Building Accessibility Into The Workflow

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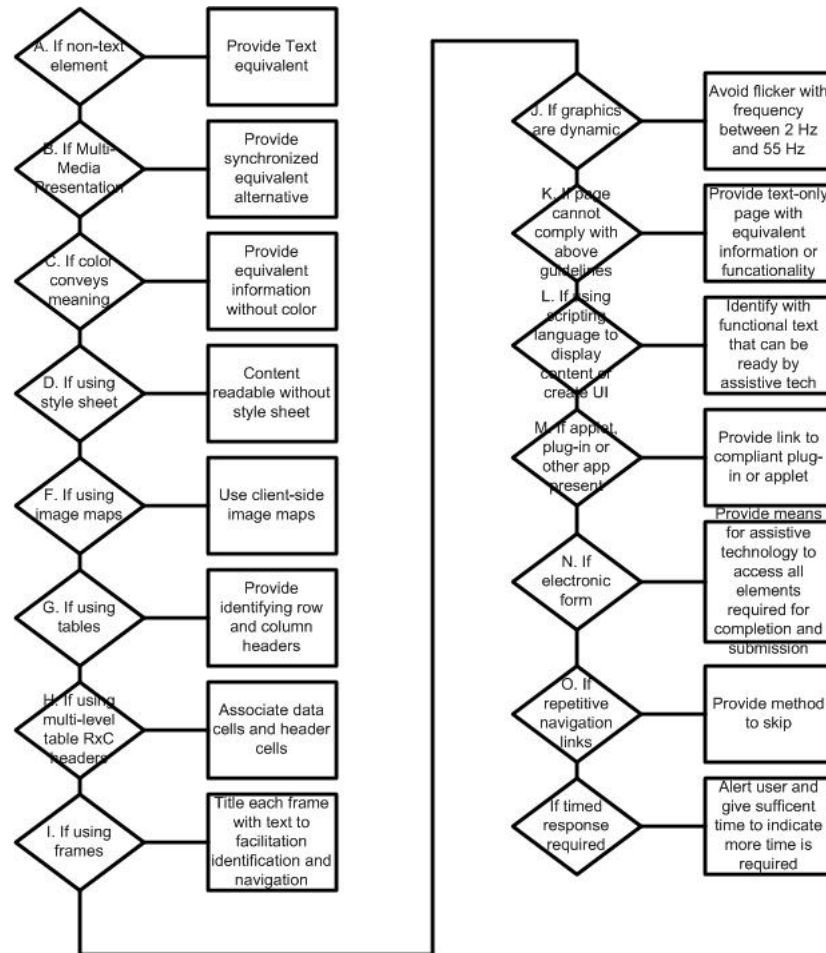
http://staff.washington.edu/rells/

Challenge

- Accessible design standards are well defined
- Many sites do not follow accessible design standards
- Accessible design advocates are on the outside of the process
- How can accessibility become part of the process?

Looking at Section 508

- 1194.22 Standards define 16 discrete criteria in no particular order

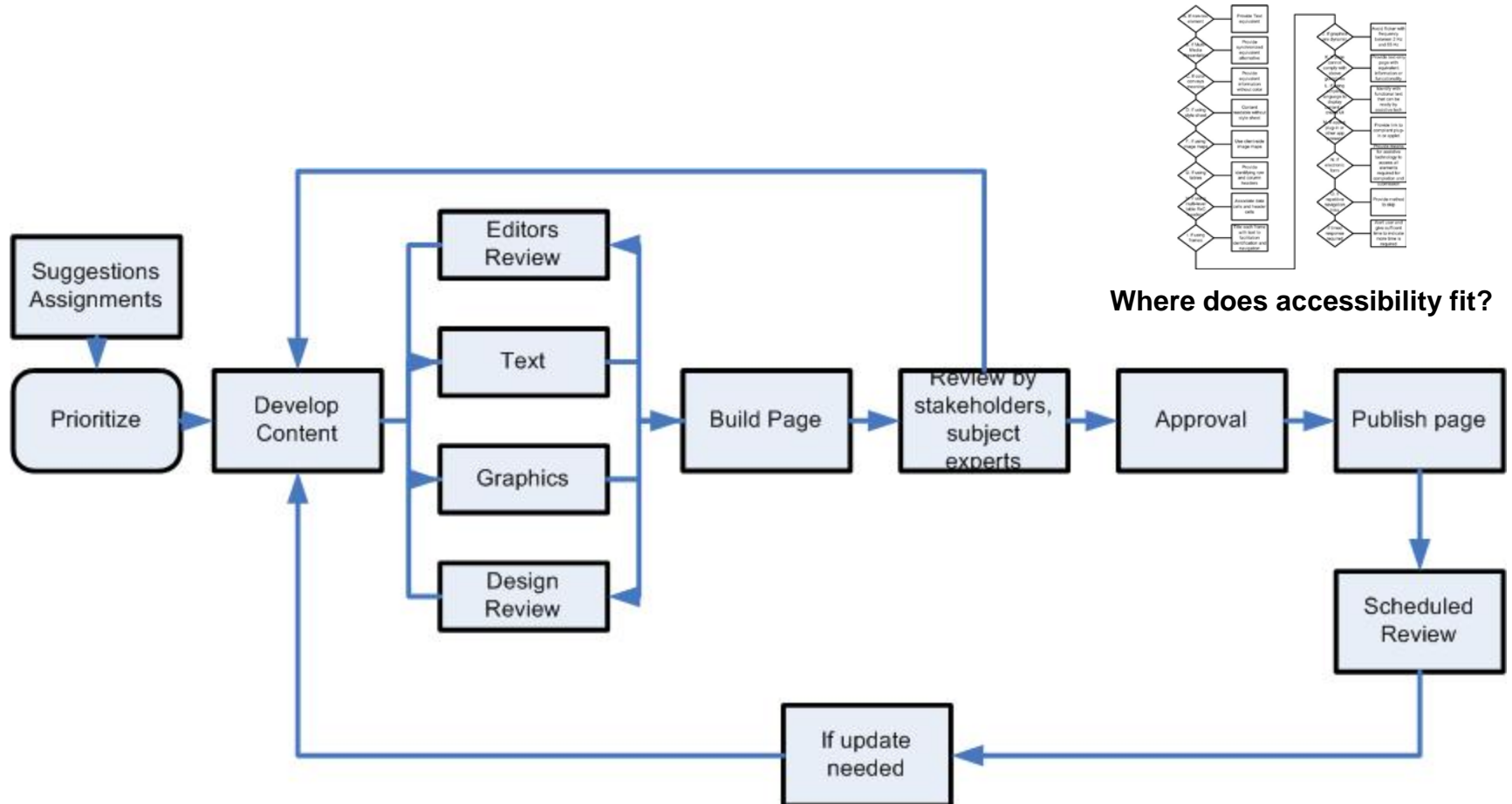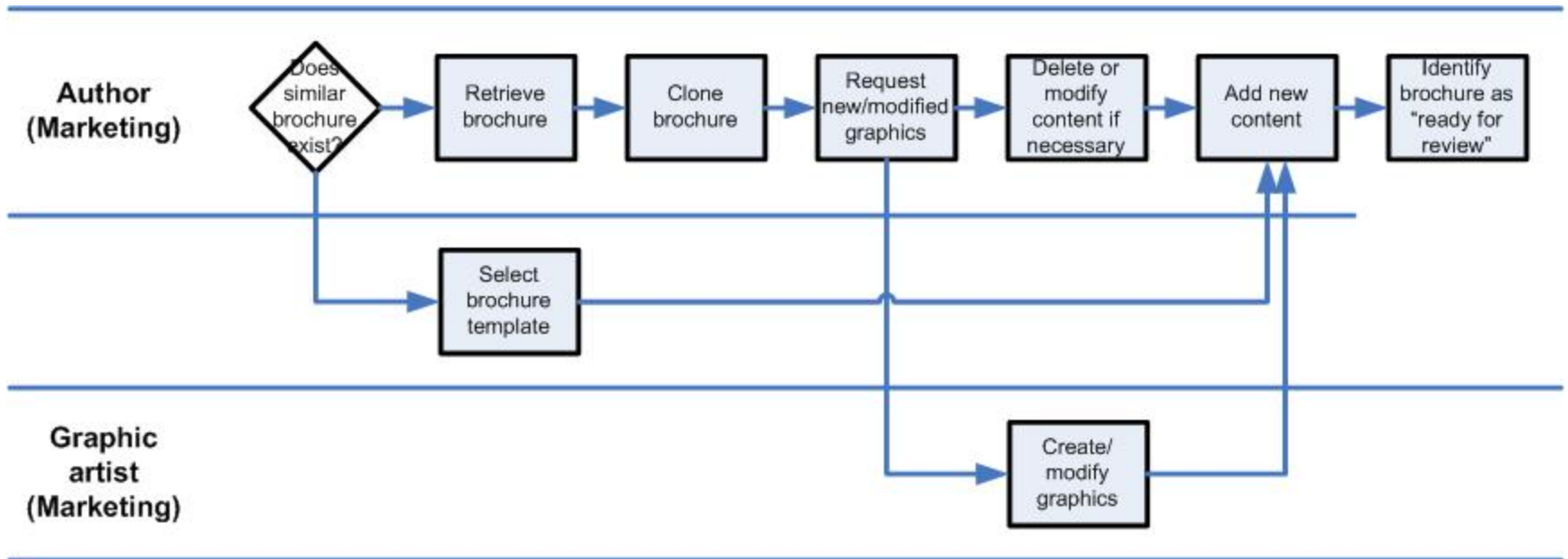| A. Text equivalent for every non-text element	B. Synchronize equivalent alternatives for multimedia presentations	C. All information conveyed with color is also available without color	D. Documents readable without requiring associate style sheet
E. Each active region of a server-side image map shall be provided with redundant text links	F. Use client-side image maps instead of server-side image maps if possible	G. Identify row and column headers for data tables	H. Associate data cells with header cells with markup in tables with multi-level row and column headers
I. Title frames with text that facilitates frame identification and navigation	J. Avoid screen flicker between 2 Hz and 55 Hz	K. Provide text page with equivalent information and functionality when compliance not possible otherwise	L. When using scripting for display and interface, provide functional text that can be read by assistive technology
M. When page requires applet, plug-in, or application, provide link to compliant version	N. Forms should allow people using assistive technology access to information, elements, and functionality necessary to use form	O. Provide method to skip repetitive navigation links	P. When a timed response is required, alert user and give sufficient time to indicate more time is needed

Decision Tree?

Typical Reaction

Basic Publication Workflow

Where does accessibility fit?

Suggestions Assignments → Prioritize → Develop Content → (Editors Review, Text, Graphics, Design Review) → Build Page → Review by stakeholders, subject experts → Approval → Publish page → Scheduled Review → If update needed → Develop Content

Opportunistic Reuse Workflow

From **Managing Enterprise Content: A Unified Approach** by Ann Rockley

Going Beyond Retrofitting

"A common response from programmers after receiving an accessibility evaluation is that it would have been much easier to incorporate the requested changes at the beginning of the site development lifecycle. …building accessibility into a site early in the development lifecycle saves time and money compared to retrofitting."
Law, Jacko, and Edwards, "Programmer-Focused Website Accessibility Evaluations," ASSETS'05 Conference, October 2005

Sorting Out The Requirements

🟨	Alternative and Associative Text	
🟪	Technologies	
🟦	Graphics and Color	
🟩	Usable Design	

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1194.22 For Roles

Alternative and Associative Text

A. Text equivalent for every non-text element

G. Identify row and column headers in data tables

H. Associate data cells with header cells with markup in tables with multi-level row and column headers

I. Title frames with text that facilitates identification and navigation

L. When using scripting for display and interface, provide functional text that can be read with assistive technology

Technologies

E. Each active region of a server-side image map shall be provided with redundant text links

F. Use client-side image maps instead of server-side image maps if possible

M. When page requires applet, plug-in, or application, provide link to compliant version

Graphics and Color

C. All information conveyed with color is also available without color
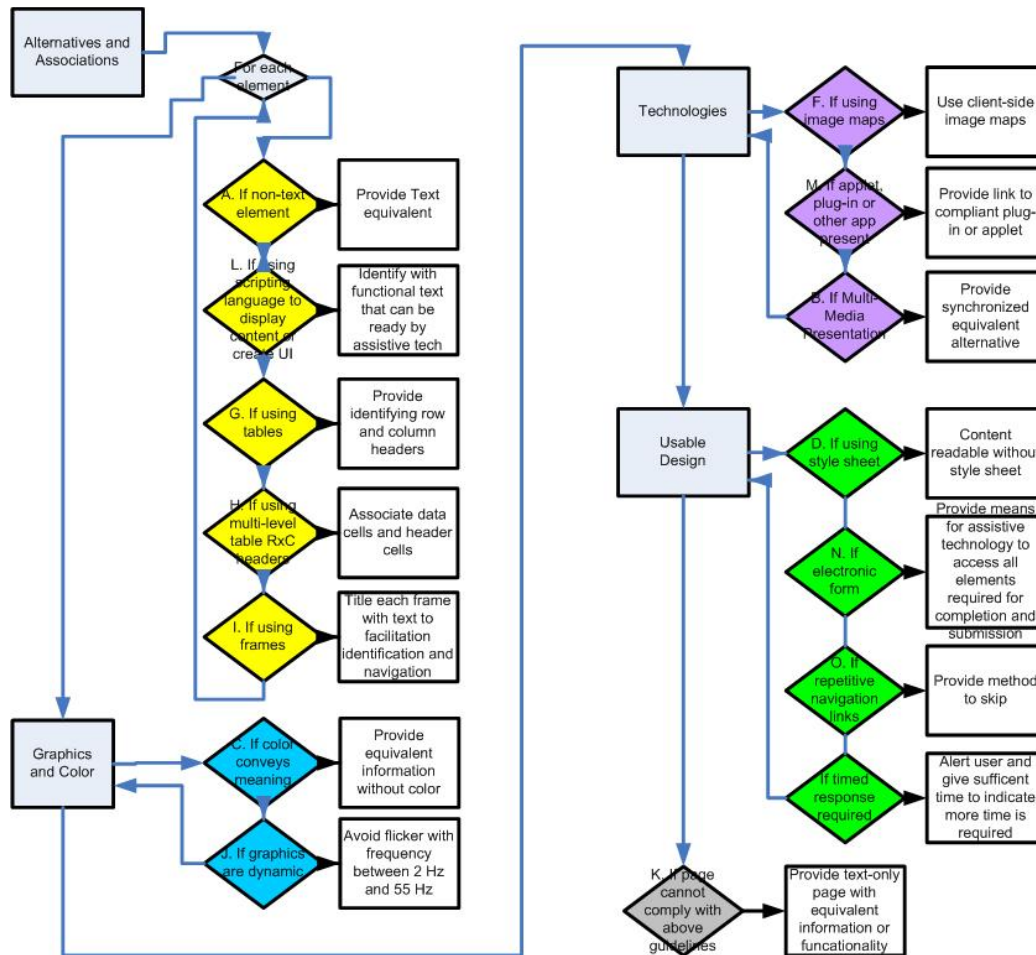
J. Avoid screen flicker between 2 Hz and 55 Hz

Usable Design

D. Documents readable without requiring associated style sheet.

N. Forms should allow people using assistive technology access to information, elements, and functionality necessary to use form.

O. Provide method to skip repetitive navigation links

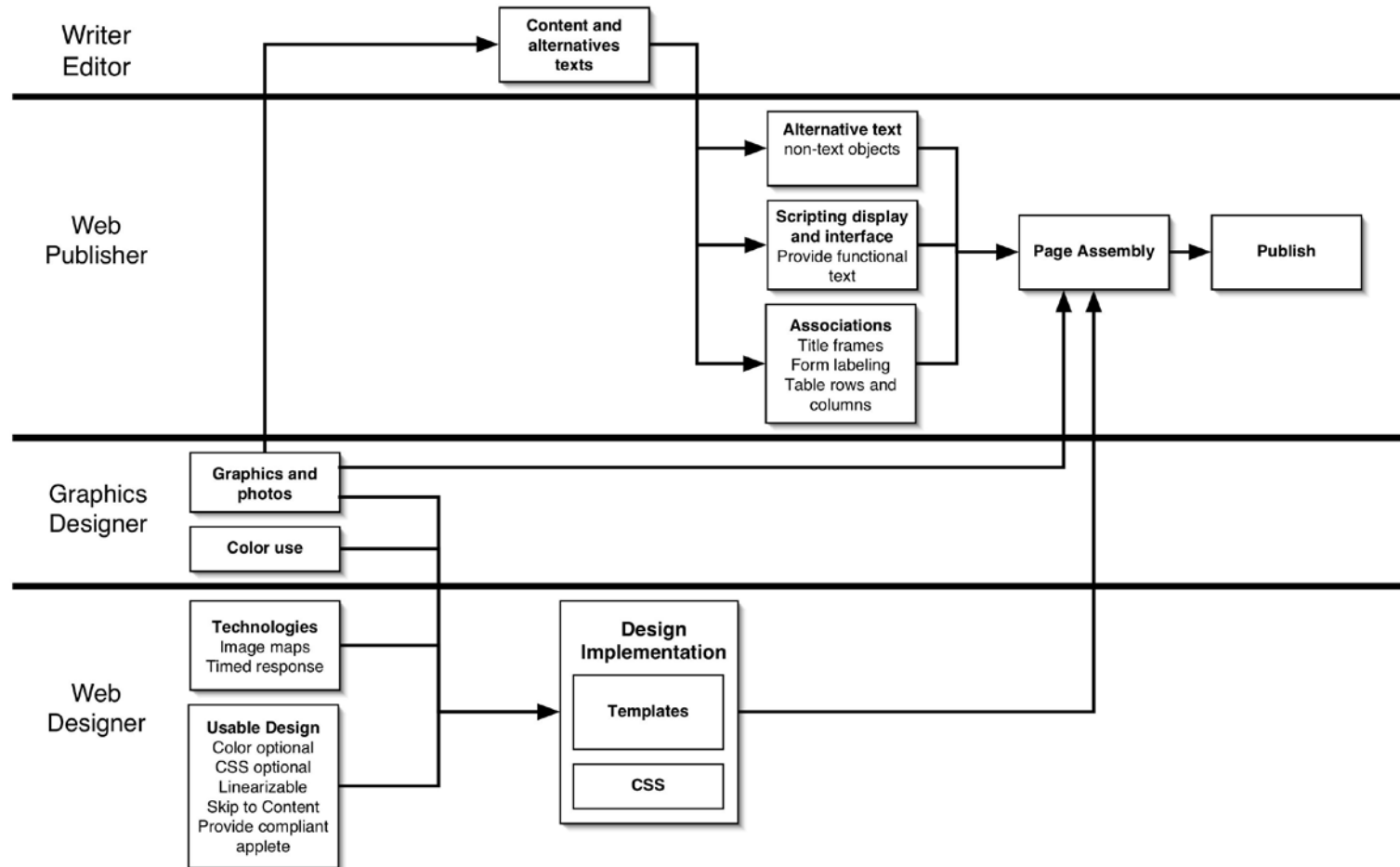P. When a timed response is required, alert user and give sufficient time to indicate more time is needed.

Other

K. Provide text page with equivalent information and functionality when compliance not possible otherwise.

Decision Tree by Roles

Swimlanes

Writer Editor

Content and alternatives texts

Web Publisher

Alternative text non-text objects

Scripting display and interface Provide functional text

Associations Title frames Form labeling Table rows and columns

Page Assembly

Publish

Graphics Designer

Graphics and photos

Color use

Web Designer

Technologies Image maps Timed response

Usable Design Color optional CSS optional Linearizable Skip to Content Provide compliant applete

Design Implementation

Templates

CSS

Writer/Editor Role

- Write and gather text
  - Text content
  - Alternative texts for non-text objects
- Prepare for the Web
  - Rewrite into "plain language"
  - Organize into semantic structure (headings, paragraphs, lists, etc.)

Web Publisher Role

- Receive prepared text, graphics, alternative text, and long descriptions
- Place content in templates
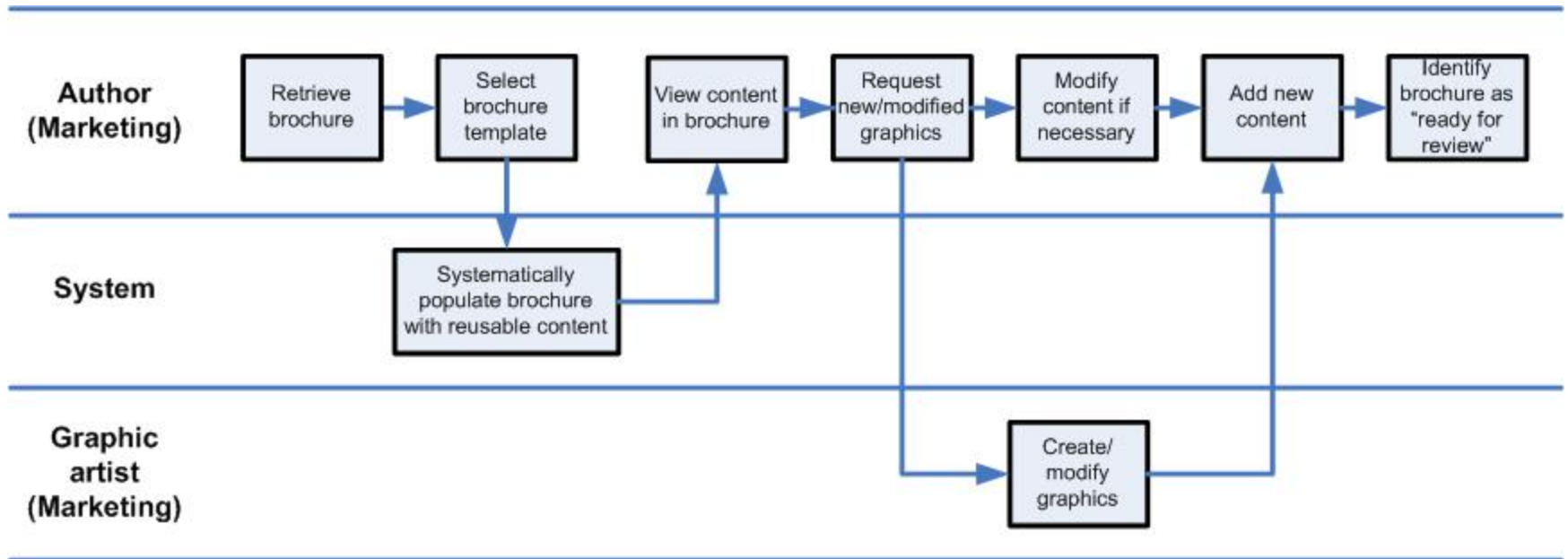- Place associative attributes in tables and forms
- Publish

Graphics Designer Role

- Develop color scheme, considering accessibility issues relating to color
  - Provide direction to Web Designer on color issues
- Prepare graphics and photos for use
- Provide graphics and photos to Writer/Editor for development of alternative text

Web Designer Role

- Develop templates and CSS, taking accessibility into consideration
  - Skip to content
  - Linearity of content (works without CSS)
  - Provide compliant support for applets
- Oversee selection and use of technologies used in Web site to insure accessibility
  - Javascript, AJAX, PDF, Flash

Systematic Reuse Workflow

From **Managing Enterprise Content: A Unified Approach** by Ann Rockley

1194.22 for CMS

Elements and Attributes

A. Text equivalent for every non-text element

I. Title frames with text that facilitates identification and navigation

L. When using scripting for display and interface, provide functional text that can be read with assistive technology

N. Forms should allow people using assistive technology access to information, elements, and functionality necessary to use form

Technologies

E. Each active region of a server-side image map shall be provided with redundant text links

F. Use client-side image maps instead of server-side image maps if possible

P. When a timed response is required, alert user and give sufficient time to indicate more time is needed.

Table Structure

G. Identify row and column headers in data tables

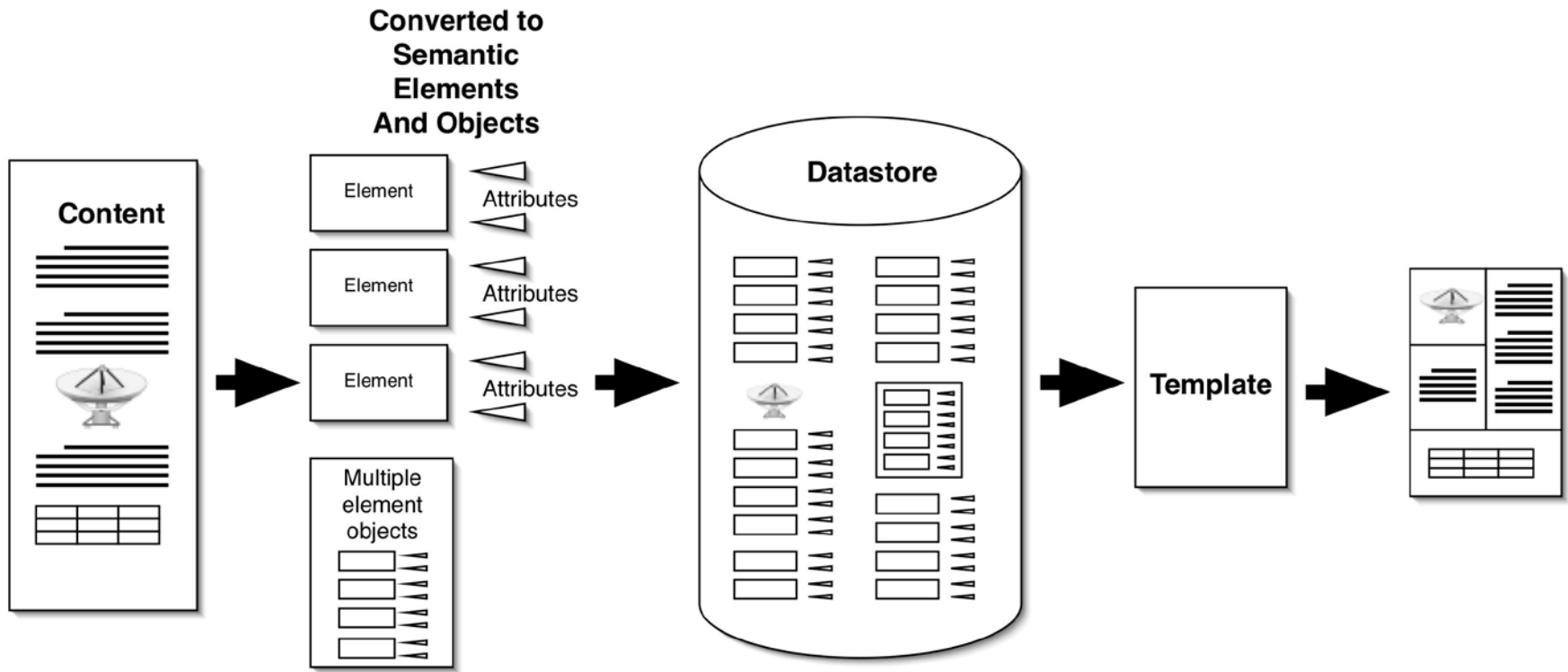H. Associate data cells with header cells with markup in tables with multi-level row and column headers

Templates and stylesheets

C. All information conveyed with color is also available without color

D. Documents readable without requiring associated style sheet.

J. Avoid screen flicker between 2 Hz and 55 Hz

O. Provide method to skip repetitive navigation links

M. When page requires applet, plug-in, or application, provide link to compliant version

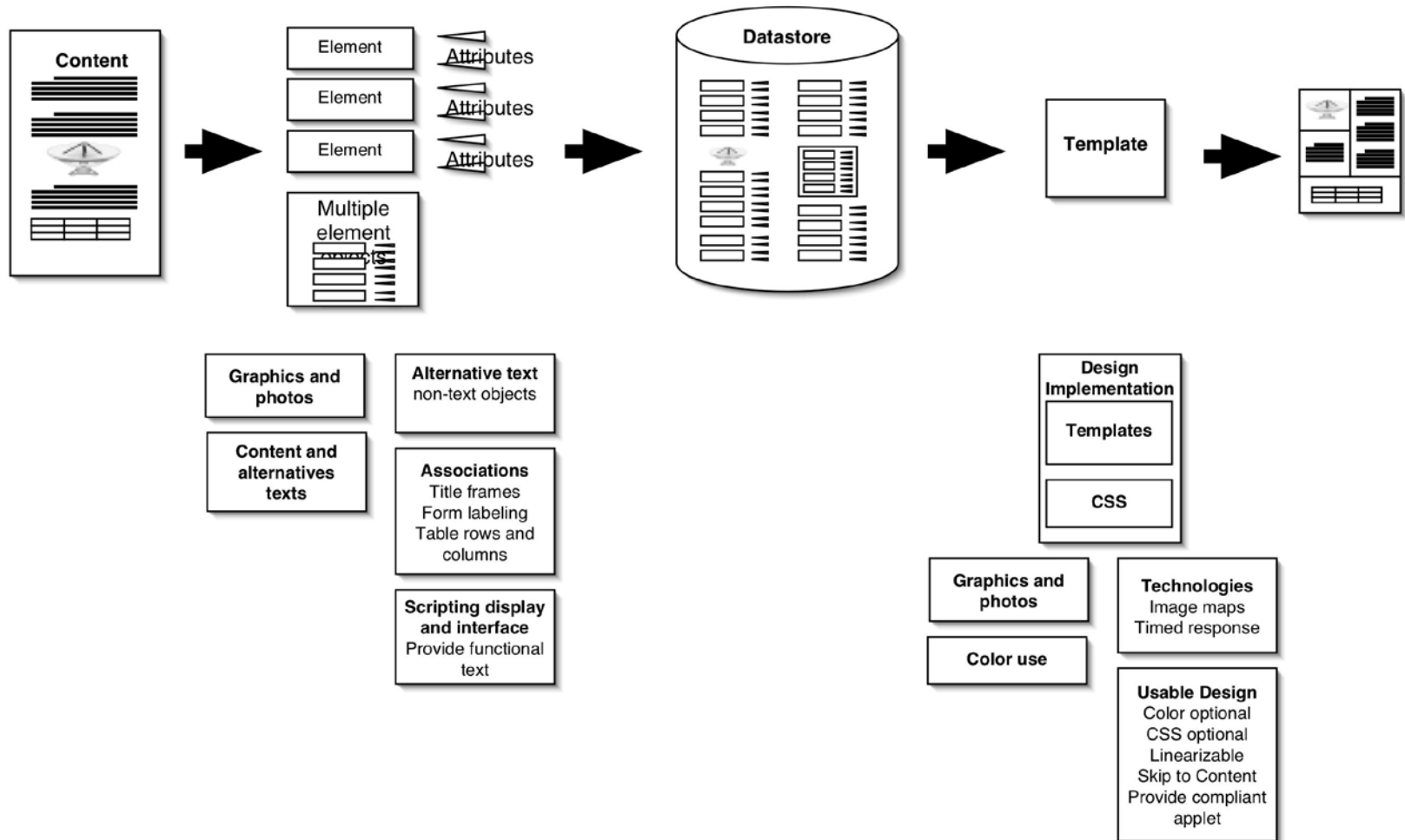## Other

K. Provide text page with equivalent information and functionality when compliance not possible otherwise.

Content Management System

Building In Accessibility

About Tables

- Typical table entry interface
  - Presents matrix of whole table
  - You enter text into matrix cells
  - Then you go back and make the cells at the top of each column and the first cells each row into headers
- Why not…
  - Define columns and rows first, including heading text and scope definition, which will also define the data matrix
  - Then enter the matrix contents
- Result would be properly annotated, fully accessible tables

Key Points

- Prepare content into semantic units before entry
- Require alternative and associative texts at time elements and objects are added to system
- Design templates for full use of alternative and associative texts, intelligible linearity, and usability
- Manage technology used in pages
- Look ahead at approaching technologies to avoid inadvertent accessibility blocks

Discussion

- Content entry interfaces and processes need rethinking
- The approach of AJAX makes the need for better integration of accessibility into the design and management process imperative
  - Javascript not as inherently structured as HTML, more care will be necessary in using it
- Accessibility as an add-on will no longer work

References

- Boiko, Bob, **Content Management Bible**, Hungry Minds, 2002
- Law, Chris, Julie Jacko, and Paula Edwards, "*Programmer-Focused Website Accessibility Evaluations*," ASSETS'05 Conference, October 2005
- National Center on Accessible Information Technology in Education (AccessIT) http://www.washington.edu/accessit/
- Plain Language, http://www.plainlanguage.gov/
- Rockley, Ann, **Managing Enterprise Content: A Unified Content Strategy**, New Riders, 2003
- Thatcher, Jim, et al, **Constructing Accessible Web Sites**, Glasshaus, 2002
- W3C
  - *Implementation Plan for Web Accessibility*, http://www.w3.org/WAI/impl/Overview.html
  - *Selecting and Using Authoring Tools for Web Accessibility*, http://www.w3.org/WAI/impl/software.html