

User-centered design principles,  
Web site and application design,  
updated design examples

# THE SCIENCE AND ART OF EFFECTIVE WEB AND APPLICATION DESIGN



**Human Factors**  
International

**3-Day**  
**Comprehensive Course**

**1-800-242-4480 • [www.humanfactors.com](http://www.humanfactors.com)**

# THE SCIENCE AND ART OF EFFECTIVE WEB AND APPLICATION DESIGN

**D**esigning intuitive and effective user interfaces is both science and art. During this course, participants will learn how to apply research-based and field-tested Web and application design principles and methodologies. Initially they will focus on the four foundational layers of the interface: Navigation, Presentation, Content, and Interaction. Participants will then be provided

with the framework, tools, and standards needed to support rapid prototyping initiatives. Finally, they will extend their sphere of influence through the application of accessibility and cross-cultural design methods. The course is led by experienced HFI consultants and includes in-depth discussions, challenging and interactive exercises, and fully documented student materials.

## Course Objectives

- ▶ At the end of this course, participants will be able to:
  - Identify, select, and implement appropriate navigation models used to build intuitive navigation structures
  - Make better decisions and recommendations to improve visual design, including: layout, color, graphics and icons, and text
  - Implement effective usability-based content organization and treatment methods
  - Ensure intuitive interaction through appropriate UI control selection and error and feedback design
  - Increase design efficiency using Web and application standards
  - Extend their UCD sphere of influence into the domains of user experience, accessibility, and cross-cultural design

## What You Get

- ▶ A comprehensive student manual
- ▶ A Workbook and Resource Guide that contains:
  - Course exercises
  - Useful publication and Web site references
  - User interface control selection guide
  - Glossary with annotations and illustrations
  - Quick reference job aids

## Who Should Attend

Those involved in the design and development of Web, e-commerce, informational and promotional sites, Intranets, and applications.

## No Prerequisite

### COURSE OUTLINE

## DAY 1

### 1 Design is Science and Art

- ▶ Scientific models in user-centered design (UCD)
- ▶ Definition of UCD

*Video: You're never right the first time*

*Exercise: Designing for functional requirements*

- ▶ Characteristics of usable designs
- ▶ UCD Benefits

*Exercise: Conduct a design heuristic evaluation*

### 2 Navigation

- ▶ Characteristics of usable navigation
- ▶ Primary navigation systems
  - Hierarchical models
  - Persistent design systems

- Sequential navigation
- Search
- ▶ Supplemental navigation
  - Table of contents
  - Index
  - Breadcrumbs
  - Quick links
  - Multiple windows and browsers

*Video: Five questions for navigation*

- ▶ Multiple systems navigation design

*Exercise: Select appropriate navigation models*

### 3 Presentation

- ▶ Visual-cognitive processing
  - Eye movement and eye tracking

*Video: Eye tracking & user interest*

*Video: Eye tracking & reading*

- Gestalt principles of visual design

- ▶ Layout

*Exercise: Evaluate and redesign a cluttered screen*

- ▶ Color
- ▶ Graphics

*Video: Functional graphics*

*Video: Color and highlighting*

- ▶ Text

### 4 Content

- ▶ Printed vs. online content
- ▶ Writing for clarity
  - Writing style
  - Word choice
  - Mechanics
- ▶ Methods that facilitate scanning
  - Writers' pyramid
  - Headings, bulleted and numbered lists

*Video: Importance of headings*

*Exercise: Sharpen writing skills*

## DAY 2

### 5 Interaction

- ▶ Key components of interaction design
- ▶ User interface controls
  - Data entry
  - Navigation and action
  - Selection

*Exercise: Selecting appropriate UI Controls*

- ▶ Error handling and prevention
- ▶ Feedback

*Exercise: Design an effective feedback message*

### 6 Web Site and Application Prototyping

- ▶ Differences between Web sites and applications
- ▶ Prototyping
  - Low versus high-fidelity prototypes
- ▶ Effective prototyping strategies
- ▶ Web site, application, and e-commerce design elements
- ▶ Web site and application templates

*Exercise: Build an application prototype*

## DAY 3

*Exercise: Build an application prototype (continued)*

### 7 Accessibility

*Video: Experiences of disabled users*

- ▶ Disabled users
  - Vision
  - Hearing

- Motor
  - Cognitive
  - ▶ Assistive technologies
  - ▶ Vision, hearing, and motor
- Video: Demonstration of a screen reader*

- ▶ Accessibility laws
  - Americans with Disabilities Act
  - US Rehabilitation Act
  - International Laws
- ▶ Accessibility guidelines
  - Section 508 Guidelines
  - Accessibility Guidelines (WCAG 2.0)
  - Web Accessibility Initiative (WAI)

- ▶ Evaluating for accessibility
- Exercise: Conduct a site review for accessibility*

### 8 Internationalization

- ▶ Internationalization, globalization, and localization
- ▶ Internationalization design checklist
- ▶ Multicultural considerations
- ▶ Internationalization design process and usability testing

### 9 Beyond Design Knowledge

- ▶ Barriers to implementing UCD practices
- ▶ UCD practitioners' knowledge, skills, and abilities
- ▶ Academic training and HFI certification
- ▶ HFI's Certified Usability Analyst designation
- ▶ UCD and HCI professional organizations

A partial list of companies where we have taught human factors seminars

Agilent Technologies  
Airborne Express  
Ameritech  
AT&T Information Systems  
Beckman Coulter  
Bell Laboratories  
Blue Cross/Blue Shield  
Bureau of Census  
ChevronTexaco  
Chrysler  
Cincinnati Bell Info Systems  
Continental Insurance  
Deloitte Consulting  
EPA  
Ericsson Information Systems  
FedEx  
Fidelity Investments  
Ford Motor Company  
General Motors  
Hewitt Associates  
Hewlett-Packard  
IBM  
Library of Congress  
McKesson  
MCI  
Metropolitan Life Insurance  
Motorola  
National Semiconductor  
Northern Telecom  
Paychex  
Prudential Life  
RBC Royal Bank  
Social Security Administration  
Sprint/Nextel



“When you attend a class you look at your work from a new and enlightened perspective. You get away from day-to-day projects, learn and practice usability techniques with other professionals—all under the guidance of an experienced instructor. You go back to your job with new insights and a strong set of tools. A core curriculum in usability is a critical part of making usability routine within an organization, and of the professional growth and development of each usability specialist.”

SUSAN WEINSCHENK, PH.D., CUA • CHIEF OF TECHNICAL STAFF

## INSTRUCTORS



APALA LAHIRI CHAVAN, MA,  
MSc, CUA  
VP ASIA



ARNO BUBLITZ  
EXECUTIVE DIRECTOR, EUROPE



APRIL MCGEE, M.S., CUA  
PROJECT DIRECTOR



HAROLD “HAL” MILLER-  
JACOBS, PH.D., CUA, CPE  
PROJECT DIRECTOR



MARY MICHAELS, MBA, CUA  
PROJECT DIRECTOR



SALLY COHEN, MS, CUA  
PROJECT DIRECTOR



DAVID BELL, MSc  
PROJECT DIRECTOR



HITESH AGRAWAL, MS, CUA  
EXECUTIVE DIRECTOR



DIANA R. NELSON, PH.D., CUA  
PROJECT DIRECTOR



DREW FALK, MS, CUA  
PROJECT DIRECTOR

## ON-SITE TRAINING

If you have six or more people from your company who wish to attend a seminar, please call us at 800.242.4480 (US and Canada) or 1.641.472.4480 (International) to discuss having an on-site course or hosting a public seminar.

## CERTIFICATION

Become a Certified Usability Analyst™ with HFI’s certification program. HFI-Certified Usability Analysts take courses in all the key areas of software usability, then pass an examination demonstrating their mastery.

For more information: [www.humanfactors.com/training/certification.asp](http://www.humanfactors.com/training/certification.asp)



User Experience for a Better World

410 West Lowe  
P.O. Box 2020  
Fairfield, IA 52556

PHONE

800-242-4480  
641-472-4480

FAX

641-472-5412

E-MAIL

[hfi@humanfactors.com](mailto:hfi@humanfactors.com)

URL

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