's the solution?
  - Templates for yourself; templates for web pages
  - Single-sourcing and content management systems
  
- How does structuring documents fit in here?
  - What is a structured document?
  - How do we get ready for single-sourcing?
  - Reprise: Why structure documents?

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# Problems for writers

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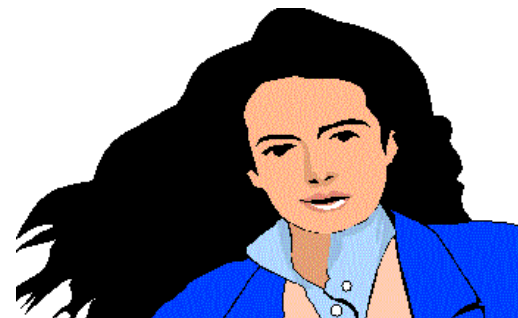
## ■ Are you more harried than ever?

- doing more?
- in more media?
- for more models?
- across more platforms?



## ■ Do you cut and paste?

- forget how you did it last time?
- fuss endlessly over formatting?



# Problems for organizations

- Do more with less money
- Reuse instead of rework
- Eliminate chaos
  - Whatever you do is your process
  - Chaos is a process! maturity model, level 0



Illustration by John Tenniel  
in *Alice's Adventures in Wonderland*

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# Templates for yourself

An example  
of a template  
for a single author

Template =  
structured document

What are all  
the advantages  
of using a template?

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Invoice: xxx-1-x EIN: 52-1855047	
<b>INVOICE</b>	
<b>Invoice Date:</b>	
<b>To:</b>	
<b>Contract #</b>	
<b>Technical monitor:</b>	
<b>For:</b>	
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Fee	\$
Travel expenses (details next page)	
Other direct expenses (details next page)	_____
<b>Total for this invoice:</b>	<b>\$</b>
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# Templates for larger documents for example, web pages

The secret to a successful web site is structure.

Structure = templates for each type of page.


Analyze the content you need.  
Find the information elements.  
Group and organize them.  
Design them; create templates.



[www.llbean.com](http://www.llbean.com)



# Single-sourcing and content management systems



- Single-sourcing
  - write once; use many times
  - separate content from format
  - multiple output formats from same content (print, help, pdf, html )
  - tag content for medium, model, etc.
  
- data base of information elements (smaller than documents)
- *content* management system  
not a document management system

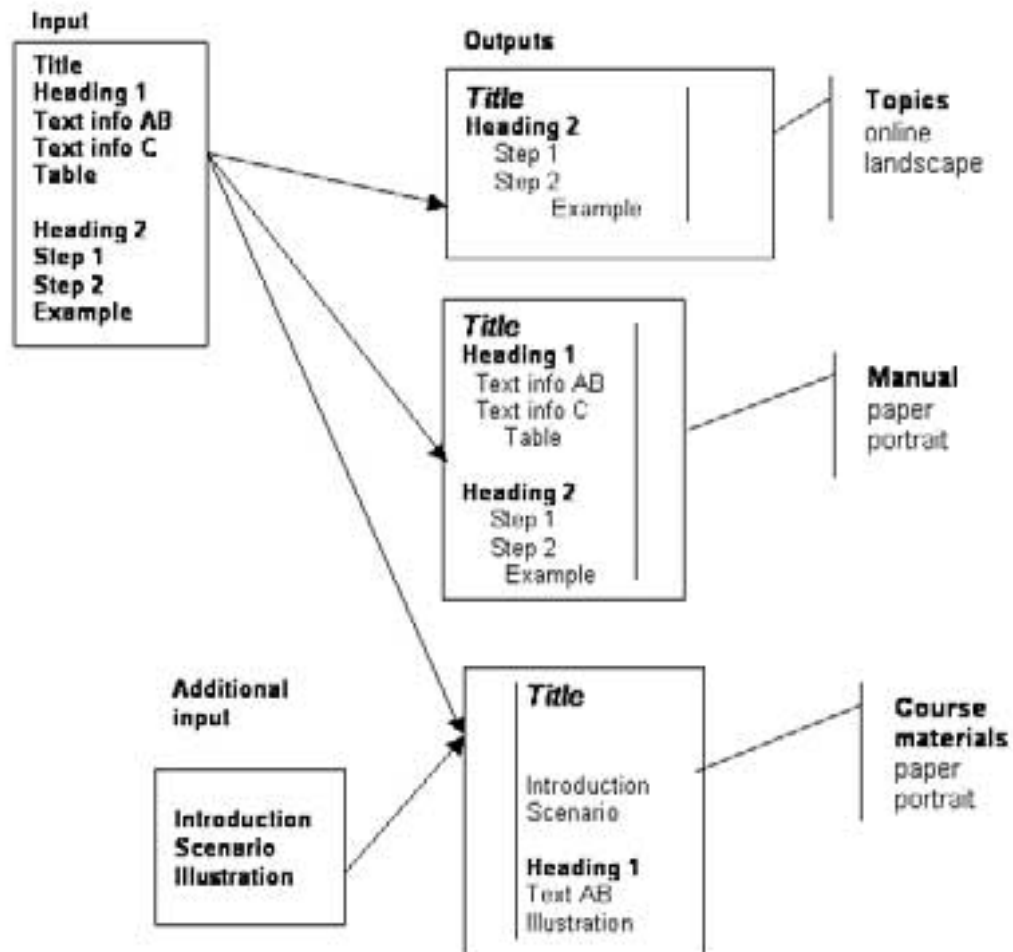
# Document management system

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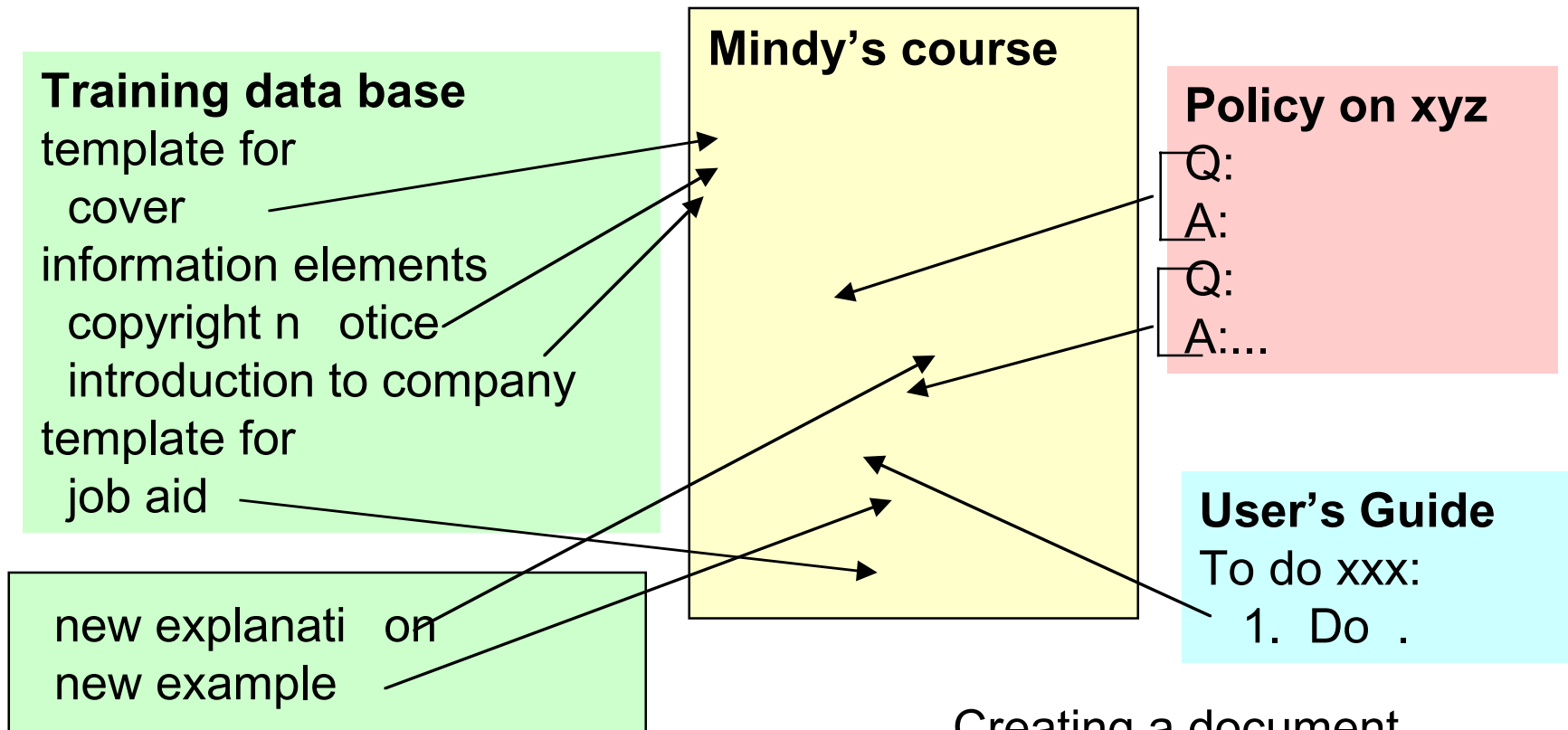
- Document management system = file cabinet of whole documents
- Usually searchable
  - by title
  - by words in documents
- Helpful (maybe) for users to retrieve information
- Not so useful for authors



# Content management system



# How a training specialist might use a content management system



Creating a document  
= "assemble and add"

# Topics for the evening



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- **How does structuring documents fit in here?**
  - **What is a structured document?**
  - **How do we get ready for single-sourcing?**
  - **Reprise: Why structure documents?**

# Definition of a structured document Part 1

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A structured document is one that has identifiable information elements (information units).

Element:	Title
Element:	Heading 1
Element:	Procedural step
Element:	Heading 2
Element:	Example
Element:	Screen shot

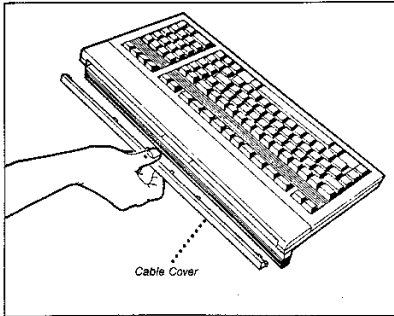
# An example

What information elements can you identify in this example?

**Connecting the Keyboard**

Now you are ready to connect the keyboard to the display unit.

1. Turn the keyboard around so that the back is facing you.
2. Remove the cable cover from the back of the keyboard by gently squeezing the cover in the center and pulling it straight out.

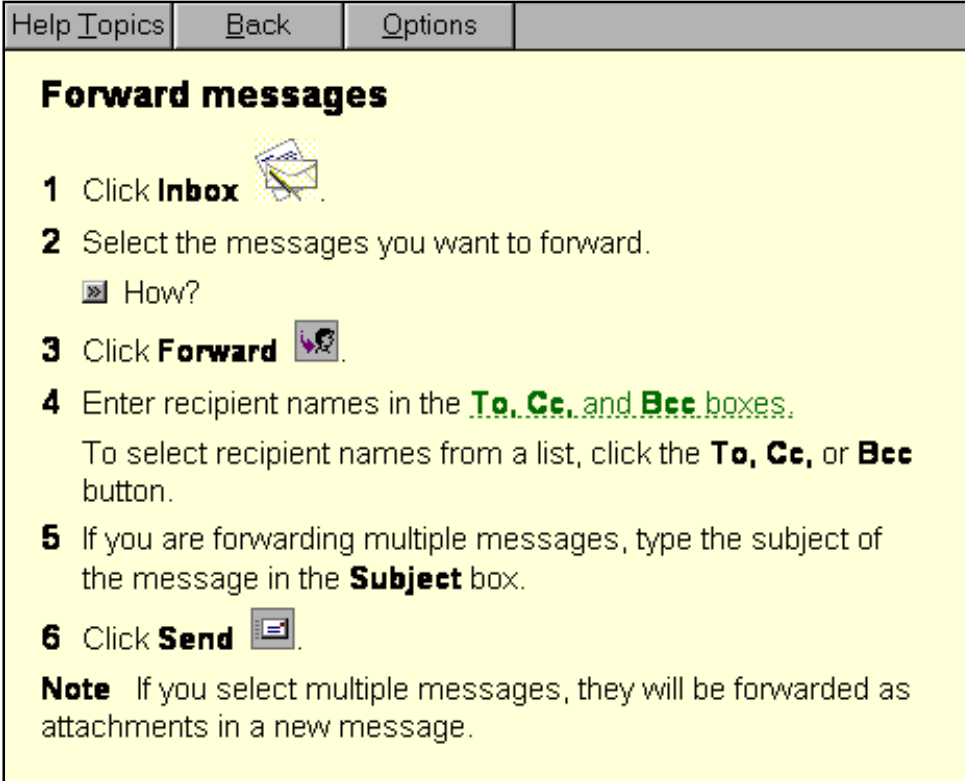


The diagram shows a hand reaching towards the back of a keyboard. A dashed line points to a small rectangular cover on the back of the keyboard, labeled 'Cable Cover'. The keyboard is shown from a perspective that highlights its back and the location of the cover.

Setting Up Your HP Touchscreen PC 1-5

# Another example

What information elements can you identify in this example?



The screenshot shows a help window with a title bar containing 'Help Topics', 'Back', and 'Options'. The main content area has a yellow background and is titled 'Forward messages'. It contains a numbered list of six steps, each with an icon: 1. Click **Inbox** (envelope icon); 2. Select the messages you want to forward. (checkbox icon) How?; 3. Click **Forward** (person icon); 4. Enter recipient names in the **To, Cc, and Bcc** boxes. (To select recipient names from a list, click the **To, Cc, or Bcc** button.); 5. If you are forwarding multiple messages, type the subject of the message in the **Subject** box.; 6. Click **Send** (send icon). A **Note** at the bottom states: 'If you select multiple messages, they will be forwarded as attachments in a new message.'

*A help screen from  
Microsoft Outlook*

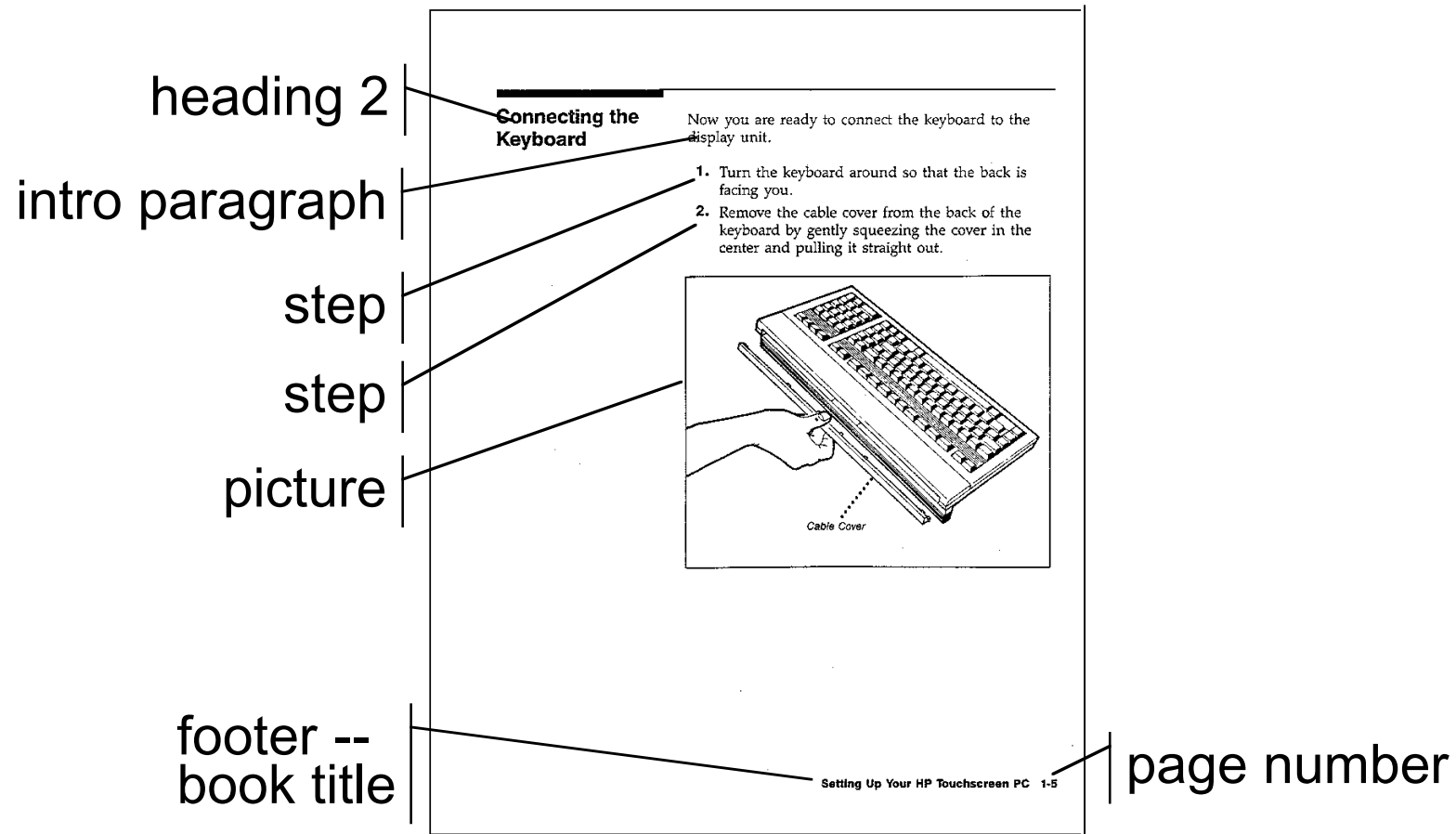


## Definition of a structured document Part 2



- In structured documents, each type of information element has a name.
- Authors construct documents using a template assigning everything in the document to the appropriate type of information element.
- The way that the document is presented (on paper or on screen) is controlled by assigning different attributes (font, size, weight, placement, etc.) to each type of information element for that type of output.

# The first example again with information elements named



# The second example again with types of information elements named

The screenshot shows a help topic window with a title bar containing 'Help Topics', 'Back', and 'Options'. The main content area is titled 'Forward messages' and contains a numbered list of steps. Annotations on the left and right sides identify specific elements:

- title**: Points to the main heading 'Forward messages'.
- step**: Points to the first step '1 Click **Inbox**'.
- how**: Points to the 'How?' link icon.
- step with link to definition**: Points to the fourth step '4 Enter recipient names in the [To, Cc, and Bcc boxes.](#)'.
- note**: Points to the 'Note' section at the bottom.
- icon**: Three instances pointing to icons: an envelope icon for step 1, a question mark icon for the 'How?' link, and a send icon for step 6.

# The second example again in a different output

**title** — **Forward messages**

**intro paragraph** — Forwarding a message means sending a message that you have received on to another person or persons.

**heading 2** — **To forward messages:**

**step** — 1 **Click Inbox**

2 **Select the messages you want to forward.**  
For information on how to select messages, see page 10.

**step with link to definition** — 3 **Click Forward**

4 **Enter recipient names in the To, Cc, and Bcc boxes.**  
To select recipient names from a list, click the **To, Cc, or Bcc** button.

**cross reference** — For information on how to select messages, see page 10.

**definition** —


Box	Meaning
To	Message is sent directly to the recipient.
Cc	Carbon Copy. A copy of the message is sent to the recipient, and the recipient's name is visible to other recipients of the message
Bcc	Blind Carbon Copy. A copy of the message is sent to the recipient, and the recipient's name is not visible to other recipients of the message.

*A plausible paper version, created by Ginny Redish*


For a content management system,  
the specific information elements may be named


Help Topics | Back | Options

**Forward messages**

**1** Click **Inbox** 


**2** Select the messages you want to forward.

 How?

**3** Click **Forward** 

**4** Enter recipient names in the **To, Cc, and Bcc** boxes.  
To select recipient names from a list, click the **To, Cc, or Bcc** button.

**5** If you are forwarding multiple messages, type the subject of the message in the **Subject** box.

**6** Click **Send** 

**Note** If you select multiple messages, they will be forwarded as attachments in a new message.

Labels on the left: titleFW, stepFW1, stepFW2, howFW

Label on the right: Inbox icon

## Definition of a structured document Part 3

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- For maximum value, the *writing* style should be preset for each information element, just like the design style.
- We now have tools to automatically generate the design (placement and typography) for each information element, but we do not have tools to keep consistency in the writing style.
- Instead, we must rely on
  - setting style standards
  - training authors
  - having good editors

# The first example again showing style standards for writing

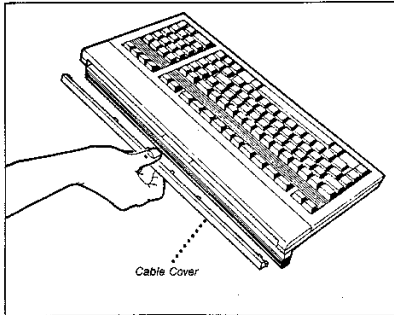
**heading 2**  
task-oriented  
user's view of task  
-ing form of verb

**intro paragraph**  
short  
use "you" for user

**Connecting the Keyboard**

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2. Remove the cable cover from the back of the keyboard by gently squeezing the cover in the center and pulling it straight out.



Setting Up Your HP Touchscreen PC 1-5

**step**  
instruction  
imperative verb  
one action per step

# How do we get ready for single-sourcing?



- Understand the big picture
  - Analyze how you communicate
  - Understand the users and their needs
  
- Analyze each document type
  - List elements, create templates
  - Prepare and test a model
  
- Work to assure successful implementation
  - Understand authors, editors, reviewers
  - Do a pilot project



# 1. Understand the big picture



- Analyze how you communicate
  - What types of documents do you have now?
  - What other types will you need in the future?
  - What overlap is there among these documents?
  - How often do these documents change?
  - How accurate and usable are these documents now?
  
- Understand the users and their needs
  - Who needs what information?
  - Do those people use the documents? If not, why not?
  - Is the information distributed appropriately among the current types of documents?

## 2. Analyze each document type

- For each type of document (communication)
  - Collect several examples that work for users.
  - List all the types of information elements in them.
    - Do users need all of these elements?
    - Are there others that users need?
  - Organize the elements into useful sequences.
  - Design pages (screens) to present the information clearly.
  - Create templates and style standards for the elements.

Make sure you have a model document that works for its users before you institutionalize its structure!

### 3. Work to assure successful implementation

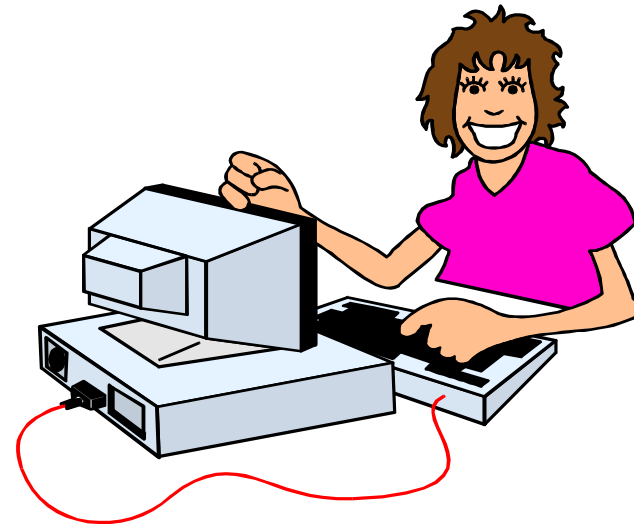
- Understand authors, editors, and reviewers
  - What skills and experience do authors have?
  - What will it take to help them learn and use templates, writing style standards, and new systems easily?
  - What process do they now use to develop documents?
  - What process changes are needed to help them accept and develop reusable, structured documents?
  - How do reviewers fit into the current process? the new process? What will it take to get them to support and work in a new process?

Do a pilot project that involves different inputs and outputs before you launch single-sourcing for everything.

# Reprise: Why structure documents?

It takes time and resources to set up for single-sourcing with a content management system.

But the return on investment outweighs the costs!



# Why structure documents?



- Achieves a consistent look and feel
- Saves users time and effort
- Saves authors time and effort
  - Question: Doesn't structuring stifle creativity?
  - Question: If we write separate information units, won't writers lose sense of the whole document?
- Makes change easy
- Saves companies money

# 1. Achieves a consistent look and feel



- within a document
  - single author
  - multiple authors
  
- across documents
  - documents going to same audience
  - documents going to different audiences
  - promote company image by having consistency
  
- within and across documents  
wherever the information element is reused

## 2. Saves users time and effort



- People are very pattern oriented.
  - We build expectations from what we see.
  - Inconsistency leads us to wonder why it is different.
  - Inconsistency takes time and effort away from dealing with the content.
- Structuring fosters well-thought-out patterns.
  - Base structures and templates on research in
    - cognitive psychology how people use documents
    - usability practical evaluations of documents
    - typography what presentation styles work best
    - writing and rhetoric what writing styles work best

### 3. Saves authors time and effort



- With structured documents, authors
  - don't have to "reinvent the wheel" for each document
  - have a framework within which to work
  
- With structured documents, authors can **reuse** their own or others' work. Reuse means
  - no need to remember how you said it last time
  - fewer errors in technical information
  - less need for time from technical reviewers



## Q: Doesn't structuring stifle creativity?



**No!**

- Structuring *fre*es authors to concentrate on the content and on meeting users' needs
- Authors should participate in the planning process to
  - identify information elements
  - decide how to structure them
- Structuring uses the skills of many people:
  - information architects
  - document designers
  - usability specialists
  - typographers
  - writers
  - editors

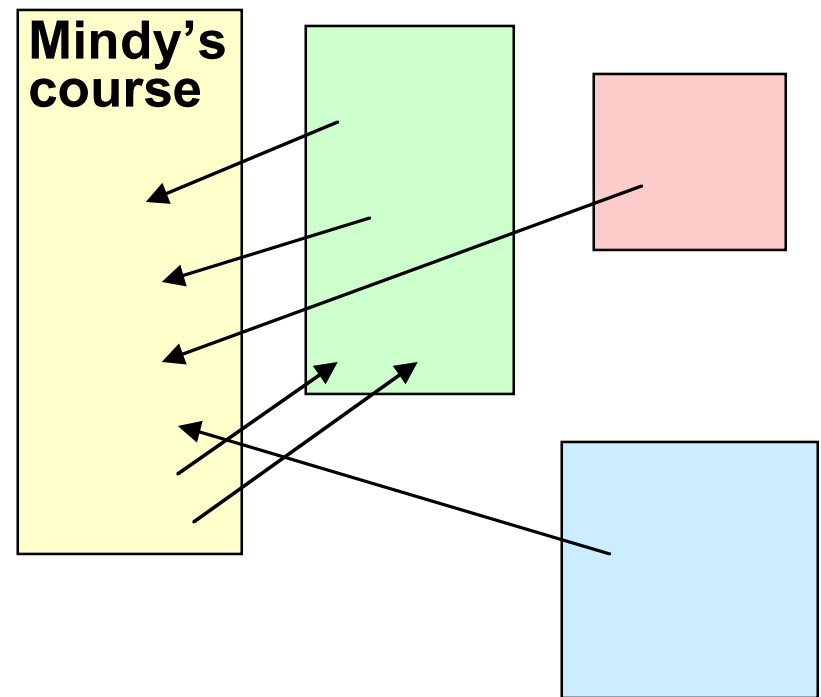
Q: If we write separate information units, won't writers lose sense of the whole document?

**Not necessarily.**

Writers may still be responsible for whole documents.

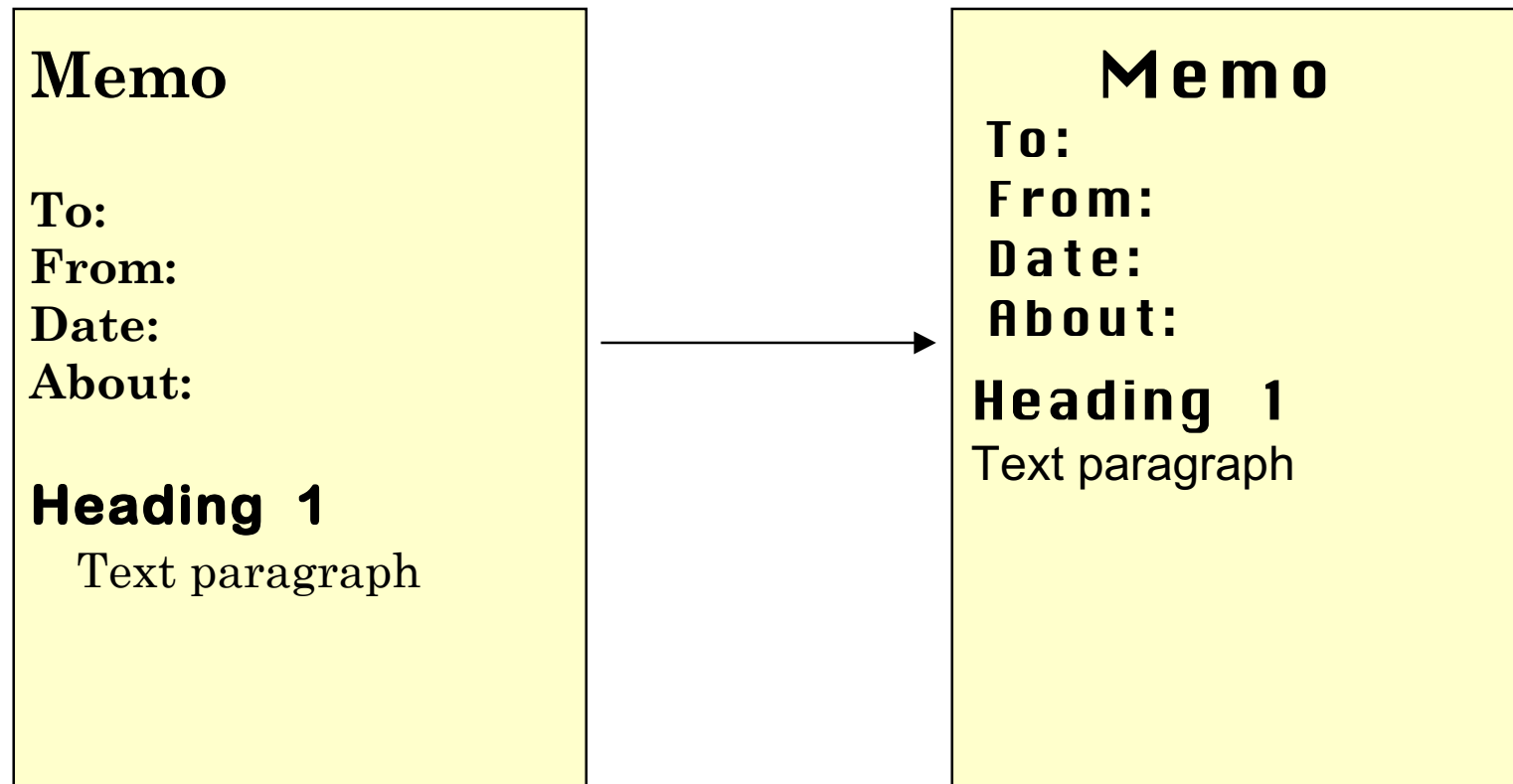
In fact, they may be responsible for several outputs for the same information.

They may "assemble" their documents from pieces others have written but they are assembling them in context.



## 4. Makes change easy

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## 5. Saves companies money



### The bottom line

- Structured documents save money!
  - authors are more productive
  - editors can concentrate on high level tasks
  - users spend less time hunting for information
  
- less redundancy, less rework
- less need for technical review time

# Q: We're not doing single-sourcing, does this apply to me?

**Yes.**

You can

- structure documents in Word
- reuse them
- reuse pieces of them
- rely on templates
- develop style standards

You will

- save yourself time
- save yourself effort
- create more usable documents

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Invoice: xxx-1-x  
EIN: 52-1855047

**INVOICE**

Invoice Date: 1-1-01

To: [Redacted]

Contract #: [Redacted]

Technical monitor:

For: [Redacted]

Amount Due:

Fee	\$
Travel expenses (details next page)	
Other direct expenses (details next page)	
<b>Total for this invoice:</b>	<b>\$</b>

Payment due net 30.  
Please pay to Redish & Associates, Inc.  
Thank you.

Janice C. Redish, Ph.D.  
President, Redish & Associates, Inc.  
EIN: 52-1855047

# A few suggested readings



- Redish, J. C.  
Document and information design  
In J. G. Webster (Ed.)  
*Wiley Encyclopedia of Electrical and Electronics Engineering*  
1999, NY: John Wiley & Sons, volume 6, pages 10-24
  
- Schriver, K. A.  
*Dynamics in Document Design: Creating Text for Readers*  
1997, NY: John Wiley & Sons