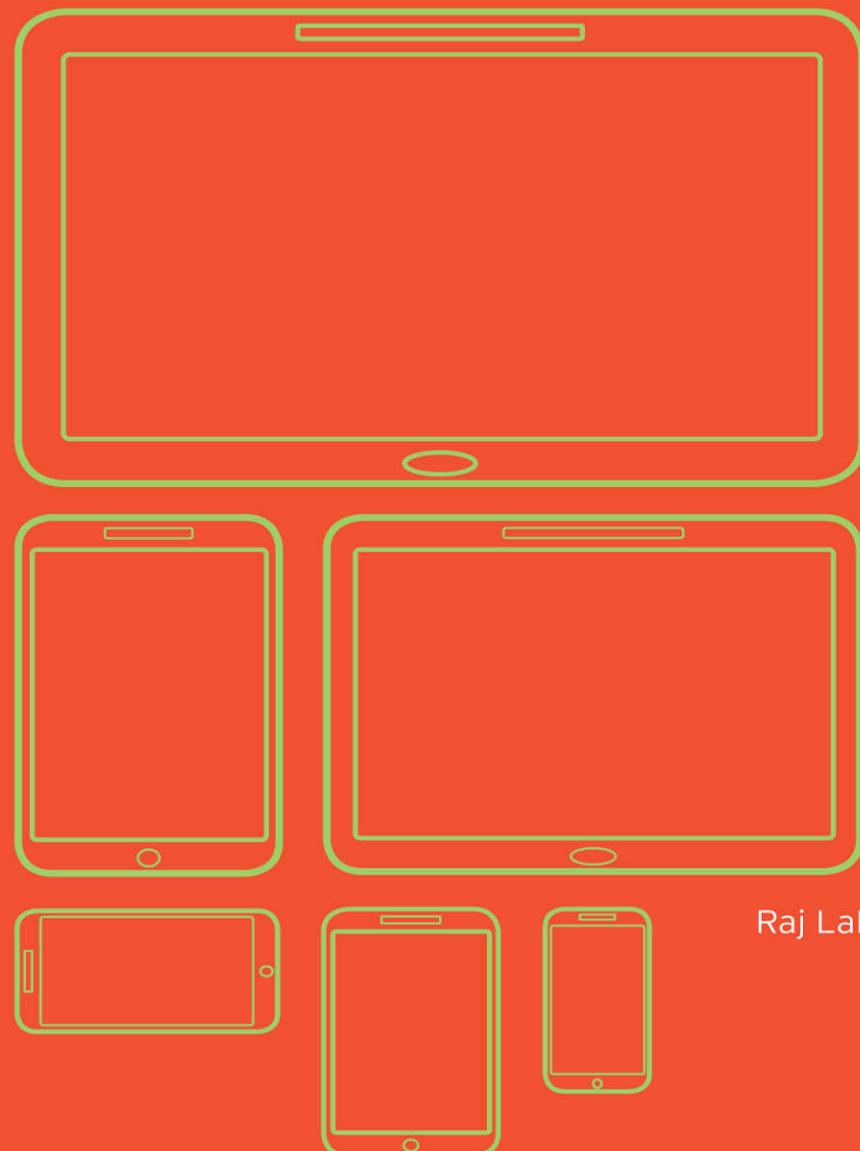


USER INTERFACE
COMMAND LINE INTERFACE
WIMP INTERFACE
GRAPHICAL USER INTERFACE
PHOTO EDITOR
IMAGE MANAGER
DESKTOP EXPLORER
ASSISTANT/SOFTWARE WIZARD
INTEGRATED DEVELOPMENT ENVIRONMENT
MEDIA PLAYER
DESKTOP WIDGET/GADGET
DASHBOARD/SCORECARDS
INSTANT MESSENGER
CHAT ROOM
VIDEO CHAT
INTERACTIVE VOICE RESPONSE SYSTEM
DIRECT USER INTERFACE
3D USER INTERFACE
METRO UI/MODERN UI
SKEUOMORPHIC DESIGN/FAUX REAL UI
WEB USER INTERFACE
ACCESSIBLE WEB
WEBSITE
HOMEPAGE
PERSONAL WEBSITE
SINGLE-PAGE WEBSITE
BLOG
BLOGGER TEMPLATE
WORDPRESS THEME
CATALOG
PRODUCT PAGE
SHOPPING CART
CHECKOUT
USER ACCOUNT/REGISTRATION
LOGIN
USER PROFILE
ONLINE FORUMS
COMMENT THREAD
SITEMAP
RESOURCE CENTER/HELP CENTER
KNOWLEDGEBASE
WIKI
ONLINE SURVEYS
RATING APP
RICH INTERNET APPLICATION
WEB WIDGET
BOOK WIDGET
BANNER AD
WEB SLIDE SHOW
HTML5 APP
ZOOMING USER INTERFACE
TASK TRACKING SYSTEM
CONTENT MANAGEMENT SYSTEM
AJAX WEB APPLICATION
SOCIAL DESIGN
SEARCH ENGINE OPTIMIZED (SEO) WEB PAGE
WEB 2.0 USER INTERFACE DESIGN
SERVICE-ORIENTED ARCHITECTURE (SOA) DESIGN
INFOGRAPHICS DESIGN
ADAPTIVE USER INTERFACE
MOBILE PHONE APP
MOBILE WEB APP
HYBRID APP
MOBILE WEBSITE
INFORMATION APP
MOBILE UTILITY APP
LIFESTYLE APP

Digital Design Essentials

100 Ways to Design Better
Desktop, Web, and
Mobile Interfaces



Raj Lal

ROCKPORT

Digital Design Essentials

100 Ways to Design Better
Desktop, Web, and
Mobile Interfaces

Raj Lal



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DEDICATION

Anika

(My eighteen-month-old daughter, who taught me that simple things in life are the most beautiful.)

Lakshmi

(My wife, the most amazing person I have met in my life, for being with me along this journey.)

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Adventures in Digital Design

The story of digital design begins at the user interface (UI); the point of contact between the user and a digital product. This book will take you on a journey, designing UIs for 100 digital products on a range of platforms, including the desktop, televisions, web, mobile devices, and tablets.

It will be a progressive journey where you will see how digital design has evolved from command-line interfaces, to graphical-user interfaces (GUIs), to natural interfaces, to multitouch and organic user interfaces. Along the way, you will learn how technological advances, such as capacitive touchscreens, Bluetooth, artificial intelligence, and text to speech, has molded the UI in innovative ways and taken digital design to a completely new level. It's a level where a designer must understand that the users and the context of the product dictate the design, and the success of a product is ultimately decided by user adoption.

Steve Jobs used to say, "Design is not what it looks like, design is how it works." This book will rip open the look of digital applications and take you behind the scenes. You'll discover how design works for 100 different digital applications, ranging from desktop software and widgets, to adaptive web interfaces, innovative mobiles apps, and games on tablets and televisions.

Using a practical approach to design principles, this book shows you how these principles can be applied to the latest digital products. You'll be guided through critical considerations for designing interfaces by showing you the big-picture: outlining the design guidelines and best practices while showing real examples of how these design principles can be successfully applied. Designers will get practical advice on developing a rich UI for everyday ad-hoc applications and the help they need in their daily job, thanks to these practical and invaluable examples, illustrations, and case studies.

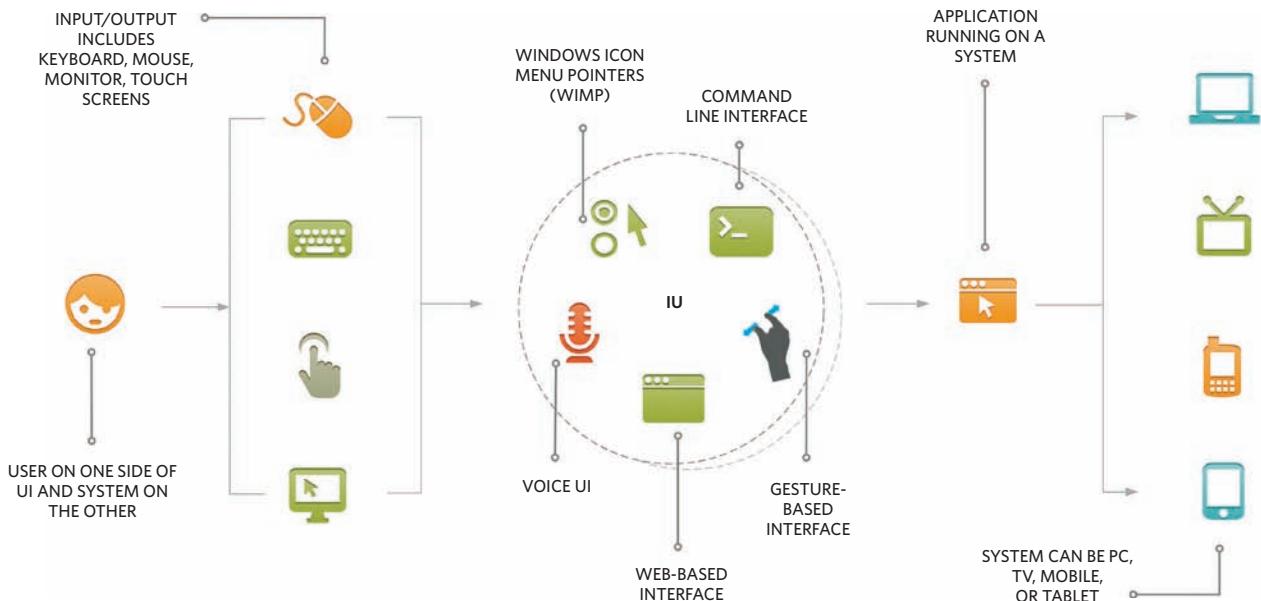


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27 28 29 30

1 User Interface (Human-Computer Interface)



THE MEANS BY WHICH A USER COMMUNICATES AND INTERACTS WITH A COMPUTER



The user interface provides both the input mechanism, where the user “tells” the computer what the user needs, and an output mechanism, how the computer responds back to the user. People interact with a computer through a user interface using keyboard, mouse, touch screens, and microphone.

Best Practices and Design Guidelines

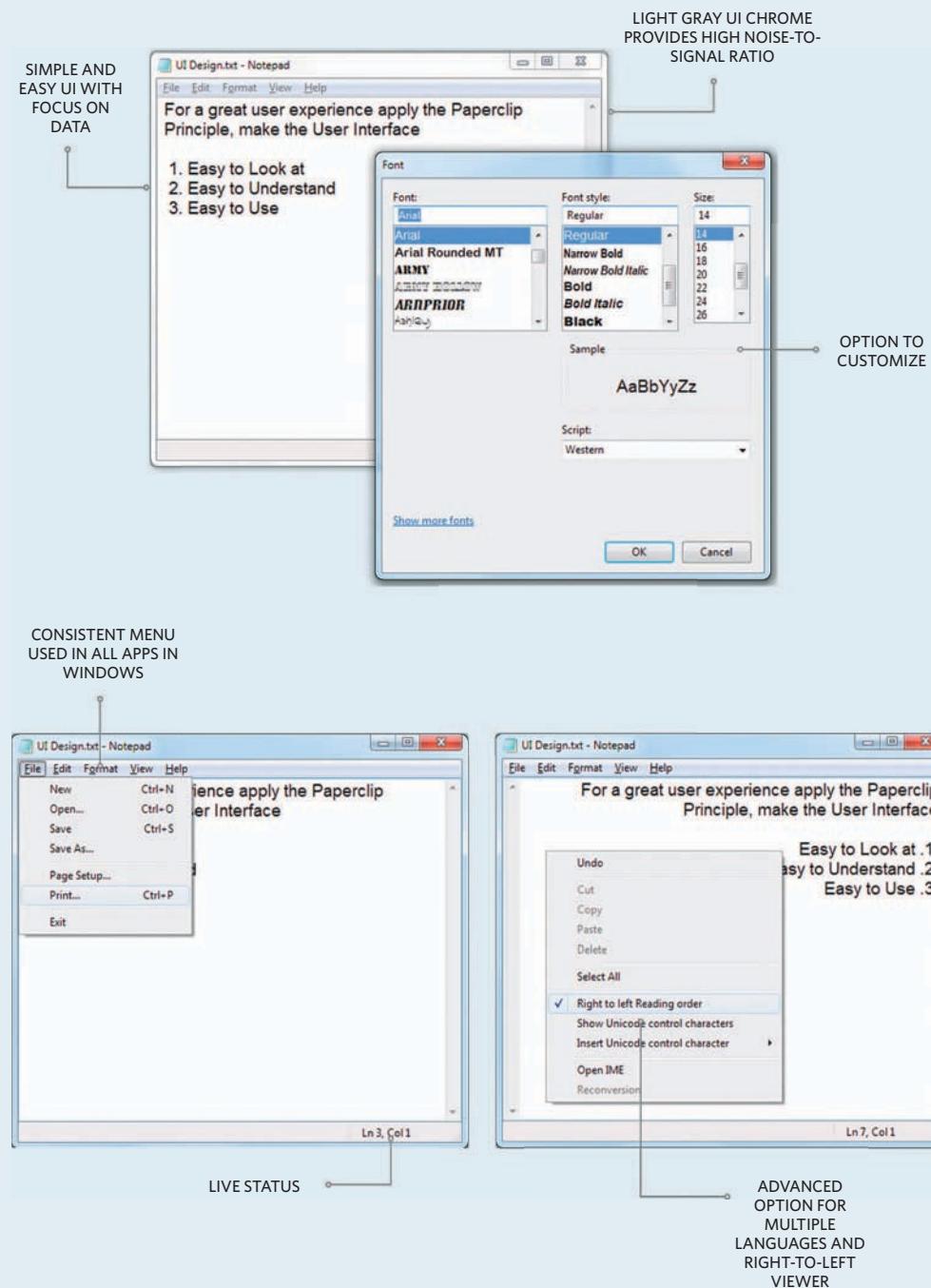
- Minimum Design
 - Use 80/20 rule, design for the top 20 percent features
 - Choose aesthetic colors and layout
 - Provide high noise-to-signal ratio between the chrome of the UI and data
- Simplicity
 - Keep design simple and clear
 - Focus on the main task and avoid user distraction
 - Keep functionality and simplicity

- Accessibility
 - Make easier to use and access by multiple devices, like old computers and assistive devices
 - Make usable by everyone: disabled, senior citizens, and people with low literacy level
- Consistency
 - Use similar layouts and terminology within the application
 - Employ familiar interaction and navigation
 - Keep the UI consistent within the context
- Feedback
 - Provide immediate feedback
 - Update user with current status for background actions
- Forgiveness
 - Allow for error prevention and allow undo
 - Limit user error by enabling on required commands
- User Driven
 - Give user complete control
 - Allow for customizability and personalization

(+) See also **Graphical User Interface (GUI)** on page 16, **Command Line Interface** on page 12, **WIMP Interface** on page 14, **Voice User Interface** on page 180, **Gesture-Based User Interface** on page 171, and **Web User Interface (WUI)** on page 48.

CASE STUDY
Microsoft Notepad

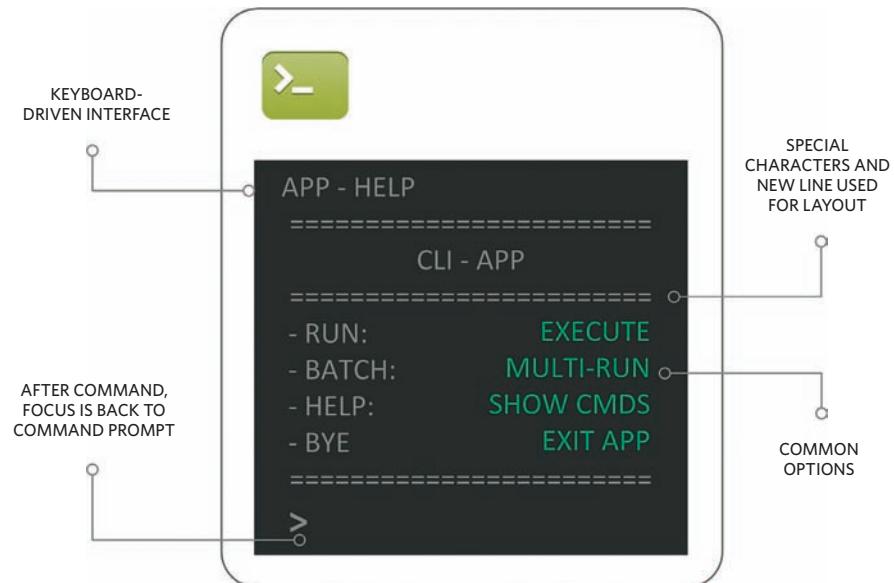
Notepad is one of the most used applications in Windows OS, whose UI has not changed in the past decade. The success of the application can be attributed to the simple and minimalist UI design.



2 Command Line Interface (CLI)



A NONGRAPHICAL USER INTERFACE WHERE THE USER ENTERS COMMANDS TO INTERACT WITH APPLICATION



The CLI is a keyboard-driven text-based interface where the user types a line of commands with parameters, then presses enter to execute. The interface can be either interactive, where the user is prompted for more commands in a sequence, or noninteractive, where the program executes without further user intervention. The command line interface is popular for batch processes, when a single operation has to be applied multiple times.

Key Features and Functional Requirements

- Welcome screen with About information
- Screen for help command with details on each command and its parameters
- Menu with keyboard shortcuts

Best Practices and Design Guidelines

- Use standard verb-noun set “command parameter” (e.g., `ftp> open http://google.com`)
- Use keyboard shortcuts using letters or numbers to go to submenu
- Use full words for commands; avoid symbols and abbreviations (use `delete` instead of `del`)

- Use simple, easy-to-remember words for commands, such as “username” instead of “unique identifier”
- Give textual confirmation, feedback (when action is completed), and error messages
- Use font colors sparingly and avoid using for decoration

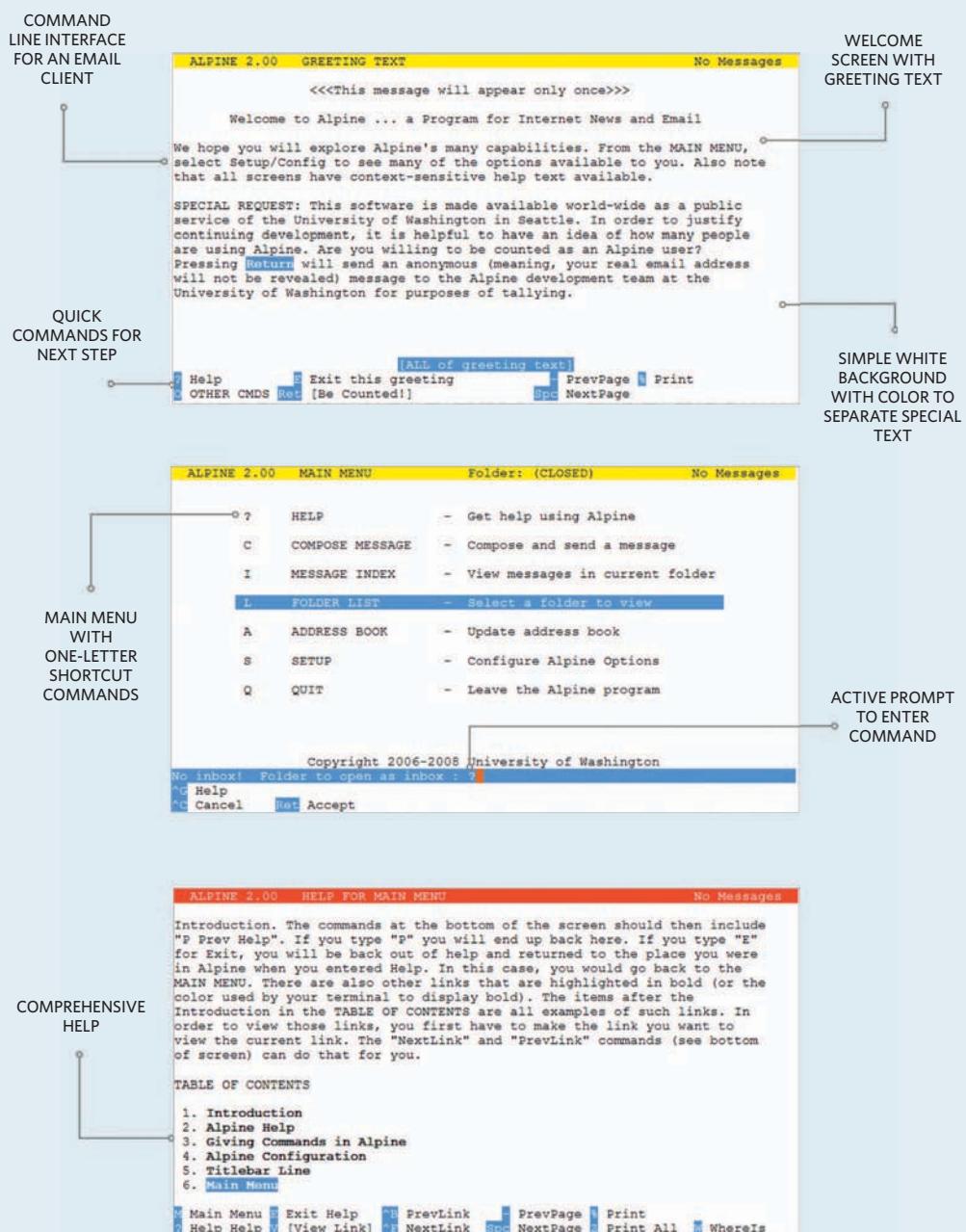
User Experience

- Update status and use percentage progress bars for background process
- On error, show comprehensive help commands with parameters
- Allow multiple parameters for batch operations
- Allow up and down arrow keys to access command history

⊕ See also **Graphical User Interface (GUI)** on page 16.

Alpine (Email Client), University of Washington

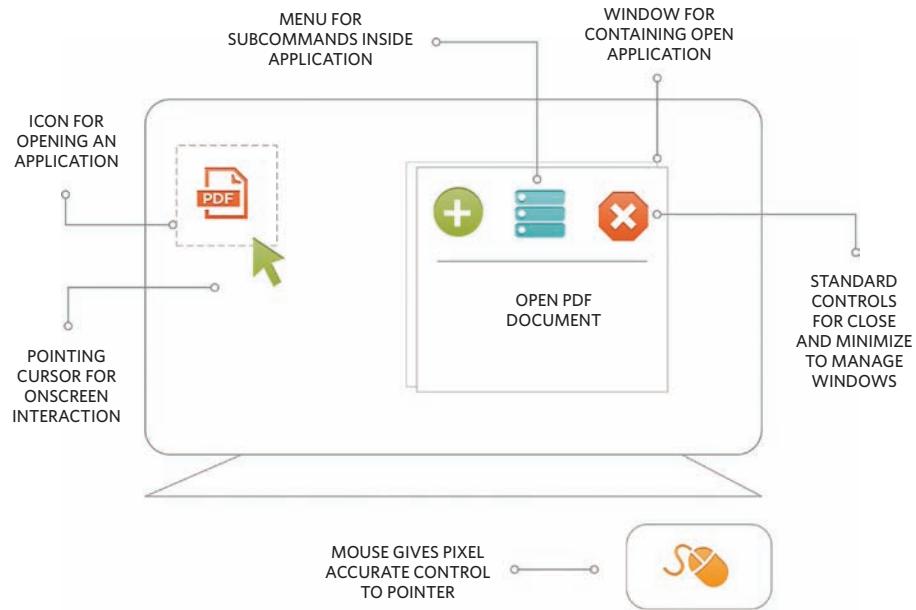
Alpine uses a command line interface for email. It has a greeting message as a welcome screen and shows the command bar on the bottom, which changes based on the screen. The menu has options that can be reached using letter shortcuts. The interface is interactive and prompts the user at each screen to proceed.



3 WIMP Interface



WINDOWS, ICONS, MENUS, AND POINTER-BASED INTERFACE



A WIMP interface was the early evolution of the GUI, which was based on the use of a mouse, along with key UI elements, windows, clickable icons, and pull-down menus. Windows run self-contained programs, icons were meant to be clicked for execution, menus provide a readily available list of commands, and pointers (cursors) allow the user to visually track the mouse.

Best Practices and Design Guidelines

- Allow manipulation of windows with options to close, minimize, and resize
- Allow “what you see is what you get” (WYSIWYG) interaction with pixel-accurate interaction
- Use naming conventions as nouns for objects and verbs for actions in menus and commands
- Give user control and keep a dialogue of request and response between user and computer
- Create a forgiving user interface that allows users to undo

User expectation from a WIMP interface is consistency between the user interface and interactions.

User Experience

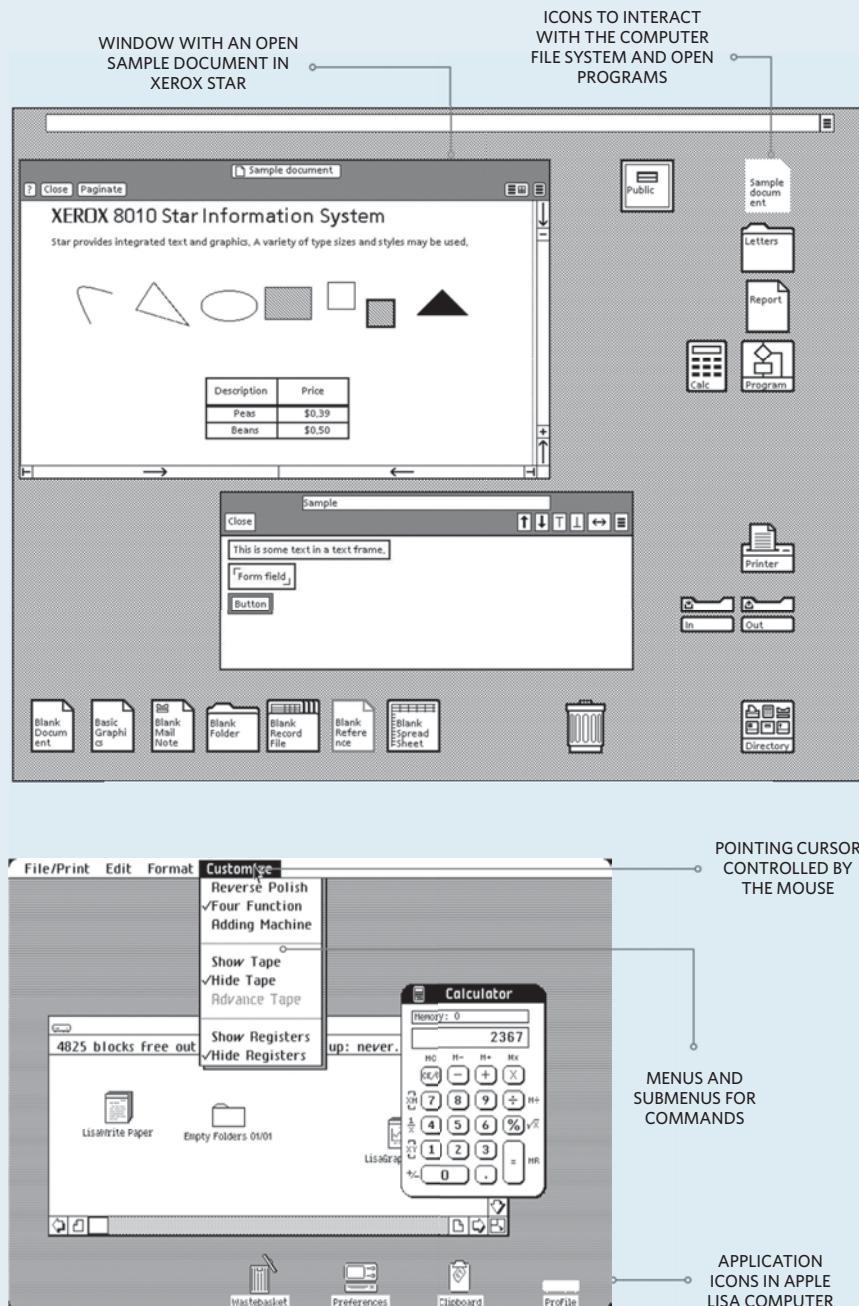
- Use consistent design with familiar icons and menu options
- Give feedback and keep users informed about progress
- Allow the movement of content within the window, which can be scrolled
- Use title bars to recognize the window

(+) See also **Graphical User Interface (GUI)** on page 16 and **Command Line Interface** on page 12.

Home Screen for Xerox Star (1981) and Apple Lisa Computer (1984)

WIMP interface was used in Star computers to manage multiple programs. It had small graphical images (icons) that represented individual programs as well as files and directory commands.

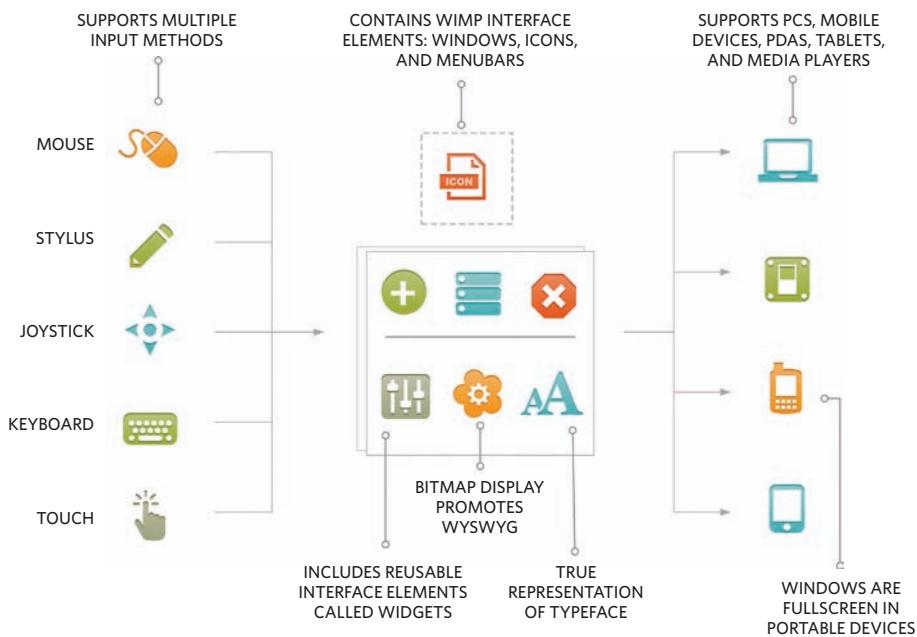
The Apple Lisa computer featured a set of icons, windows with menus, and a pointer to interact with them. The design was easy to learn and was consistently applied across all applications in the computer.



4 Graphical User Interface (GUI)



AN INTERFACE TO INTERACT WITH COMPUTERS USING PICTURES AND SYMBOLS



A graphical user interface, or GUI (pronounced “gooey”), is the evolution of the WIMP (windows, icons, menus, and pointers) interface to include reusable UI elements and supports mobile devices (phones, PDAs, and music players) that don’t necessarily use mouse pointers. It allows you to interact with the application using graphical images, icons, and elements on the 2-D screen, without having to memorize complicated commands and type them precisely using a keyboard, as in command line interface (CLI).

Best Practices and Design Guidelines

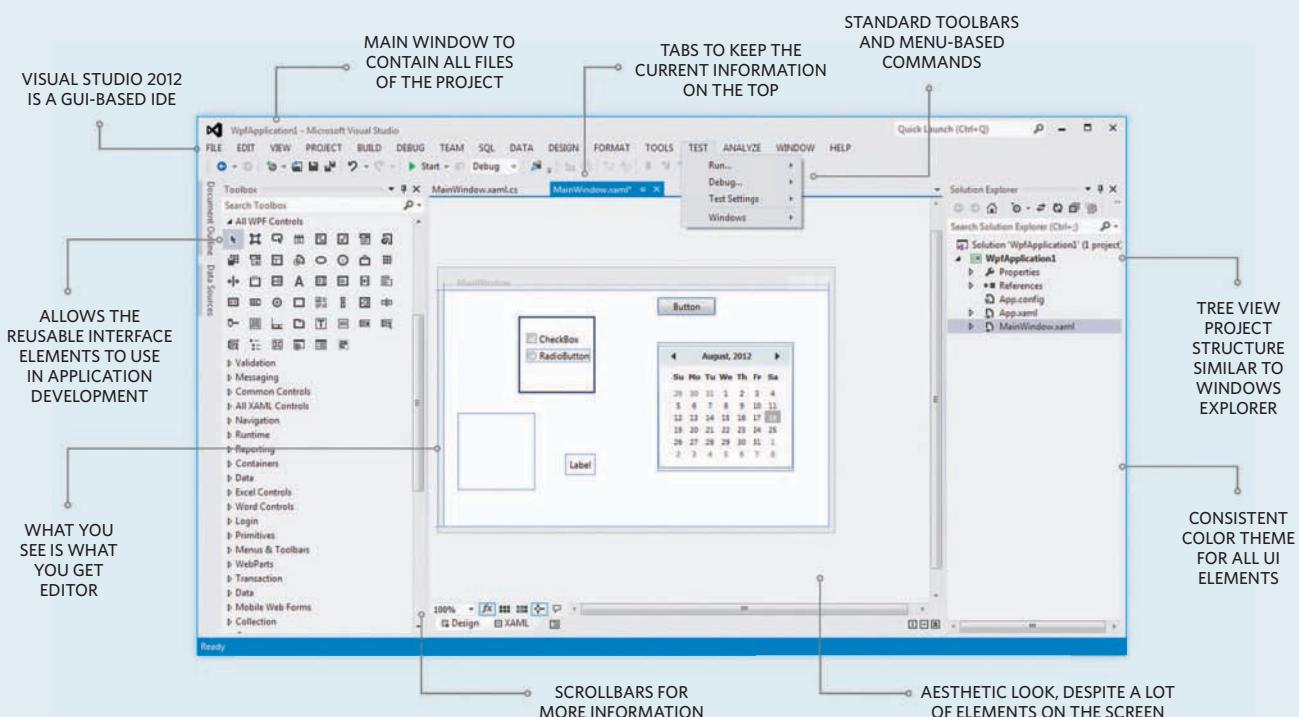
- Use metaphors and choose similar real-world names to associate with the application, such as folders, desktop, and office applications
- Make sure the user can anticipate a UI element behavior from its visual properties
- Convey warnings, errors, etc. in understandable language with visual cues and icons
- Use consistent theme for the windows and UI elements and their behaviors
- Use familiar images and actions to make it understandable, such as home icon to go to main window
- Create reusable UI elements, including basic controls like buttons, input box, and message boxes
- Make sure the interface gives feedback on user’s actions and keep the user updated with the status in a friendly, predictable, and familiar way

(+) See also **WIMP Interface** on page 14, **Command Line Interface** on page 12, and **Integrated Development Environment (IDE)** on page 26.

Microsoft Visual Studio 2012

Microsoft Visual Studio 2012 integrated development environment (IDE) is GUI based and allows developers to create applications. It uses a familiar window, menu, and icon-based

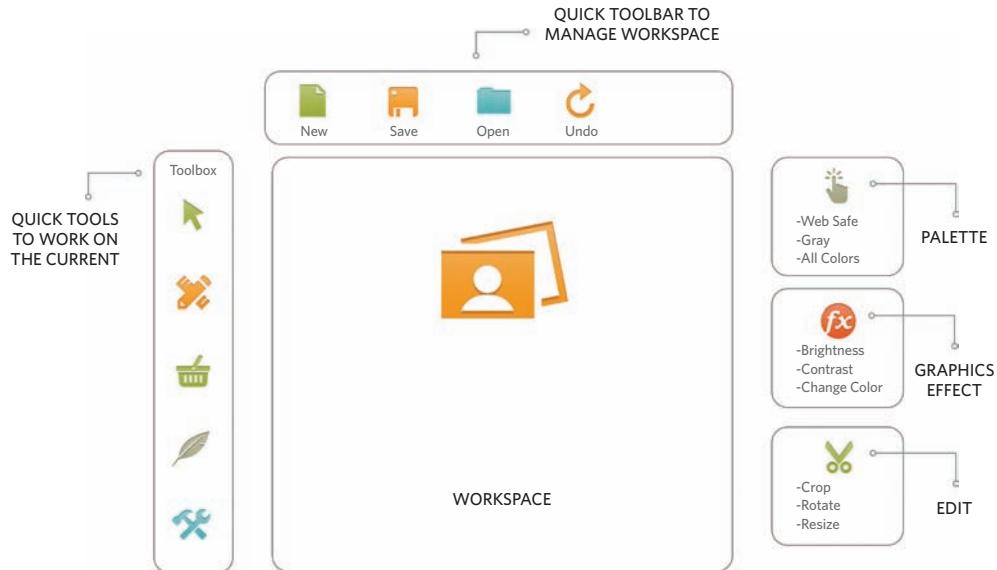
approach for interface design and allows users to manage project files using tabs and explorers, which is predictable and familiar to a Windows user.



5 Photo Editor



A GRAPHICS APPLICATION USED FOR ENHANCING AND EDITING DIGITAL IMAGES



A photo editor is meant for editing or adding effects to an existing image (raster graphics). A photo editor is a sophisticated GUI-based application and has numerous graphic filters that can be applied to an existing image to enhance it.

Key Features and Functional Requirements

- Big workspace for working on single image
- Standard application toolbar for quickly accessing, creating, and saving files
- Toolbox for quick editing and color palette for selecting and changing colors
- Option to add layers and graphic effects
- Editing features like crop, resize, and rotate
- Advanced editors contains histogram of image as well as other imaging capabilities

Best Practices and Design Guidelines

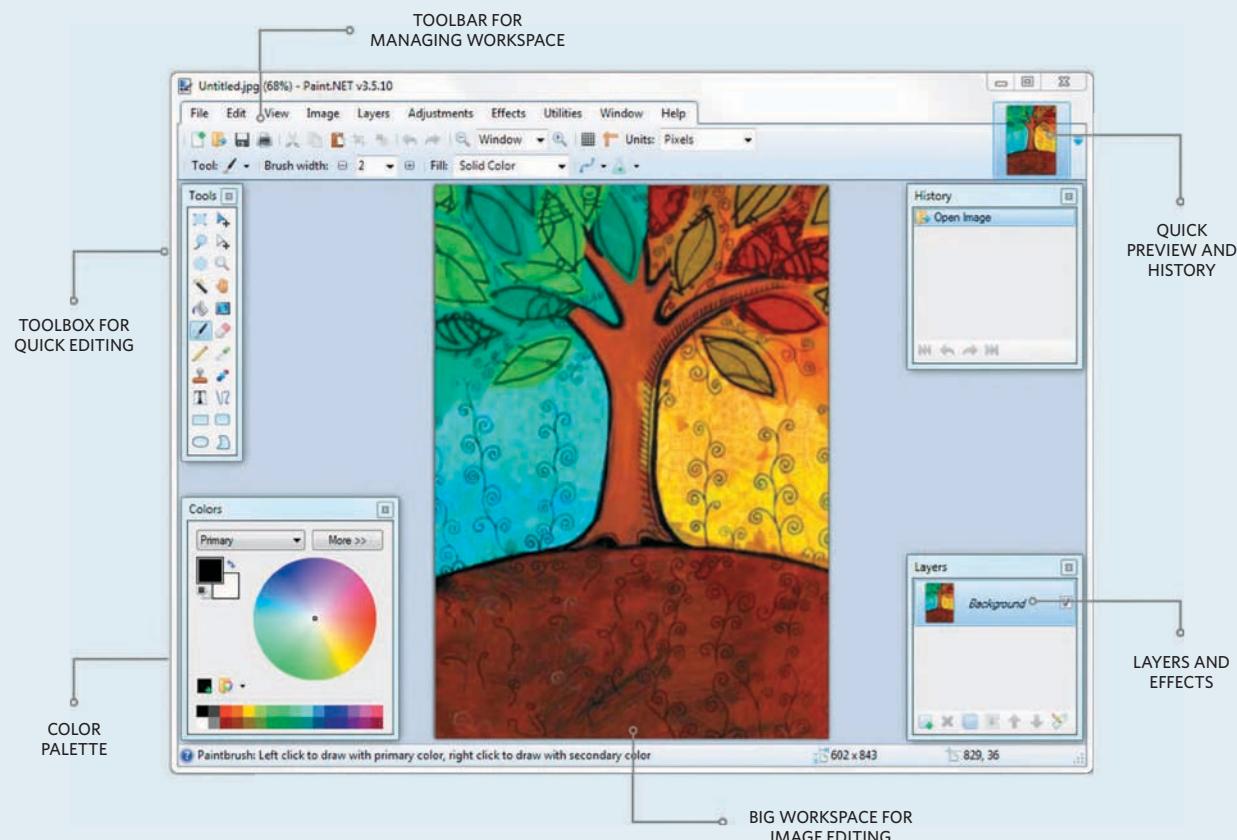
- Use a full-screen interface (the standard practice) with optimum space for the workspace
- Use floating, hideable components for color palettes, toolbox, and graphic effects
- Provide option to work on multiple images simultaneously with tabs interface
- Give quick access to image dimension and zoom view to help designers work efficiently
- Provide advanced options like preview when applying graphic filters
- Offer quick access to most-used editing features like crop, resize, and rotate

+ See also **Image Manager** on page 20.

Paint.NET Image Editor

Paint.NET is a GUI-based image editor with advanced graphic features. The UI uses a standard toolbar for managing workspace and has dynamic floating UI components for toolbox, layers, color palette,

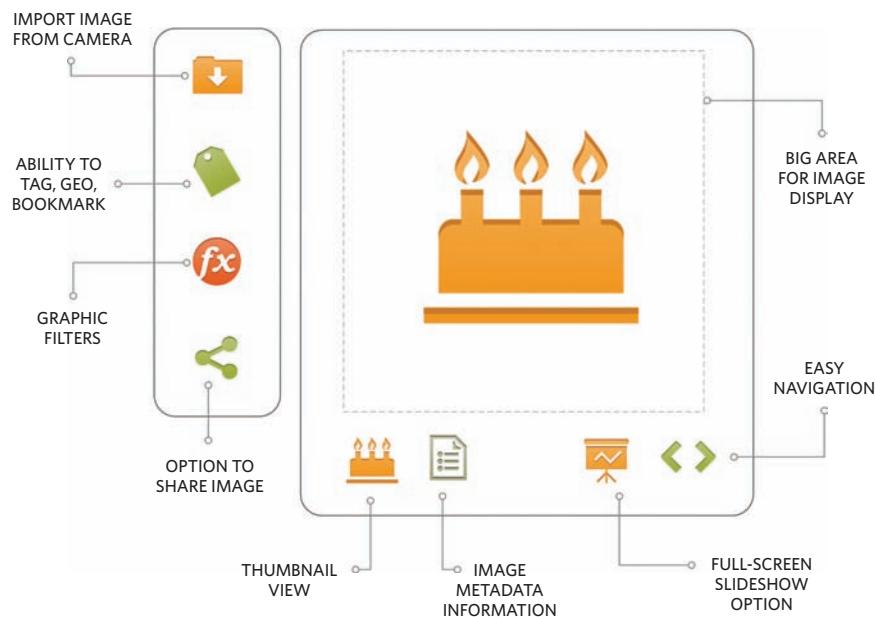
etc. It has a center workspace and shows image dimension, zoom view, and preview while working. The UI is clean and allows designers to work on the image unobtrusively.



6 Image Manager



AN APPLICATION THAT HELPS ORGANIZE IMAGES



An image manager helps you manage your images in a single place. It allows you to browse through your computer for images, has basic image-editing functionalities like red-eye removal, and helps create a slideshow of images.

Best Practices and Design Guidelines

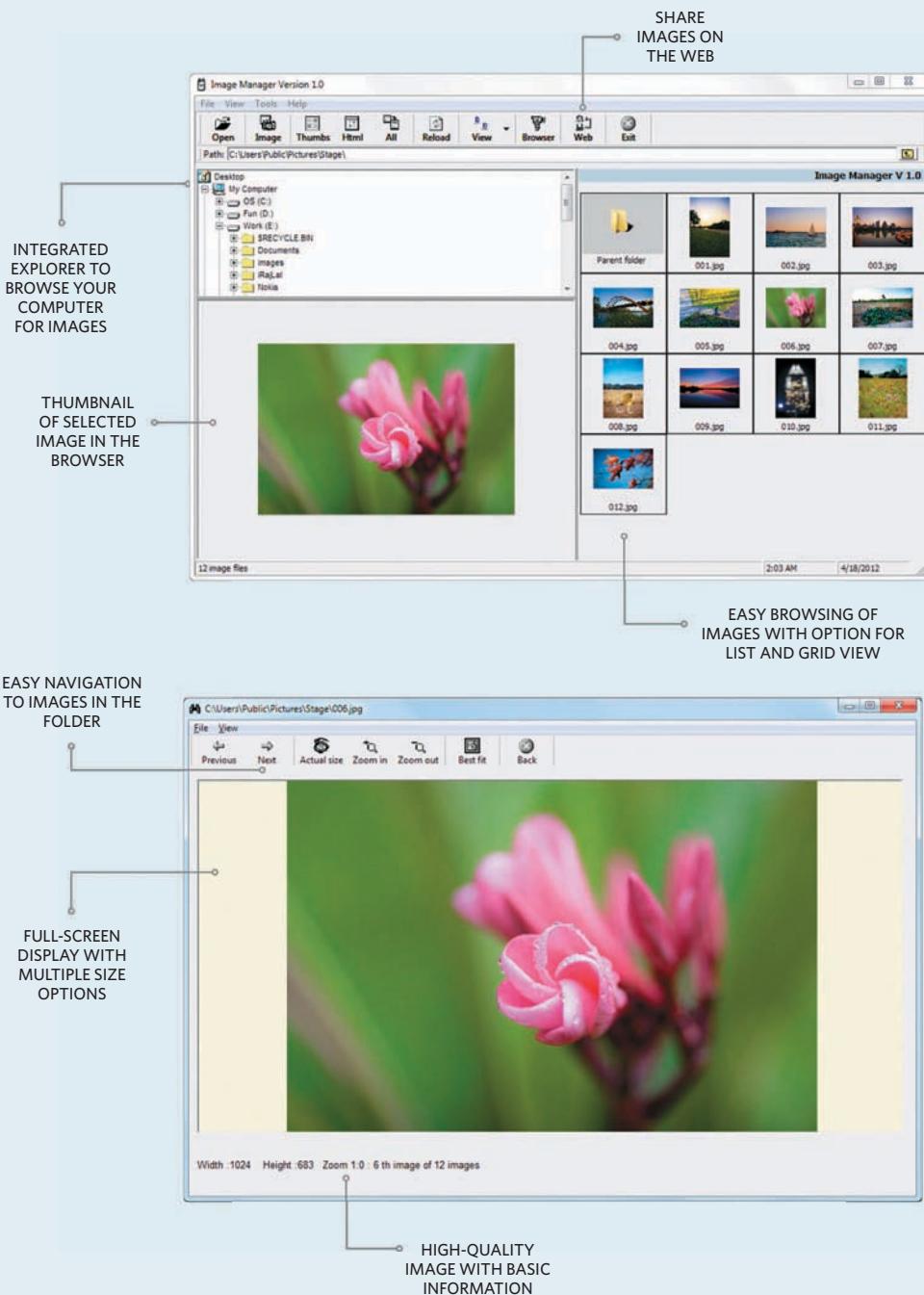
- Have a gallery, list, icon, and detailed view for selected folder in the browser
- Allow thumbnails and quick metadata for selected images
- Use a single-image view screen for image editing and quick navigation
- Allow for best fit (default), original size, full screen, and fit screen for image display
- Allow for basic image-editing capability like contrast, brightness, cropping, and red-eye removal

User expectations from an image manager are quick browsing and the ability to go through metadata, add tags, and share.

(+) See also **Explorer** on page 22, **Slideshow** on page 104, and **Mobile Photo App** on page 128.

Image Manager

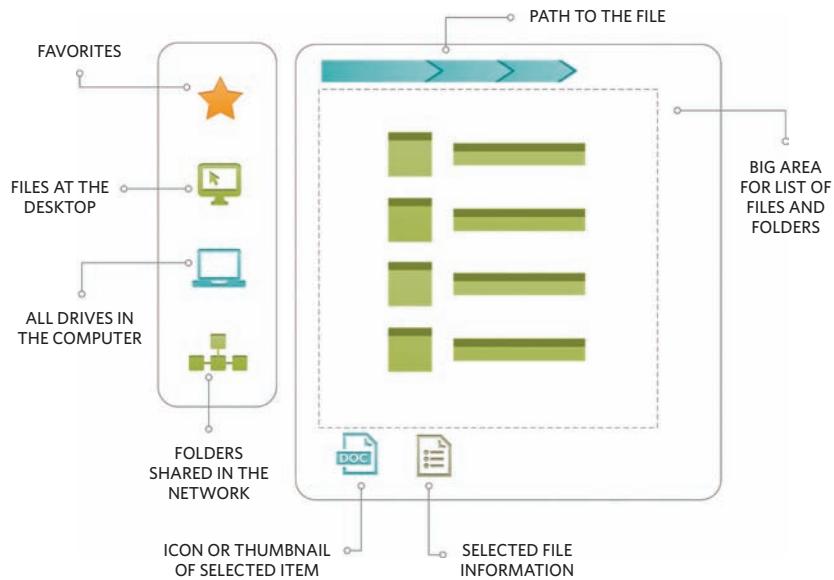
Image manager is a simple image organizer with an integrated explorer view to go through folders in a computer. It instantly displays all the image files in the folder in a gallery view. It also has a list view, an icon view, and a detailed view for faster loading. There's also a thumbnail view for the selected images with metadata. The Image manager also allows users to share the images on the web.



7 Desktop Explorer



AN APPLICATION THAT HELPS ORGANIZE YOUR FILES AND FOLDERS



An explorer helps you navigate files and folders in your computer. It is a file browser and management utility that uses a hierarchical navigation system. It has thumbnail previews of pictures and files and has a filter-based file browser. An explorer helps you check a file's metadata such as name, file size, date created, and media information, and preview thumbnails.

Key Features and Functional Requirements

- Customizable list, grid, thumbnail, and detail view for list of files
- Tree structure for directory hierarchy and navigation
- Breadcrumbs UI controls for current path of the selected items
- Information bar for selected files' metadata
- Optional thumbnail or icon preview

Best Practices and Design Guidelines

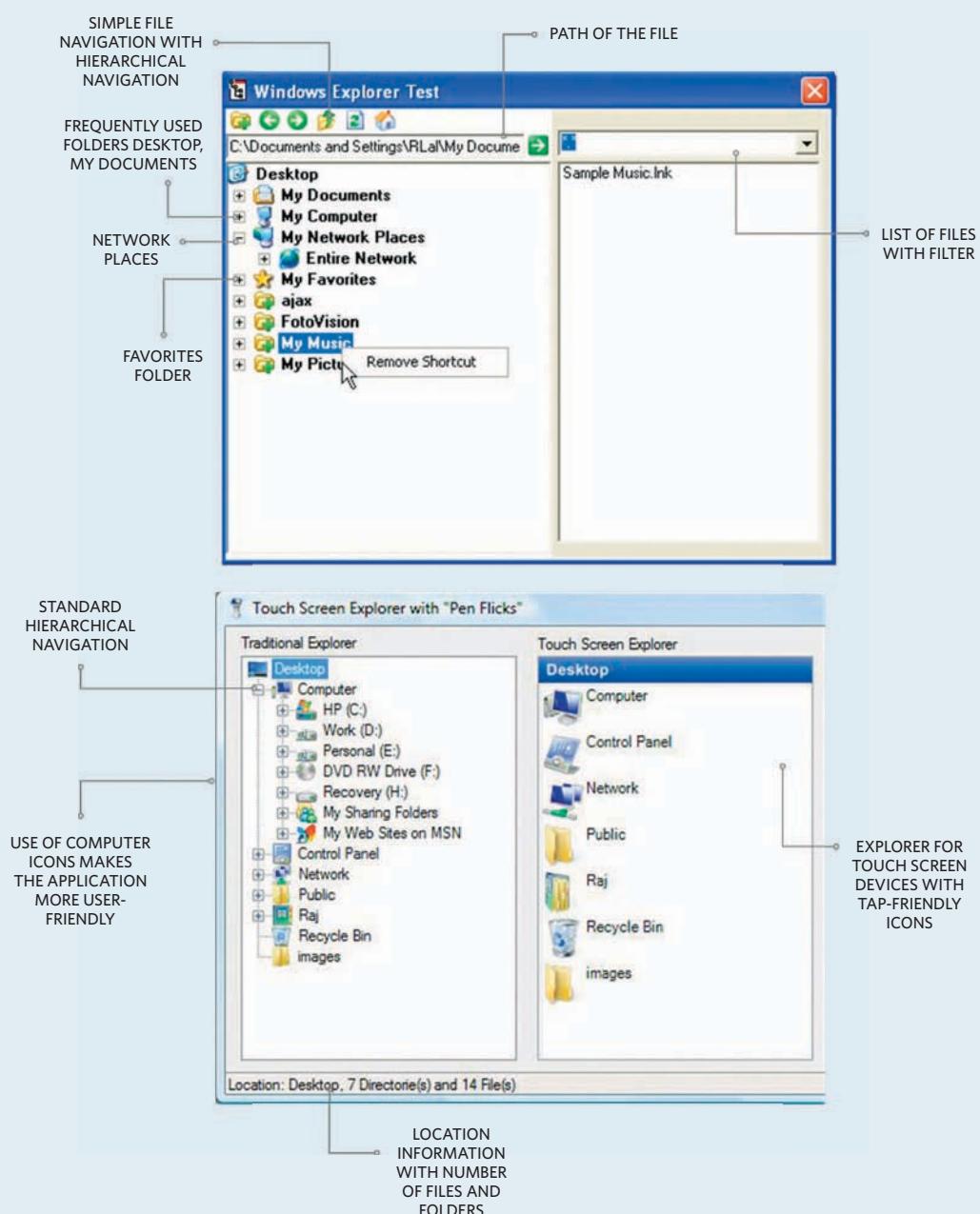
- Use familiar computer icon for folder hierarchy
- Allow filtering of list of files and multiple thumbnail view of files
- Use breadcrumb navigation, which has become a standard for file path
- Make control similar to the explorer in the computer
- Allow preview of files and quick file information

User expectations from an explorer are fast performance and familiar experience.

(+) See also **Image Manager** on page 20 and **Touch User Interface** on page 166.

Windows Explorer Control and Touch Screen Explorer

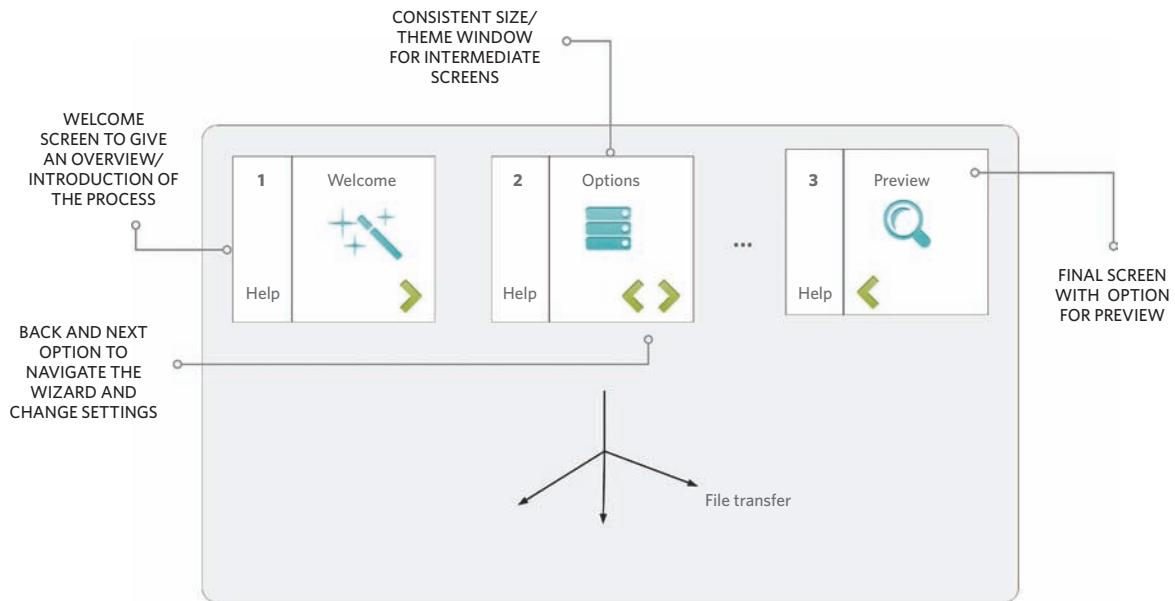
Windows explorer control uses a standard treelike structure for displaying the hierarchy of folders in the computer and allows the user to access frequently used folders like my documents and desktops. It also allows for the creation of a custom shortcut to frequently used folders. On the other hand, the touch screen explorer is optimized for touch and tap and uses bigger icons for files and folders. It uses a simple list view with thumbnails instead of a directory tree.



8 Assistant/Software Wizard



A SOFTWARE TOOL TO GUIDE YOU THROUGH A MULTIPLE-STEP PROCESS



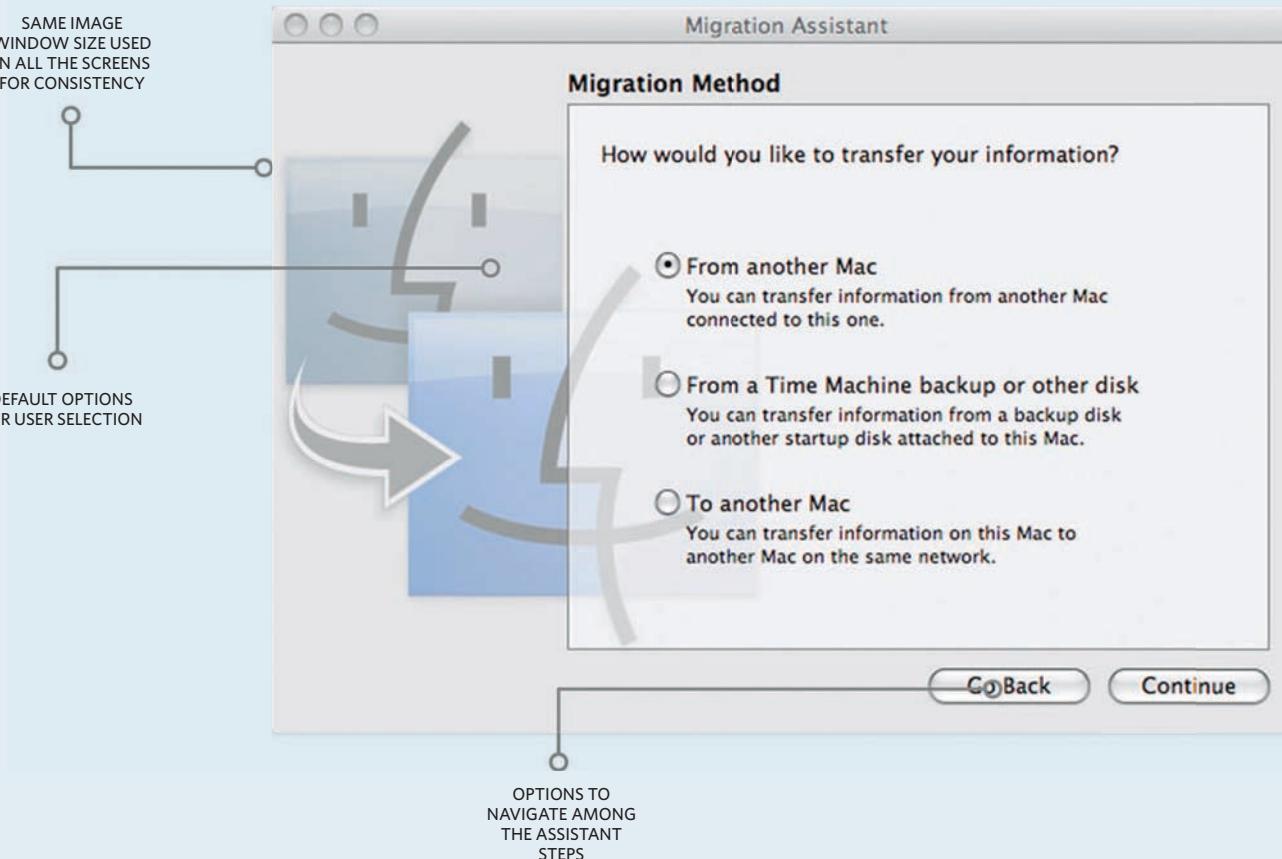
An assistant (also called a software wizard) is meant to help a user with a complex task, such as setting up an application or creating a video, or a task that normally requires the user to choose multiple settings, by asking a set of questions and presenting default options. It helps first-time users get acquainted with the process. The wizard also allows users to go back into the steps and change things.

Best Practices and Design Guidelines

- Keep a welcome/introduction screen to give an overview of the process
- Make sure all the steps in the assistant are divided into logical categories
- Give a consistent look, feel, and size for each dialog box with a standard icon for a feeling of a flow
- Provide onscreen help for each step or link to help documentation
- Make selections function between forward and backward navigation
- Have recommended settings with default-selected choices for fast process

+ See also **Graphical User Interface (GUI)** on page 16 and **WIMP Interface** on page 14.

Migration Assistant in Mac

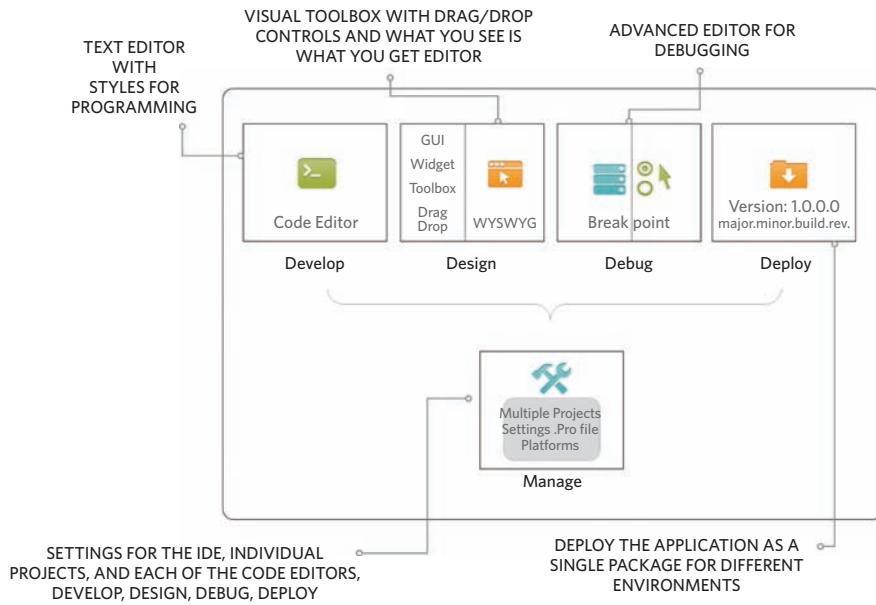


The migration assistant on the Macintosh operating system allows users to transfer their documents and settings to a new Mac computer. It presents the user with easy choices and allows for both forward and backward navigation.

9 Integrated Development Environment (IDE)



AN APPLICATION WITH INTEGRATED TOOLS AND LIBRARIES TO HELP PROGRAMMERS OPTIMIZE THEIR WORKFLOW



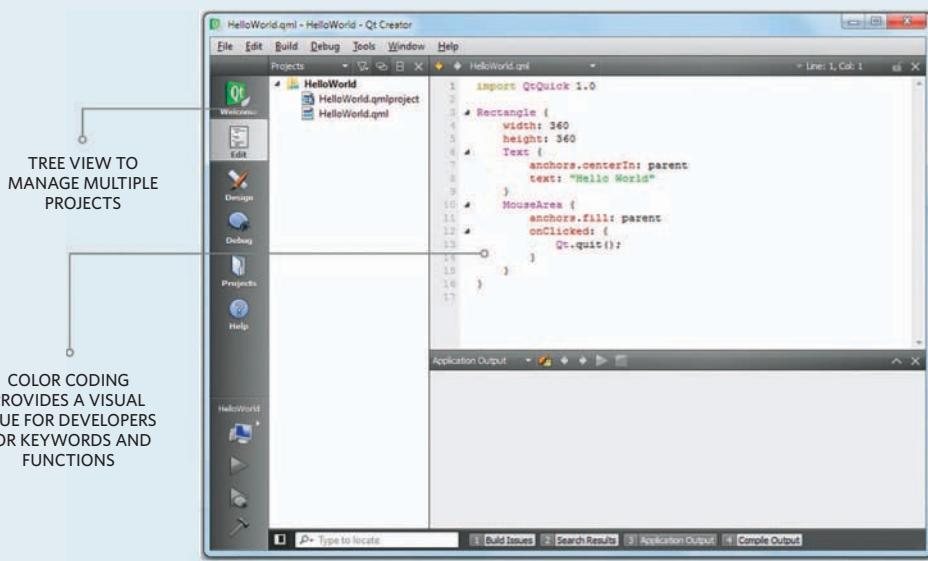
An integrated development environment (IDE) is a GUI-based framework that improves productivity by automating repetitive tasks and giving easy access to reusable controls, libraries, and functionalities. It helps in the complete software development life cycle by integrating all the tools required by a programmer in a single application to help design, develop, debug, and deploy an application.

Best Practices and Design Guidelines

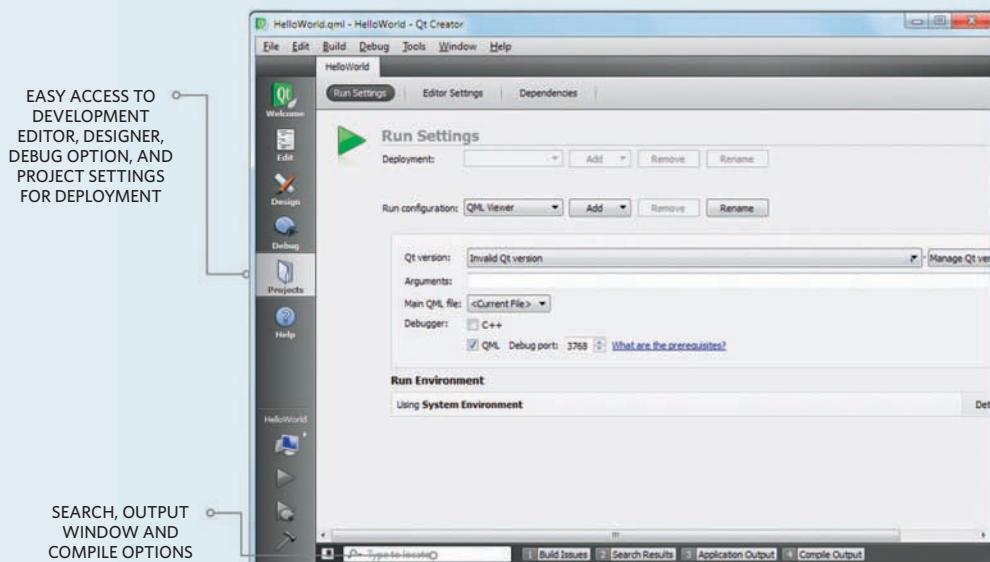
- Have a source code/text editor with color coding
- Have an option to show and hide individual IDE windows like toolbox, output window, and designer
- Allow line numbers and collapsible code view
- Provide a project explorer and settings to easily access multiple projects
- Provide ability to debug, deploy, search, etc, without leaving the coding environment
- Provide ease of access to the most frequently used features

(+) See also **Assistant/Software Wizard** on page 24 and **Graphical User Interface (GUI)** on page 16.

Qt Creator IDE

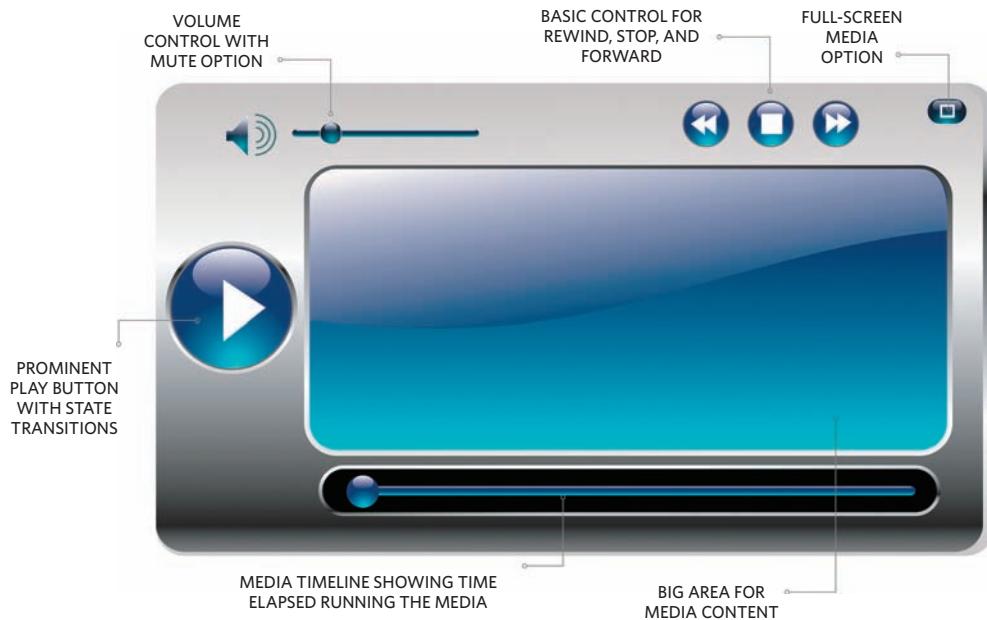


Qt Creator IDE creates GUI applications that run on multiple operating systems and devices. It allows you to manage multiple projects in the explorer view and have a comprehensive source code editor with line numbers and the option to collapse the code section. It also integrates compiler output, application output, search, and project settings in the IDE.



10 Media Player

AN APPLICATION THAT PLAYS AUDIO AND VIDEO FILES



A media player is a simple utility that plays a media file. It can be part of a bigger media application like iTunes, Windows Media Player, or Winamp, which provides other media management and editing capabilities. A media player is also used as a plug-in application inside a web browser. It normally comes with standard TV controls to play, pause, forward, and rewind the media file.

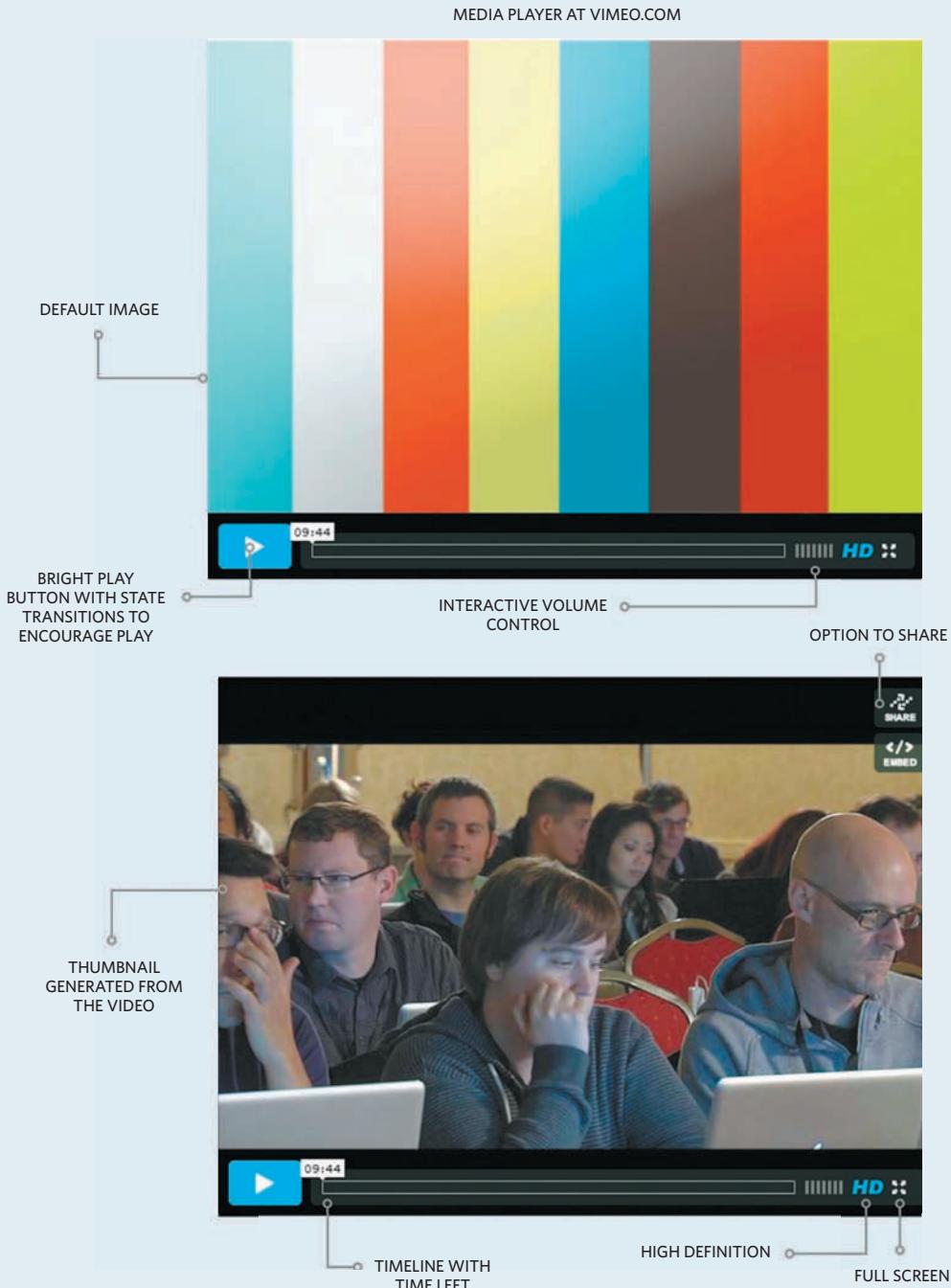
Best Practices and Design Guidelines

- Create a media player with a rich interface with advanced state and transitions
- Use high-quality images for controls with transparency and gradients
- Provide a timeline with duration information to show the time elapsed while viewing the media
- Have visible volume controls with a quick mute option
- Allow customization with “skins” or themes to change the look and feel of the player
- Have a basic version with the most common options for quick playing
- Have a prominent play button and a button to go full screen

(+) See also **Rich Internet Application (RIA)** on page 96 and **Web Widget** on page 98.

Vimeo.com Media Player

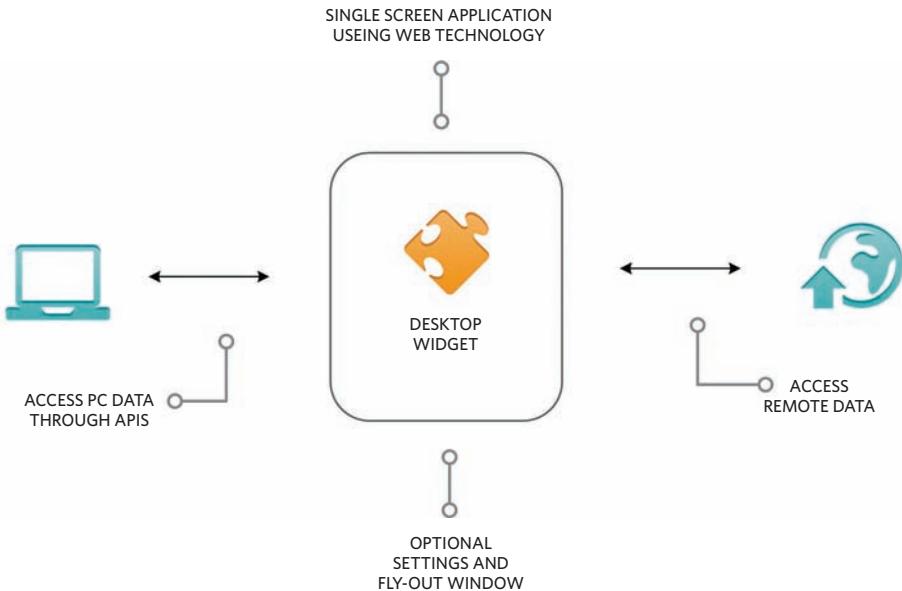
Vimeo.com is a video-sharing website and features an advanced online media player that allows for video upload, sharing, and viewing. It provides a rich media player for all the uploaded videos and allows for custom size as well as high-definition playback. It uses a default image for the video unless a thumbnail is generated by the video's originator.



11 Desktop Widget/Gadget



A LIGHTWEIGHT APPLICATION ON USER'S DESKTOP FOR READY-TO-USE INFORMATION AND FEATURES



A desktop widget/gadget is a mini application meant for quick information, small utilities, games, and accessories to an existing application or web service. It gives at-a-glance information and allows easy access to useful features. Widgets can be clocks, calculators, games, sticky notes, and more. Desktop widgets use web technology to render information, and they are easy to develop. They don't use standard UI elements like dialog boxes with menus, toolbars, and windows.

The purpose of a widget is brief information for further action.

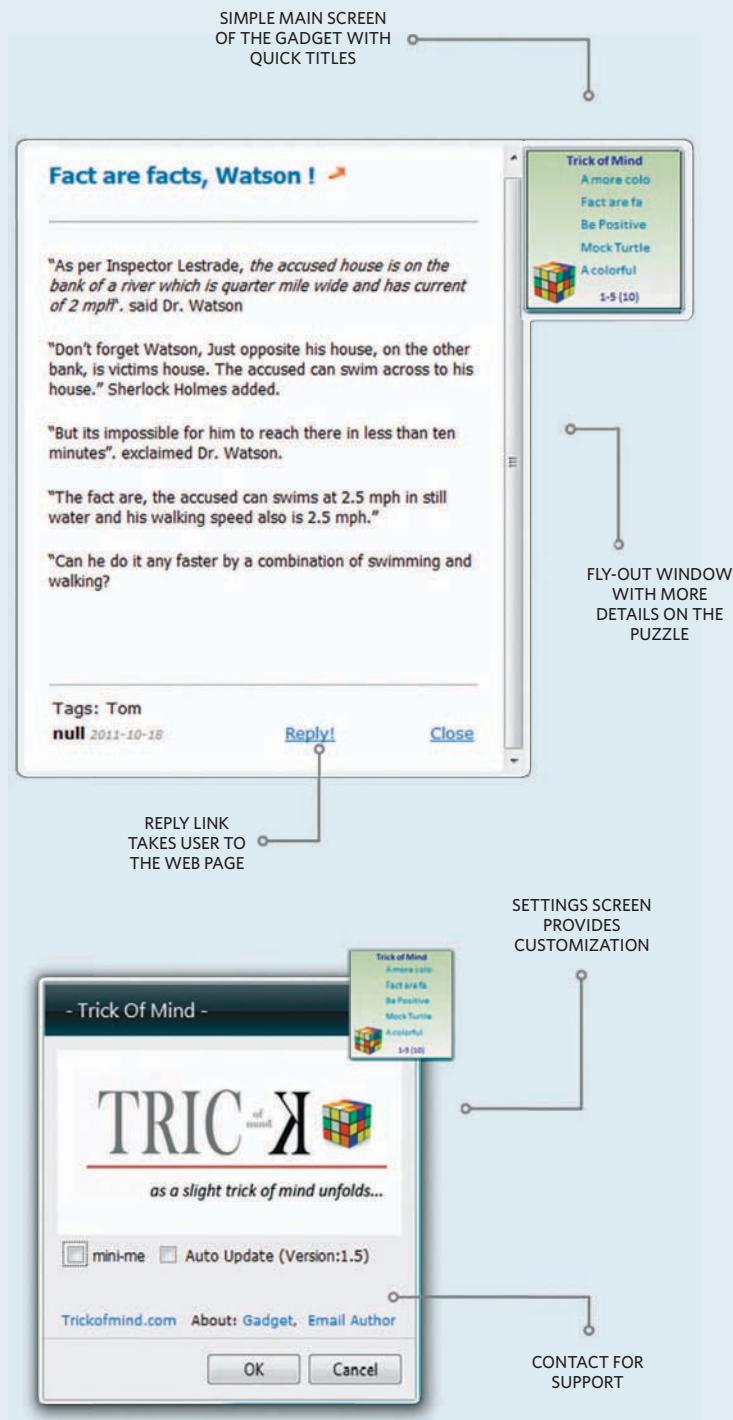
Best Practices and Design Guidelines

- Target a specific task with a simple user interface
- Allow quick access to dynamic live data
- Show only relevant information, avoid scroll bars
- Use consistent visuals for reload, error, information, and warnings
- Avoid advertisement in the widget
- Use visuals, images, signs, icons, and color to give visual clues of the functionality
- Keep interaction elements in a widget unobtrusive
- Have default settings for first-time users

(+) See also **Graphical User Interface (GUI)** on page 16 and **Web Widget** on page 98.

A Trick of the Day Gadget

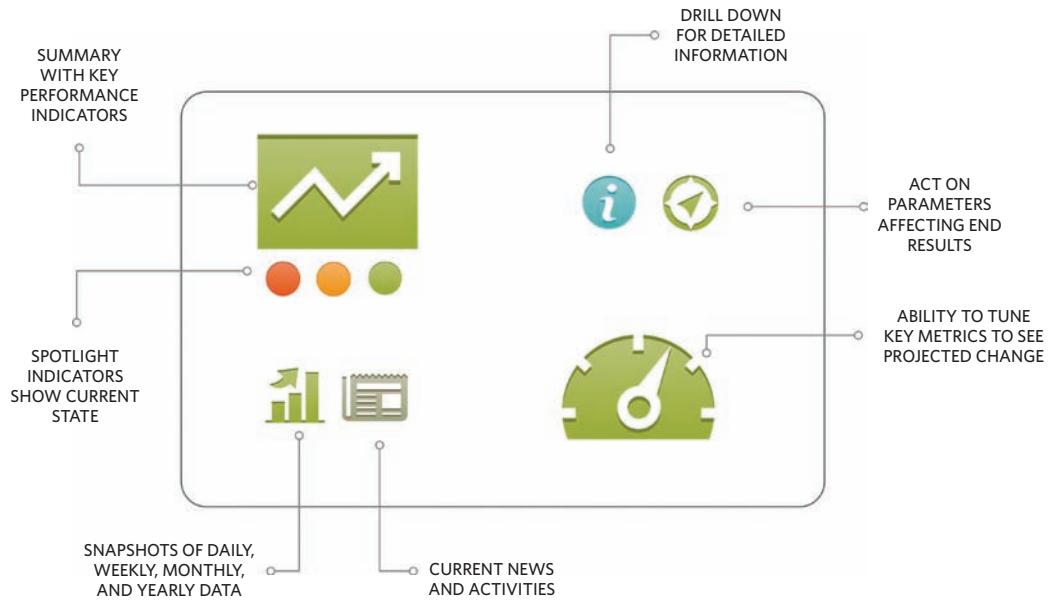
Trick of Mind (found at TrickofMind.com) is an information gadget that pulls RSS feed and shows the title of the everyday trick puzzles in a quick and easy way on the gadget screen. It features a fly-out window for details of the puzzle and a setting screen for customizing the layout.



12 Dashboard/Scorecards



A DASHBOARD PROVIDES A QUICK VIEW OF ALL KEY INFORMATION IN A SYSTEM



A dashboard/scorecard interface shows key performance indicators of a system in a visually understandable way. It surfaces summaries, trends, statistical data, and issue areas to help the user make informed decisions. Similar to an automobile dashboard, a digital dashboard helps monitor and interpret information by showing a quick view of the whole system.

Best Practices and Design Guidelines

- Have a single page with multiple blocks of visual information
- Keep the most important data or summary on the top left panel
- Keep the interface simple and data organized around key metrics
- Use ranking and highlighting for showing current performance
- Add interactive controls to change key metrics to project final output
- Keep interactive tools clearly marked and keep old data to compare for change

User expectations from a dashboard are quick information and the to ability to change data for projection and estimates.

User Experience

- Create an aesthetically pleasing overall design
- Have a summary block for quick overview of key performance indicators
- Provide short, precise, and easily readable text
- Use bar graph for statistics data and charts to visualize data
- Show more information such as relative data, which helps with business decisions

(+) See also **Homepage** on page 54 and **Single-Page Website** on page 58.

InfraDashboard by Infragistics Labs

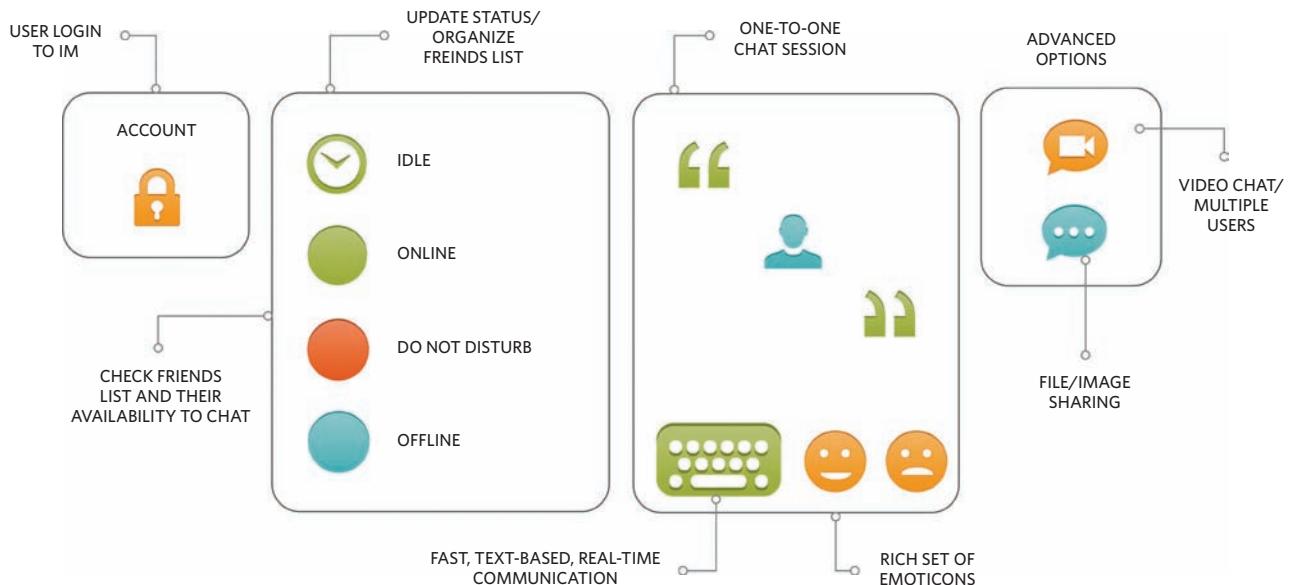
The dashboard by Infragistics provides a one-page view of their financial information system. It uses panels for summary, key metrics, performance, and statistical data. The overall design is simple, with a plain theme. Bright colors direct attention to important data.



13 Instant Messenger (IM)



AN APPLICATION FOR REMOTE CHAT BETWEEN TWO PEOPLE



Instant messenger provides a fast, text-based, real-time communication channel over the Internet. It creates a private chat session between two users who are using the messenger client application. The traditional IM software is desktop based, but now it has become an integral part of websites and even smartphones.

Best Practices and Design Guidelines

- Keep IM as a single-purpose application with a compact interface
- Support for rich text formatting and emoticons in the message
- Allow option to set user status, profile picture, and availability
- Provide a rich set of text-based emoticons for chat
- Have little branding and advertisement

User expectation from an instant messenger is personal, quick, and reliable communication.

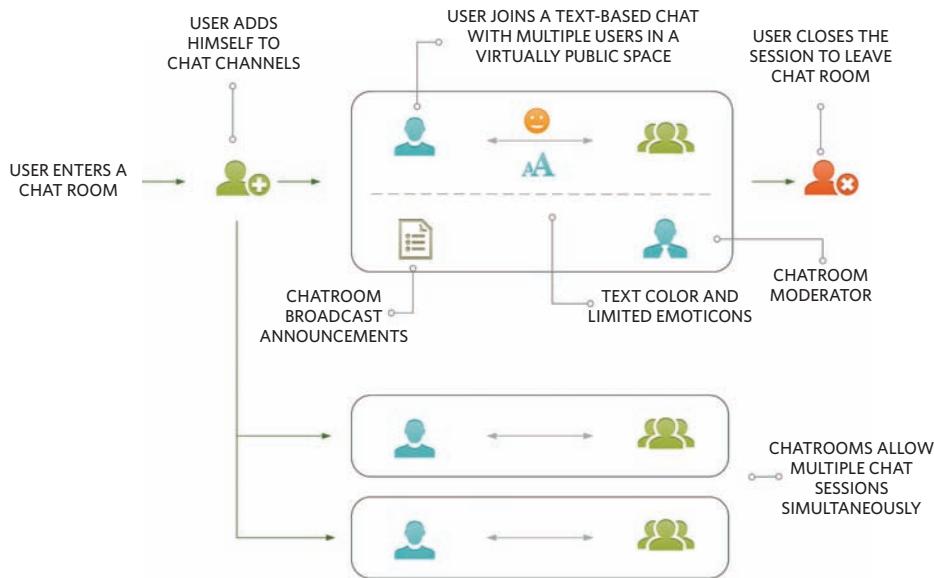
User Experience

- Clean with minimum distraction
- Engaging conversations with pictures, multimedia, and file-sharing support
- Personalized expression with profile image, formatted text, fonts, and themes
- Options for login and log chat

(+) See also **Chat Room** on page 35 and **Video Chat** on page 36.

14 Chat Room

A CHAT APPLICATION TO COMMUNICATE REMOTELY WITH A GROUP OF PEOPLE



A chat room is an interactive forum where you can chat with multiple users in real time. A chat room does not necessarily need the user to log in to a service; the user can go to a particular chat room by opening an instance of that chat room (also called a channel) and becoming an active member. Unlike instant messengers, chat rooms allow limited personalization in terms of profile pictures, emoticons, and message formatting.

Best Practices and Design Guidelines

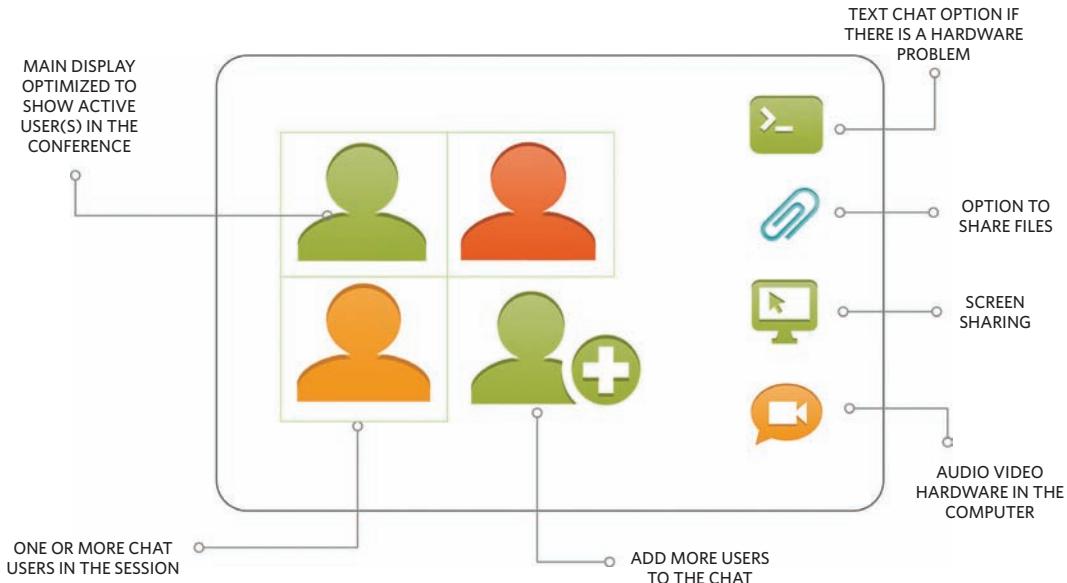
- List available chat rooms to join and allow user to create new chat rooms
- Avoid registration/login for public chat rooms
- Allow public and private text-based chatting with guest access
- Allow status indicators and user profiles with nicknames/avatars
- Provide option to accept/ignore messages from users not on the user's contact list
- Have welcome message with chat room rules for new users
- Provide an easy method to contact chat room moderator
- Make chat accessible only from keyboard
- Use minimal text-based advertising

(+) See also **Instant Messenger (IM)** on page 34 and **Online Forums** on page 80.

15 Video Chat



COMMUNICATION SOFTWARE WITH WEB CAMERA



A video chat is an interactive application that allows two or more people to communicate with live sound and video. It uses the computer's web camera and audio device for two-way audio and video transmission.

Best Practices and Design Guidelines

- Optimize display for showing one or more users
- Have easy option to add/invite more users to the conference
- Use standard chat options to share screen, files, etc.
- Provide controls for changing hardware settings
- Enable users to add users from existing contacts
- Provide quick option for volume and file sharing
- Allow users to position user view and change it to full screen
- Keep the call window at a fixed place and video at the foreground
- If using controls on top of video, use transparent controls with borders

User expectations from a video chat room are quick collaboration and seamless interaction. They want to spend less time configuring the software and more time chatting.

User Experience

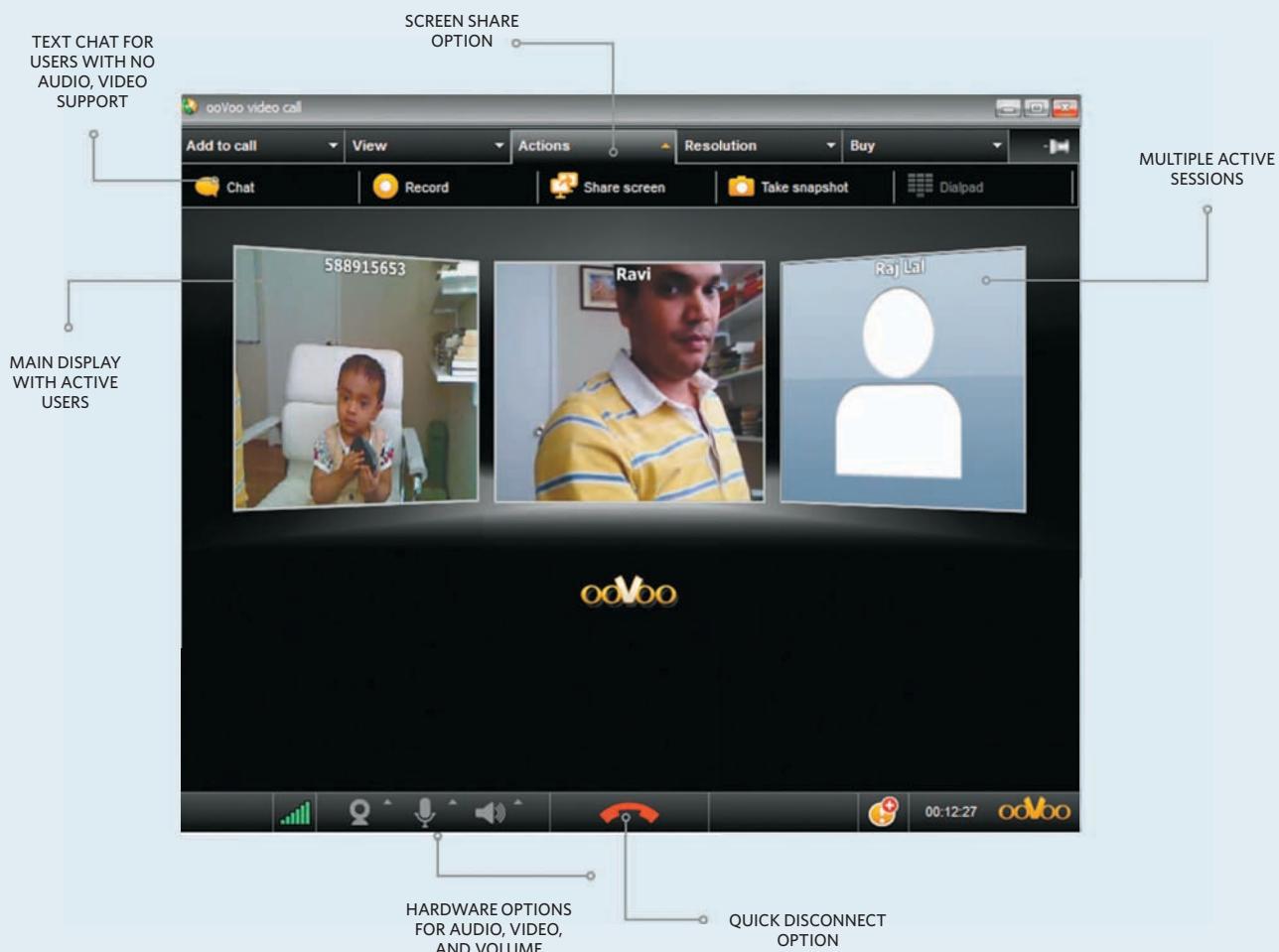
- Easy-to-use video conferencing
- Minimum or automatic configuration for audio/video
- Little or no advertising
- Option for screen sharing
- Maximize display window for video

(+) See also **Instant Messenger (IM)** on page 34 and **Chat Room** on page 35.

ooVoo Video Chat

The video chat application by ooVoo is a simple-to-use application and allows up to twelve-way video chat. After users log in to their account, they can add users by email account. It also allows users with no

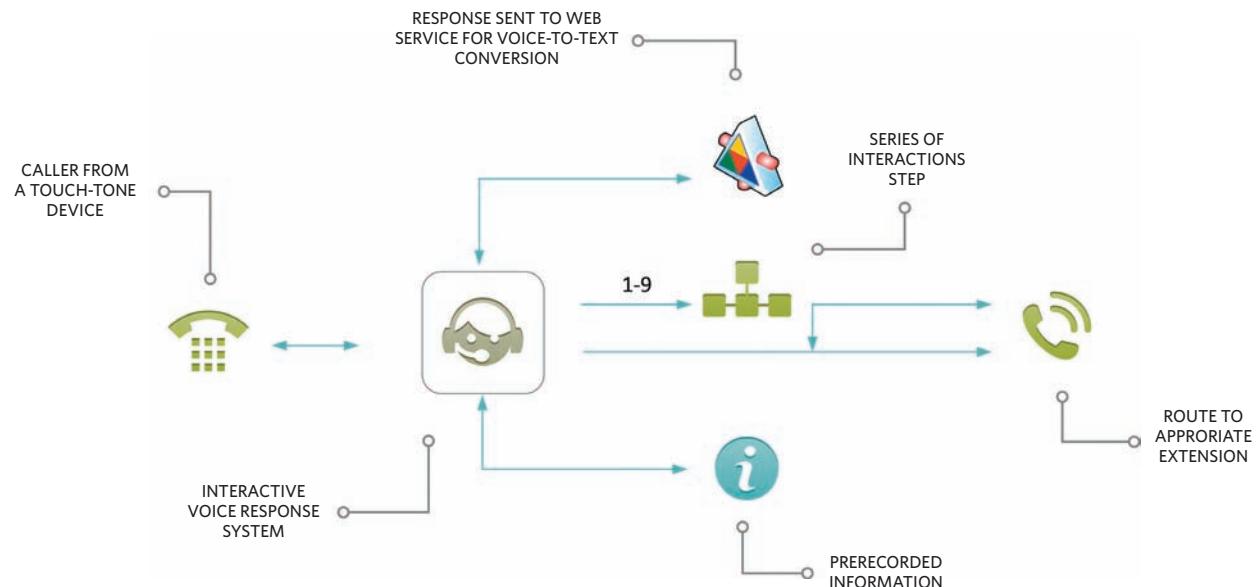
camera support in the conference by offering a text chat option. The UI is simple and the display is optimized for video conferencing with multiple users. The chat client also has the option to share screens and files.



16 Interactive Voice Response (IVR) System



AN AUTOMATED TELEPHONY SYSTEM THAT INTERACTS WITH CALLERS



An interactive voice response (IVR) system uses prerecorded voice responses to collect information from the caller and routes them. The IVR system is used for call forwarding, looking up information, troubleshooting, and automated 24/7 customer service. The IVR system accepts voice or touch-tone input, processes them, and forwards the caller accordingly. It acts as a virtual information desk.

Best Practices and Design Guidelines

- Have fully defined decision tree to guide the caller with predefined steps
- Order steps according to the frequency of calls
- Have standard options such as:
 - Maximum of four options at every step
 - "0" for representative, "#" for repeat
- Use simple user interface to configure IVR system
- Allow integration with database and web services

User expectation from an IVR system is a complete set of tools for full customization.

User Experience

- Welcome user and try to add some personality to IVR system
- Use a female voice with clear accent for prerecorded messages
- Craft simple messages
- Include default options for no entry

Keep menu prompts short and concise

(+) See also **Voice User Interface** on page 180 and **Intelligent User Interface** on page 198.

Voicent IVR System

Voicent IVR is an easy-to-use interactive voice system that can be easily integrated with a telephony system as well as Java-based applications that can connect to databases. The application provides a visual flow for creating steps in the IVR system and comes with tutorials to help the user configure the system successfully.

The image displays two screenshots of the Voicent BroadcastByPhone software interface. The top screenshot shows the 'Start Page' for first-time users, featuring a 'Get Started' button, a 'Create New Call List...' button, and a 'Get Started Tutorial' section with links to broadcast basics like 'Broadcast a simple message'. The bottom screenshot shows the 'Incoming Call' visual flow editor, where a sequence of steps is defined: GetPassword, RecordMessage, ListenToMessage, SelectCallList, StartBroadcast, BadSelection, RecordAgain, WrongPassword, and GetID, all connected by arrows indicating the flow of the call.

COMPREHENSIVE TUTORIAL ON SETTING UP INTERACTIVE VOICE RESPONSE SYSTEM

QUICK HOW-TO TUTORIALS FOR EACH FUNCTIONALITY

START PAGE FOR FIRST-TIME USERS

STEP-BY-STEP INSTRUCTIONS FOR IVR SYSTEM

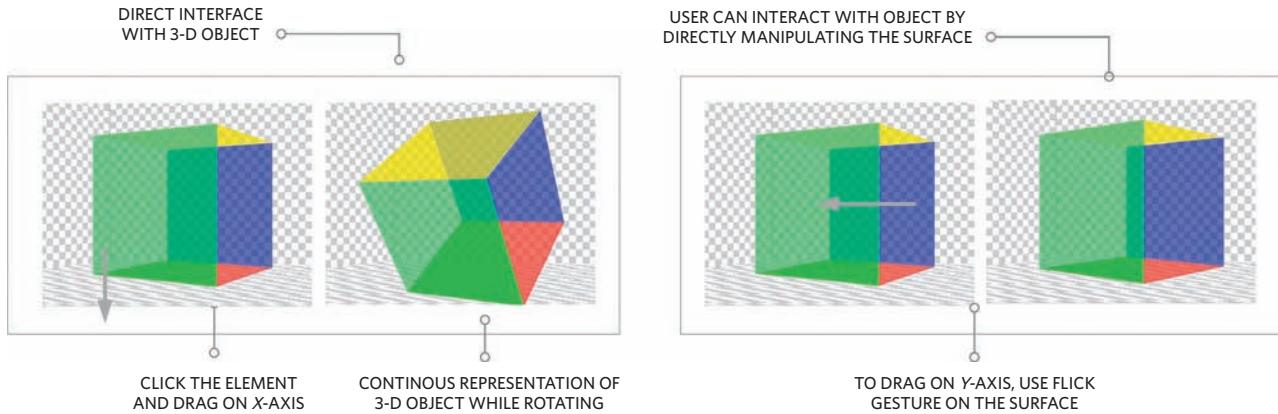
INTEGRATED WITH SOFTWARE APPLICATION TO QUERY DATABASE

EASY-TO-CREATE VISUAL SETUP FOR USER INTERACTION

17 Direct User Interface



AN APPLICATION THAT ALLOWS USERS TO DIRECTLY INTERACT WITH THE INTERFACE



A direct interface allows users to directly change the UI elements presented to them. One of the popular implementations is in presenting 3-D objects. Three-dimensional transformations like moving, scaling, and rotating are key features that need continuous rendering of the 3-D objects with respect to *XYZ* axes. Direct interaction provides the best user experience in this case for moving and rotating the object.

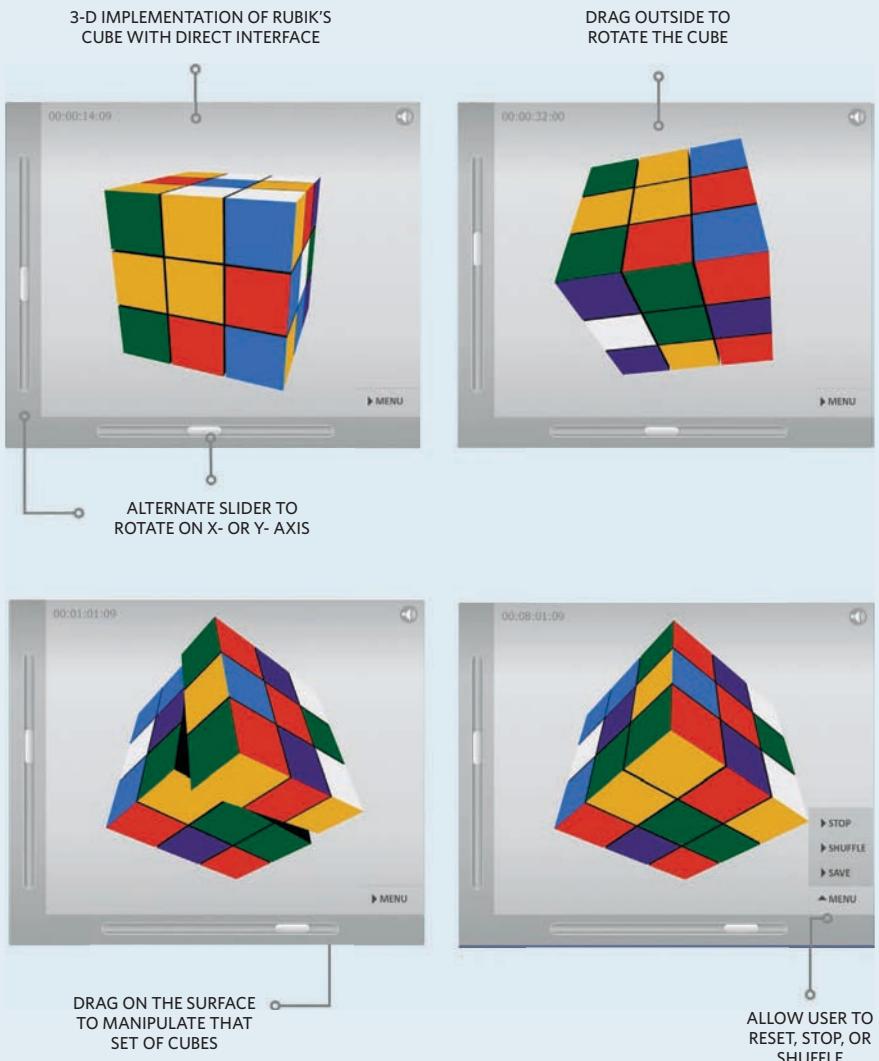
Best Practices and Design Guidelines

- Have intuitive interaction—user should be able to touch and start interacting
- Use for application with multiple objects and shapes
- Use simple and familiar interactions for direct manipulation, such as drag for moving
- Have continuous representation of object on every movement
- Allow global interactions defined to manipulate the object as a whole
- Use specific interactions on the surface of the object for ad-hoc action
- Always allow user to reset and go back to the last position

(+) See also **3-D User Interface** on page 42 and **Gesture-Based User Interface** on page 71.

Rubik's Cube by CubeAssembler.com

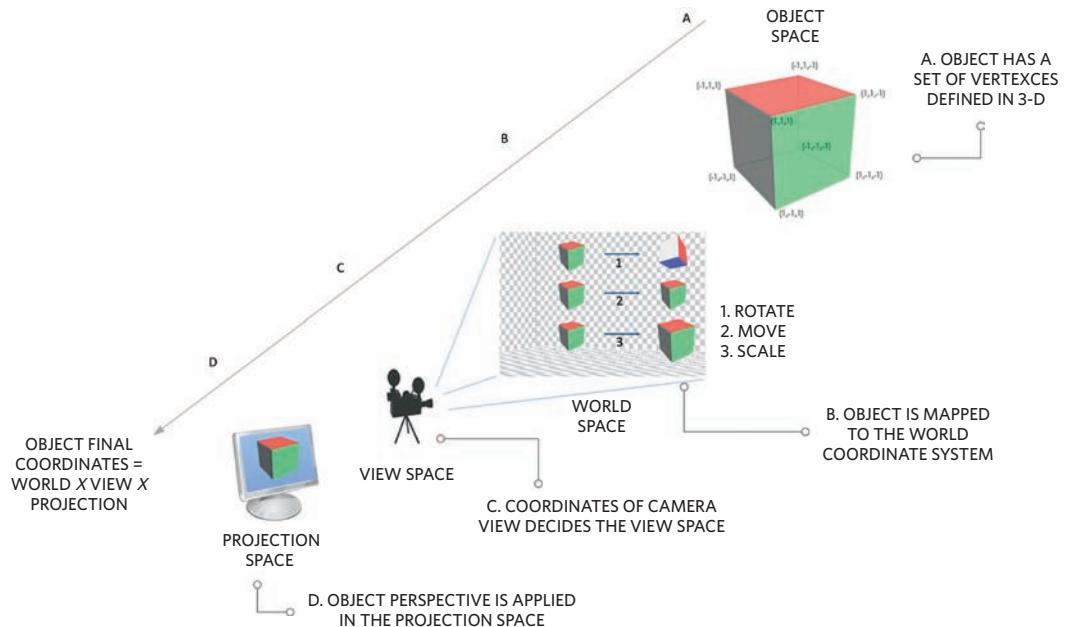
The Rubik's Cube implementation is a simple example of a direct interface. It uses a combination of traditional UI components and menus along with a direct interface to the Rubik's Cube. The cube can be manipulated by applying flick gestures directly on the surface in a particular direction. There are global gestures for rotating the cube on the X- or Y-axis.



18 3-D Interface



AN APPLICATION THAT ALLOWS THREE-DIMENSIONAL INTERACTIONS



A 3-D interface is simulated in a 2-D flat screen and can be seen with bare eyes, unlike 3-D movies that must be experienced with special glasses. A 3-D interface assumes a three-dimensional virtual space where the object is mapped with respect to camera coordinates and projection to give a 3-D experience.

Best Practices and Design Guidelines

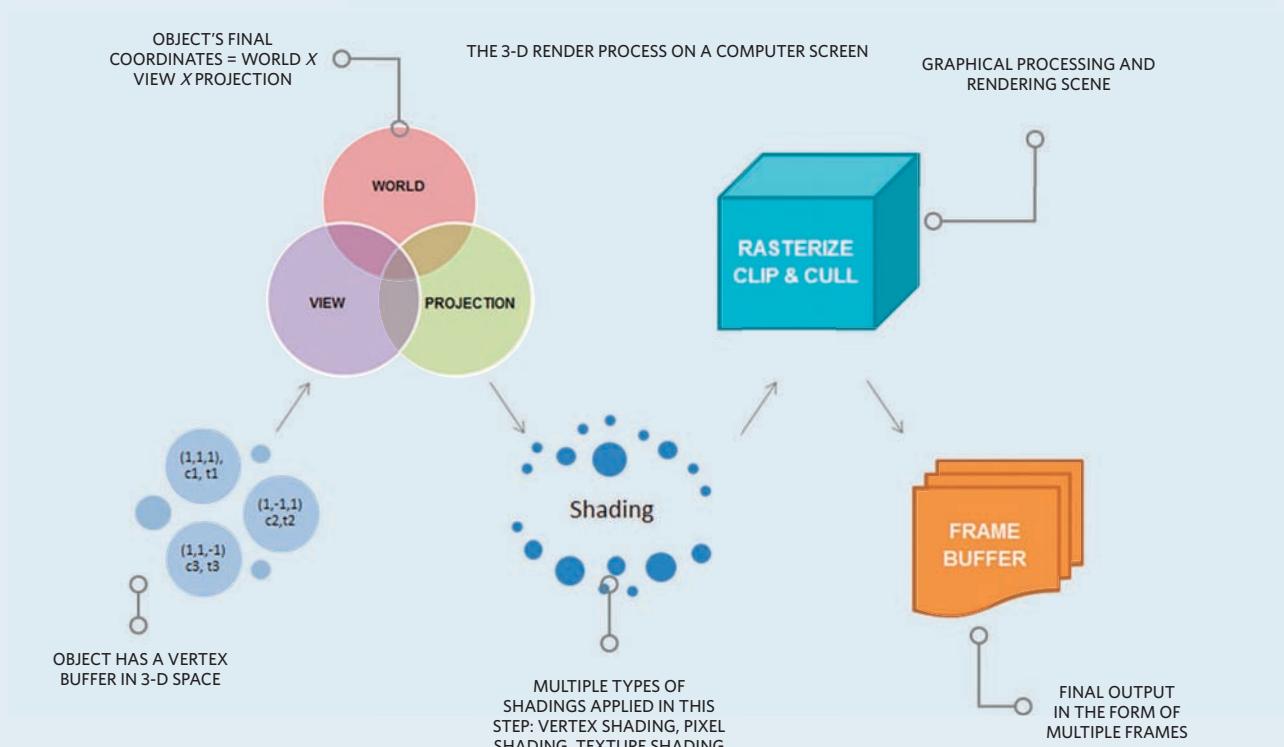
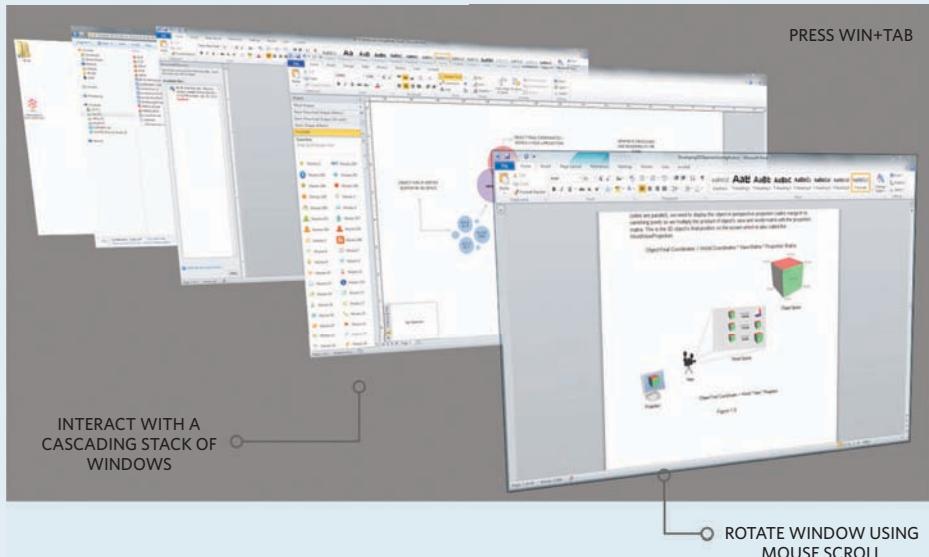
- Allow for predefined transformations based on requirement
- Provide intuitive user interface with mouse and keyboard
- Use zoom to get into multiple levels of the interface
- Use colors, gradients, and transparencies to differentiate between layers
- Always have quick help/legends for different interactions
- Keep an alternate (keyboard/mouse) method of interaction
- Allow for mistakes with undo/redo and reset options

(+) See also **Direct User Interface** on page 40 and **WIMP Interface** on page 14.

Windows Flip 3D

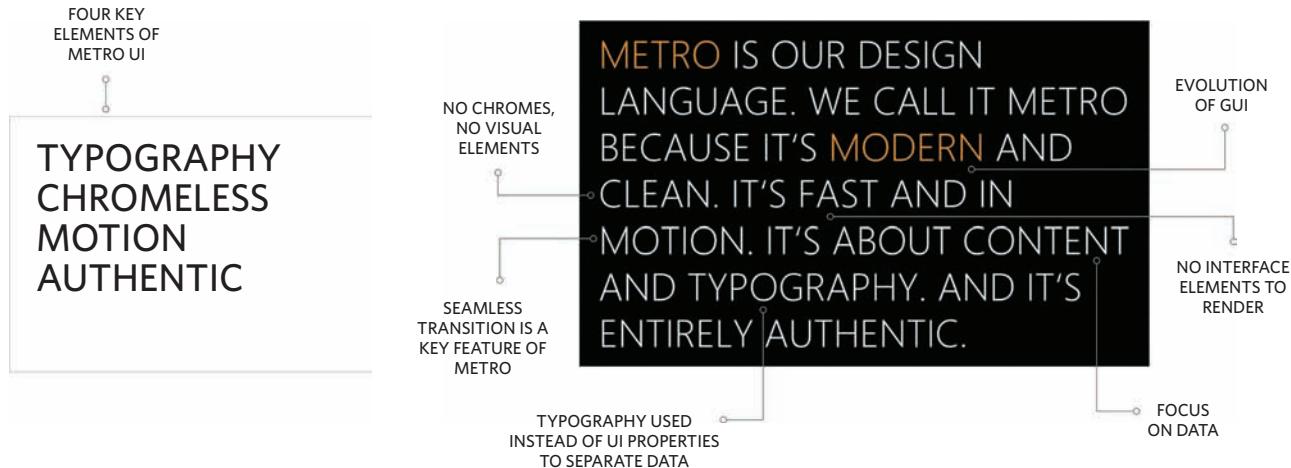
Windows Flip 3D is an intuitive 3-D interface introduced in Windows Vista. If you press the Windows button along with the tab key, you experience a 3-D interface that allows you to go through each of the open applications in three-dimensional cascading stacks. For each tab, the interface flips through open applications.

MICROSOFT WINDOWS FLIP 3D IN WINDOWS VISTA AND WINDOWS 7



19 Metro UI/Modern UI

A CONTENT-FOCUSED, TYPOGRAPHY-DRIVEN USER INTERFACE



Metro UI is an interface introduced by Microsoft on Windows Phone 7 that uses content for navigation. Metro UI focuses on clean typography and avoids all forms of user interface chrome, such as borders, gradients, and shadows, unlike a GUI-based interface, which has UI elements with clear borders and visual properties.

Best Practices and Design Guidelines

- Have functional typography
 - Use the right balance of weight and positioning with white spaces
 - Create visual hierarchy to separate contents and navigation
- Allow live motion
 - Provide seamless, smooth animations for page transition to make it feel responsive
 - Use motion to give context for usability, extra dimension, and depth
 - Have consistent set of animations and improve perceived performance
- Create chromeless content
 - Focus on content without borders
 - Remove all notions of extra chrome in the UI
- Keep the UI authentically digital
 - Design for the form factor
 - Design for the high-resolution screen

(+) See also **Skeuomorphic Design UI** on page 46 and **Graphical User Interface (GUI)** on page 16.

VSLive New York 2012 Conference App

The VSLive app uses metro UI design principles to create a Windows phone app. The interface uses a panorama layout that has multiple screens showing event information, details on speak-

ers, topics, locations, and schedules. The interface has only data and images of speakers to interact with and the views are borderless with seamless transitions. See <http://tinyurl.com/VSLiveWP7App>.

PANORAMA LAYOUT SHOWS DIFFERENT TYPES OF DATA IN ONE SEAMLESS SCREEN

CLEAR TYPOGRAPHY BRINGS FOCUS ON DATA

PAGES WITHOUT BORDERS OR VISUAL PROPERTIES

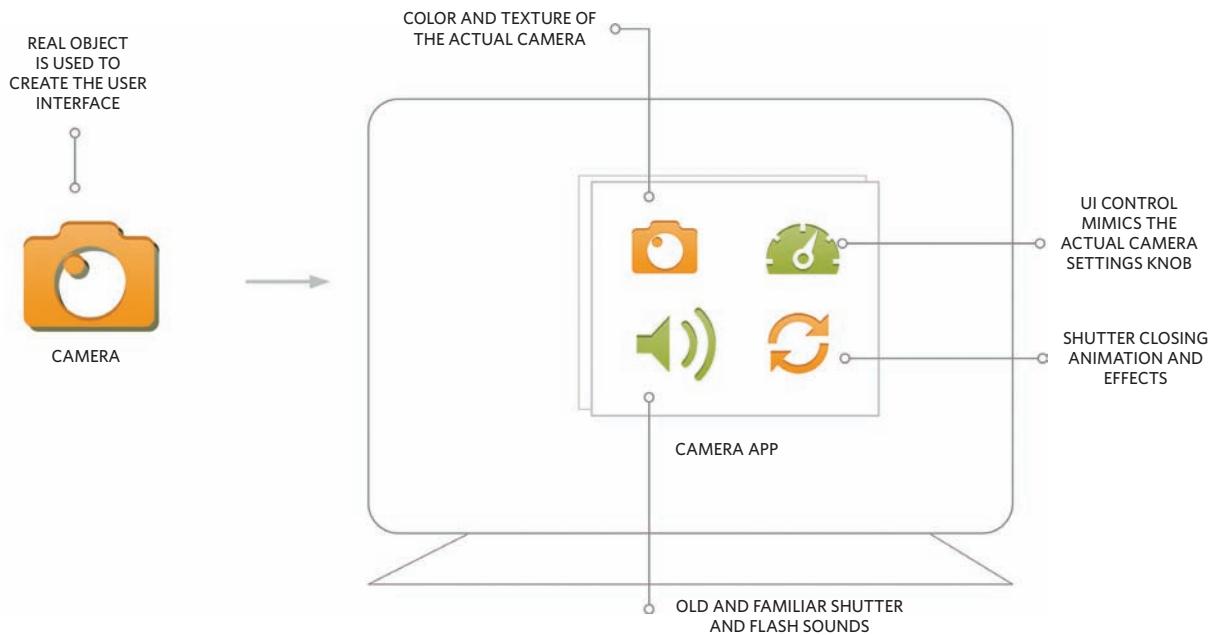
LEFT-RIGHT SWIPE GESTURE ALLOWS USER TO NAVIGATE BETWEEN TYPES OF INFORMATION



20 Skeuomorphic Design/Faux Real UI



AN INTERFACE DESIGNED TO LOOK AND BEHAVE LIKE REAL-LIFE OBJECTS



Skeuomorphic interface design blends the digital interface with physical object design and includes elements of design that serve no purpose in the artifact except familiarity. Skeuomorphic design (popularized by Apple) is an evolution of GUI for creating applications by using physical metaphors. For example, the virtual keyboard of the iPad has “bumps” in the F and J key, which are found in real keyboards to give a sensory feedback. Skeuomorphic design gives an old and familiar feeling to new related applications and tends to have a powerful emotional impact on users.

Best Practices and Design Guidelines

- Design based on metaphors that represent concrete, familiar ideas, and make them obvious
- Understand how the user interacts with similar real-life objects before creating an application
- Use similar look, color, sound, and animation effects from the real-world counterpart, such as designing a digital calendar based on a paper calendar
- Get help from a subject-matter expert for creating advanced professional applications
- Design the interface to help user understand the application

(+) See also **Graphical User Interface (GUI)** on page 16 and **Metro UI/Modern UI** on page 44.

iBooks App for iPad and iPhone

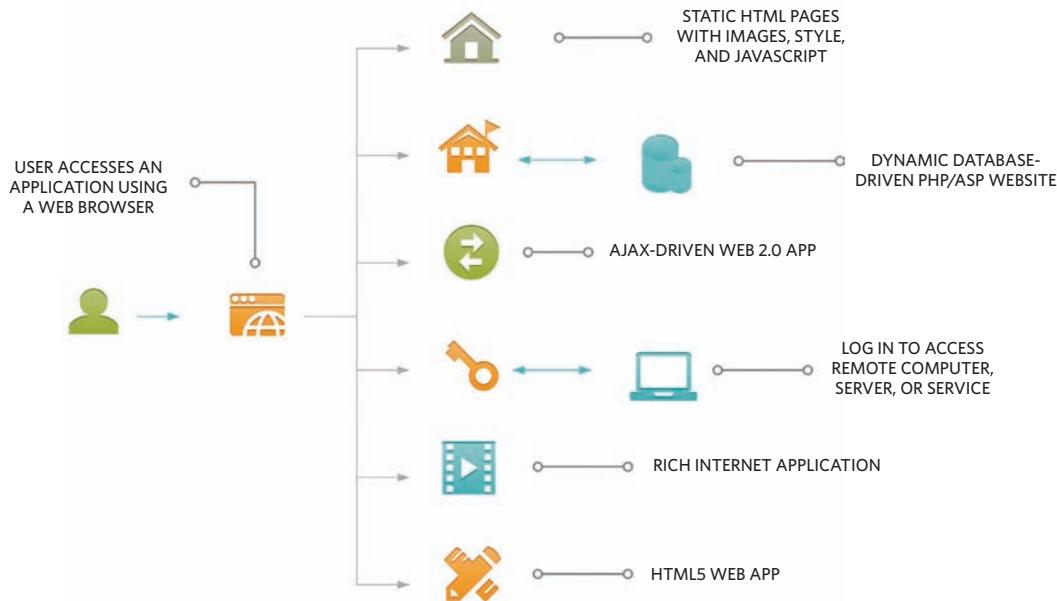
Apple iBooks app uses a skeuomorphic interface to create a familiar book like experience for eBooks. The app shows them in a realistic-looking wooden bookshelf.

The actual book, when "opened," shows page depth and mimics the page turn with animation and sound with touch gestures.



21 Web User Interface (WUI)

AN APPLICATION INTERFACE ACCESSIBLE FROM A WEB BROWSER



A web-based UI is an application made using HTML (Hypertext Markup Language) and is hosted in a local file system or a web server and accessed using a web browser. It can be a static website made of HTML, CSS, and JavaScript, or it can be a dynamic website developed in a server-based programming language like PHP/ASP or RIA technologies, or an HTML5-based app.

Best Practices and Design Guidelines

- Create a standard hierarchical structure with the homepage as the main page
- Divide each page's content into a grid layout with multiple rows and columns
- Keep consistency in the layout
- Break large content or complex tasks into multiple pages
- Limit navigation choices to six
- Use meaningful icons, colors, and letters to help users

- Give feedback to user action for long background tasks
- Use accessibility guidelines for content to allow maximum number of users
- Use attention-grabbing techniques sparingly

User Experience

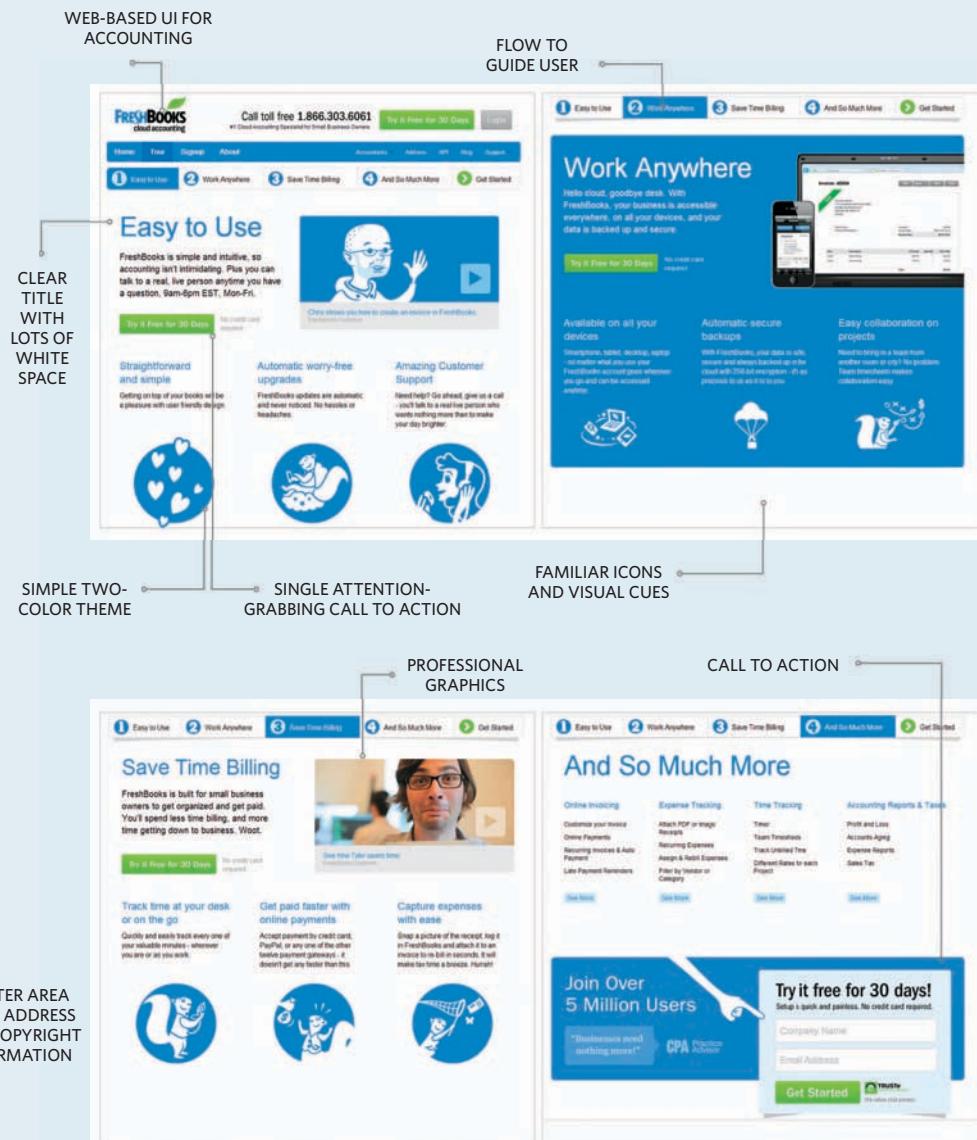
- Use high-quality optimized pictures and graphics to inspire confidence
- Allow user to scan the content with blocks of information
- Have a task flow for applications
- Use prominent menus and links
- Avoid page refresh and constant animations
- Use precise and effective writing
- Strive for simplicity and use lots of white space
- Use aesthetic colors, visual cues, and icons to create a richer layout

(+) See also **Website** on page 52, **Homepage** on page 54, and **Accessible Web** on page 50.

CASE STUDY
FreshBooks.com

FreshBooks is a cloud-based accounting application with a web interface. It uses a simple two-color theme, clear titles, white space,

professional graphics, and familiar icons. The website has a simple yet effective flow to guide a user to the free trial.



22 Accessible Web

A WEB INTERFACE THAT ACCOMMODATES USERS WITH DISABILITIES



UNDERSTANDING THE FOUR KEY DISABILITIES TO CREATE A TRULY ACCESSIBLE INTERFACE

An accessible interface gives maximum reach to your application's information, functionalities, and benefits. The four major disabilities that the accessible web interface addresses are visual, hearing, mobility (difficulty in using the mouse), and cognitive disabilities related to learning abilities.

Best Practices and Design Guidelines

- Design using semantically structured HTML for content, navigation, section, and articles
- Script presentation elements that change the visual content (e.g., bold, italics, color) in CSS
- Use "label" tag with "for" attribute for form elements "field set" and "legend" to group elements
- Use "summary," table heading "th" tag, and "scope" attribute when using HTML tables
- Always maintain a good contrast between foreground and background color
- Always make font size relative, never fixed
- Underline and use different colors for visited/nonvisited links

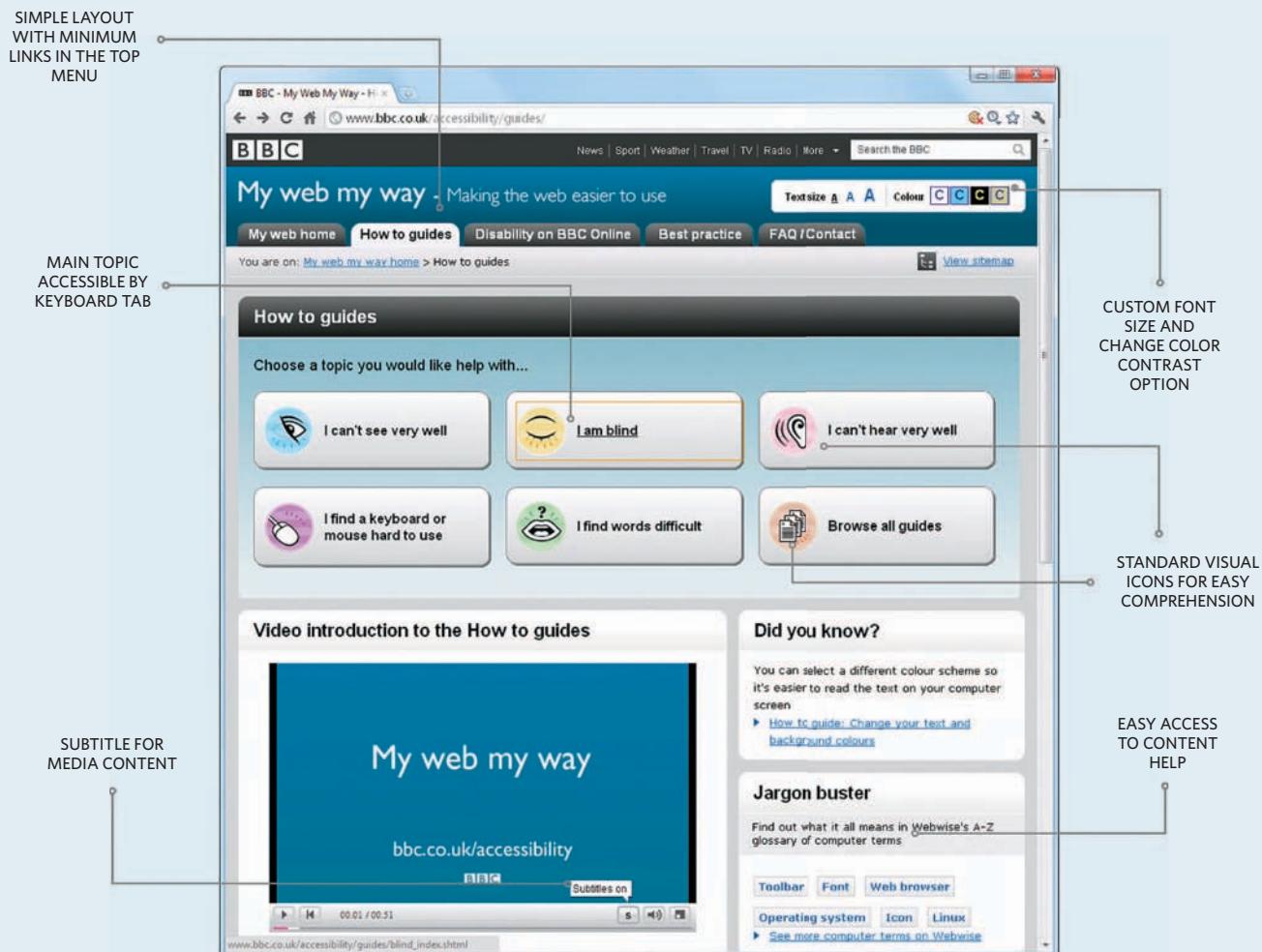
User Experience

- Make site structure clean and obvious; works best with two columns
- Use meaningful link text; avoid using "click here" or "more"
- Test navigation with keyboard tab for logical order and look for keyboard traps
- Use concise and meaningful content with simple words and short paragraphs
- Try putting most relevant content in the first three words of titles
- Use simple machine (screen reader) readable words like "home page," not "homepage"
- Always have one form in one page, and don't mix them with contents

(+) See also, **Accessible Touch** on page 170, **Website** on page 52, and **Homepage** on page 54.

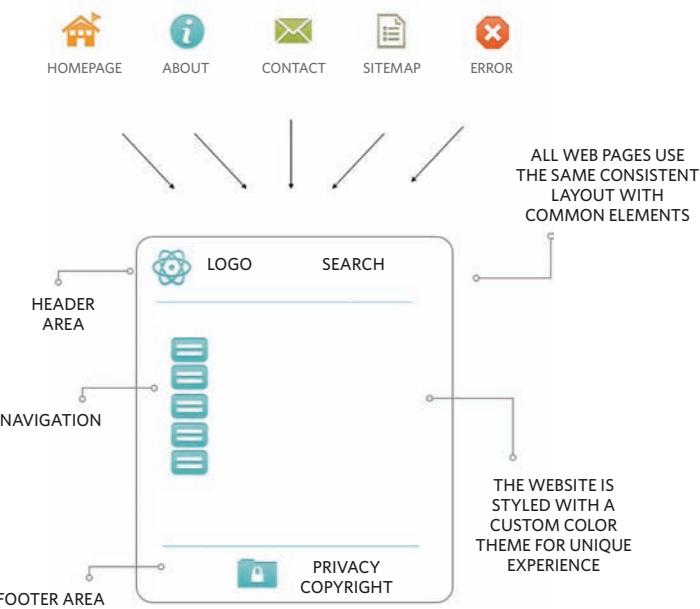
The BBC news website is an accessible website. It also has information available in sign language. The accessibility section has a simple layout

and is still graphically modern. It allows for custom font size, contrast options, keyboard access to all the links, and standard visual icons.



23 Website

A COLLECTION OF RELATED WEB PAGES, IMAGES, AND RESOURCES ACCESSED THROUGH A SINGLE WEB ADDRESS



A website is an online presence for a company or an individual. It's made of web pages, which are text documents rendered as HTML in an Internet browser. A web page typically has associated images, media files, scripts, and style information that are embedded as links. The website is accessed through a web address called a URL (Uniform Resource Locator), which shows the homepage of the website.

Best Practices and Design Guidelines

Website design includes focusing on top tasks, having a content strategy, engaging visitors, and supporting as many browsers and platforms as possible.

- Keep the logo and company name prominent
- Use a maximum of three colors for the theme of the website using the logo colors
- Create informative page title, consistent site header, logo area, page footer, and navigation
- Balance content, graphics, and white space in the pages with good background contrast
- Clearly label and structure navigations
- Provide meaningful link labels, underlined with consistent color scheme for visited/nonvisited links

User Experience

- Focus on performance, with page-load times of fewer than 10 seconds with dialup
- Allow for multiple browser support
- Engage customers using forums, suggestions, and feedback options
- “Search,” if available, should be prominent and work for misspelled words
- Allow for text resizing and printing options
- Avoid pop-up windows, frames, and plug-ins
- Use accessible web guidelines

(+) See also **Homepage** on page 54, **Accessible Web** on page 50, and **Personal Web Page** on page 56.

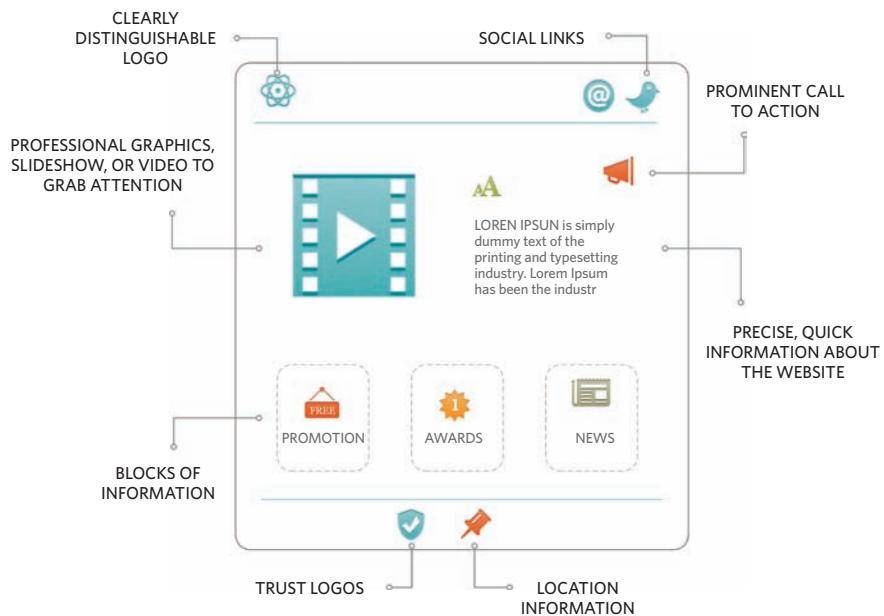
Sumagency.com

Sumagency.com has a pleasing design. It uses three colors for the theme available in the logo. It has a clear navigation with lots of white space between text and graphics, and has a consistent header, footer, and logo area on all the pages.



24 Homepage

A HOMEPAGE IS THE LANDING PAGE OF THE WEBSITE



A homepage is the default page that loads when the user visits the website. It is used to welcome visitors and to provide them with information and services. It acts as an entry page and an index for all of the site's content available. It is meant to engage visitors to avail website information, products, and services.

Best Practices and Design Guidelines

- Use a unique design with visual hierarchy on the page
- Create user-centered design with emphasis on user-relevant content
- Use simple, clear, and understandable content, and avoid abbreviations, exclamations, and all caps
- Avoid the page scroll, and keep the important content above the scrollable area
- Avoid browser plug-in files like PDF and Flash

User Experience

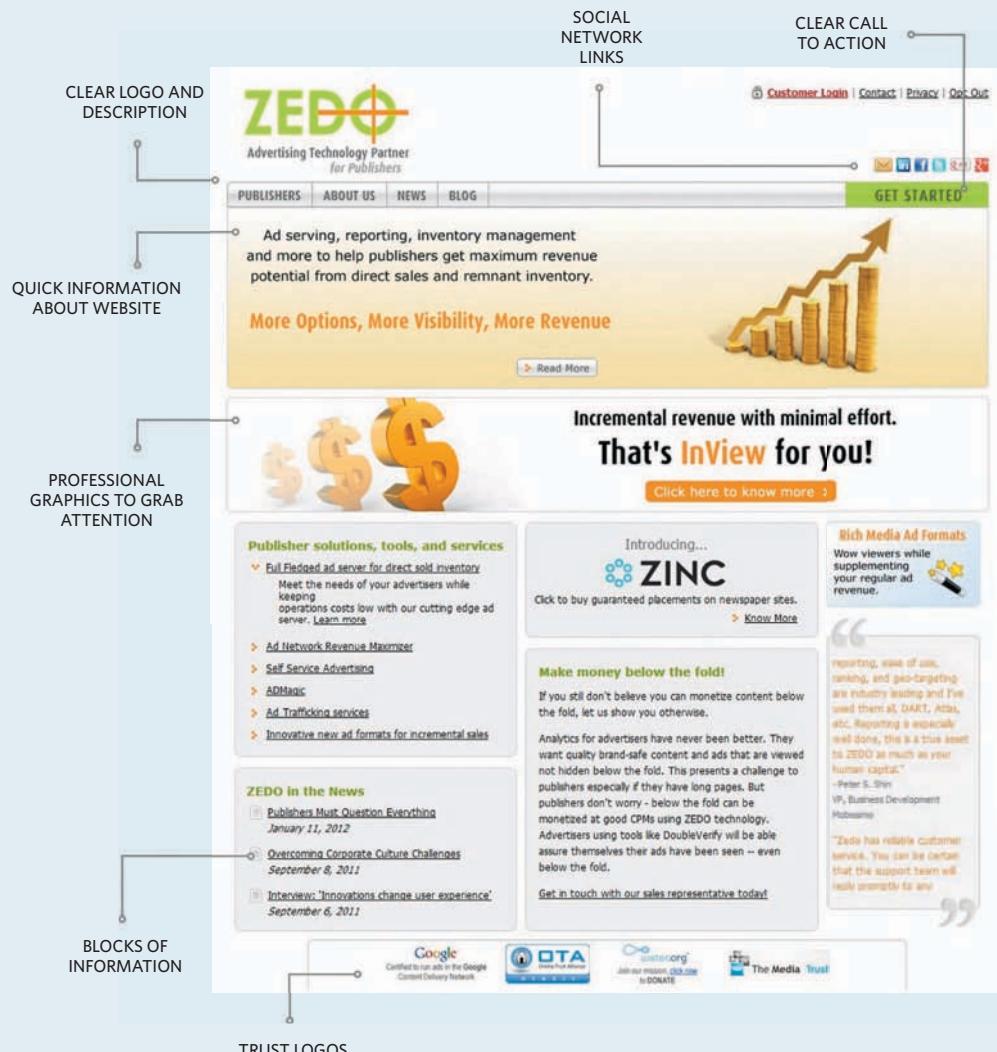
- Clean aesthetic and minimalist design
- Quick access to contact support
- Avoid textured/tiled background
- Clearly visible contact information

(+) See also **Accessible Web** on page 50, **Website** on page 52, and **Blog** on page 60.

CASE STUDY

Zedo.com

Zedo.com uses a clean and unique layout in which the theme of the website matches the logo. It has professional graphics and emphasized text for potential customers. The "Get Started" button clearly guides the customer to take the next step when they are ready.



25 Personal Website

A WEBSITE DEDICATED FOR AN INDIVIDUAL



A personal website is a person's online identity. It can be a single web page, a static website, or a personal diary or blog. It can be an online portfolio for an artist with sample works or a simple website with résumé and work experience. It is also used as a professional way of presenting oneself and can be thought of as a glorified résumé on the web.

Best Practices and Design Guidelines

- Use the name as the logo—this is your personal brand
- Use the title of the page for quick information about you for search engines
- For résumé and other file downloads, use file names with no space
- Use legible fonts, headings, and bullets for formatting
- Add pictures and scanned certificates and awards for a personal touch
- Keep the content simple, clear, and decent

User Experience

- Make an impact by conveying your message on the first screen in the homepage
- Allow easy access to contact information
- Test all the links and file downloads
- Do not use frames, banner ads, or pop-up windows
- Do not post "under construction" pages; instead, don't include the link

(+) See also **Website** on page 52 and **Blog** on page 60

The personal website of Lakshmi Chava is professional and goal oriented. It is targeted to a potential hiring manager with sections for her résumé, study, and work experience. The navigation features a personal photo, certificates, and awards received. The phone number is prominently placed for a potential recruiter.

Annotations on the website:

- MAKE AN IMPACT HERE**: Points to the main title "Lakshmi Chaitanya" at the top.
- CLEAR NAME TITLE WITHOUT A LOGO AND SIMPLE NAVIGATION**: Points to the navigation bar with tabs "About", "Work", "Studies", and "Resume".
- LINK TO RÉSUMÉ**: Points to the "Resume" tab.
- CLEAN AND PROFESSIONAL DESIGN**: Points to the overall layout.
- LINK TO PROFESSIONAL NETWORK**: Points to the LinkedIn profile link.
- PICTURE GIVES A PERSONAL TOUCH**: Points to the profile picture of Lakshmi Chava.
- CLEAR CONTACT INFORMATION**: Points to the contact section with phone and email.
- STANDOUT ACHIEVEMENTS**: Points to the Microsoft Certified Application Developer badge and Brainbench certificate.
- CONTENT PRIORITIZED BY RELEVANCE**: Points to the "Highlights" section.

Lakshmi Chaitanya

About Work Studies Resume

Welcome "I am not young enough to know everything" - Oscar Wilde

Why It Means More...
I thrive to excel in application development by using my analytical and technical skills in a progressive environment. I believe that learning is a continuous process and quality and time both matters in software development.

I have **8+ years** of experience in the IT Industry in progressive roles from graphic artist, web designer, application developer to web programmer. I specialize in Web development using **C#, ASP.NET, AJAX .NET, and SQL Server**. I also have extensive experience in surrounding web technologies namely: **HTML, CSS, XML, and JavaScript**.

I have done **Master's** in Engineering from McNeese State University (LA) with a **GPA of 3.7/4** and **Higher Diploma in Software Engineering** from APTECH computer education.

Highlights

- 8+ years of experience in the IT industry.
- Microsoft Certified Application Developer (MCAD .NET).
- Extensive experience in C#, ASP.NET, and SQL SERVER.
- Extensively worked with Stored procedures, Functions, DTS packages.
- Worked in Visual Studio 6, 2003 & 2005 IDE.
- Worked on SQL Server Reporting Services, Crystal Reports.
- Working knowledge of Secure XML Web Services.
- Experience with Subversion (SVN) and Visual Source safe.

Hobbies
I like to do Yoga, listen to classical music, Cooking. when I have spare time which is very rare, I like to do some abstract or scenic painting, or go hiking with friends.

View my profile on [LinkedIn](#)

Contact
Phone +1-650-392-9270
Email chaitanya.chava@gmail.com

Microsoft CERTIFIED Application Developer

Awards

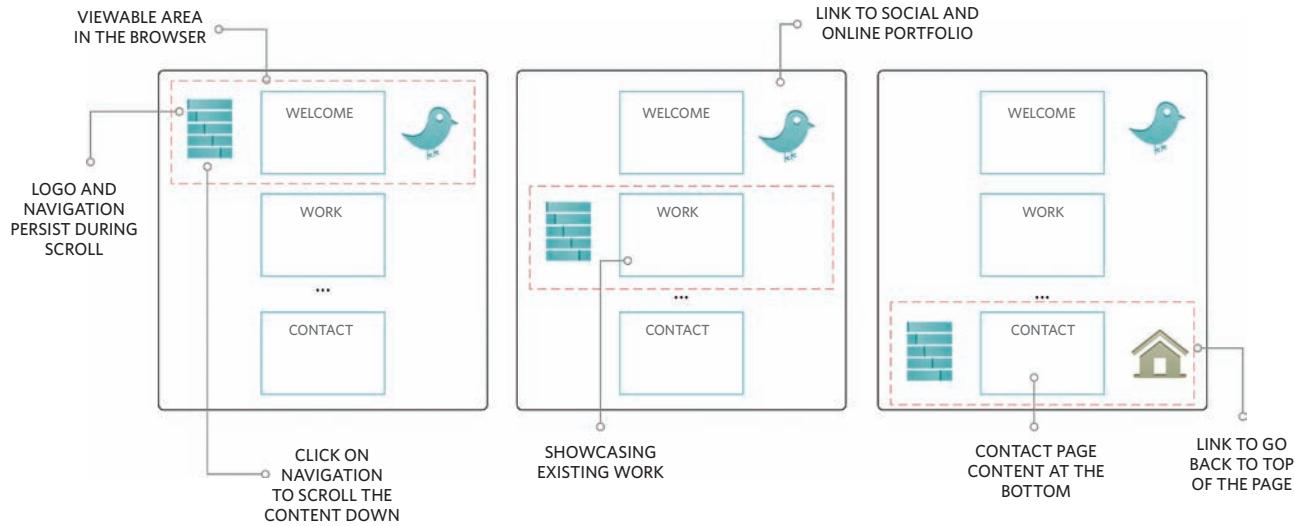
MCAD C# / ASP.NET
Microsoft Certified Application Developer with Visual Studio and Visual Studio .NET
Adobe Photoshop
Adobe Photoshop CS 3.0 Beginner and Advanced

Brainbench

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26 Single-Page Website

A WEBSITE THAT USES ONE WEB PAGE



Single-page websites are the latest trend in web design. The site uses a long web page that scrolls vertically and the navigation links are anchored to different parts of the page. It's popular among portfolio and custom service provider websites.

Best Practices and Design Guidelines

- Popular sections in single-page website are
 - Top welcome section
 - Photo gallery
 - About section
 - Services and testimonials
- Use standard two or three color scheme with readable text
- Keep the logo position fixed along with navigation
- Have contact information with map on the page

Single-page websites are meant to give a better user experience.

User Experience

- Use slideshow if you need to show multiple images
- Always have a Go to Top button
- Use show/hide form/part of the content for better usability

(+) See also **Homepage** on page 54 and **Personal Website** on page 56.

Unicrow.com

Unicrow.com has a beautiful single-page design with a slideshow above the fold. It uses a single-color scheme and has a lot of white space, which makes the website very aesthetic and simple. It has content for about, services, work, and contact.

THE ICON AND THE NAVIGATION STAYS AT THE SAME PLACE, EVEN IF YOU SCROLL THE PAGE

ANCHOR LINKS TO THE CONTENT BELOW IN THE SAME PAGE

SIMPLE THEME WITH LOTS OF WHITE SPACE

SOCIAL LINKS

MULTIPLE IMAGES USE PICTURE SLIDESHOW

LINK TO WORK AND SERVICES OFFERED

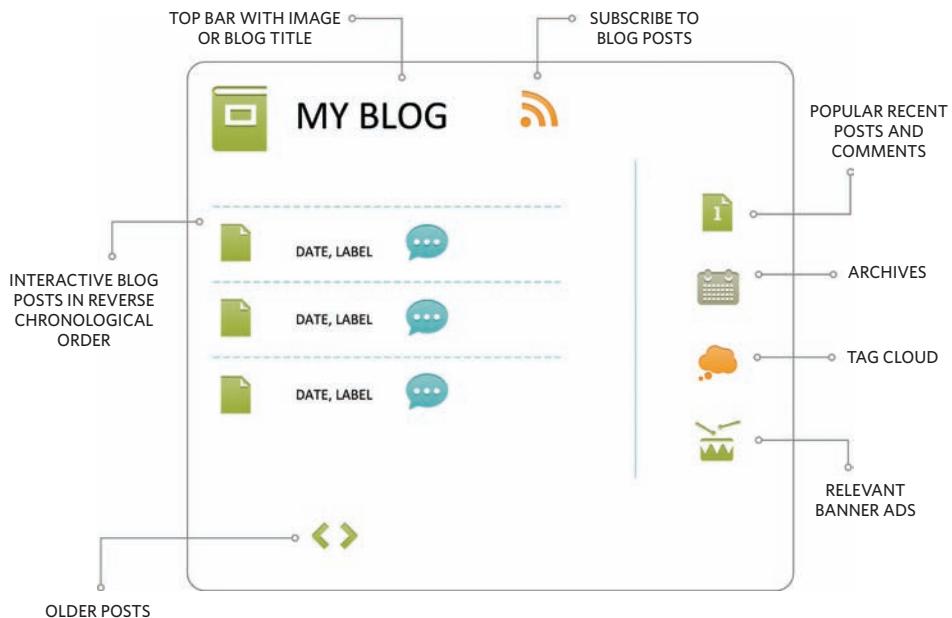
THE WEB PAGE SCROLLS DOWN WHEN THE USER CLICKS ON THE NAVIGATION LINK

CONTACT US FORM WITH ADDRESS INFORMATION

MORE THAN 1,000 WORDS WITH HIGHLIGHTED KEYWORDS PUT IT IN HIGH RANKING

27 Blog

A DYNAMIC WEBSITE THAT FEATURES A PERSONAL DIARY OF A USER OR VOICE OF A GROUP



A blog consists of a user or a group of like-minded users who write about a certain topic or subject. Blogs are also effective for brand advertising. Blogs consist of user-generated content comprising posts that are updated frequently. A blog website features numerous web widgets, which allow the user to subscribe to blog posts and newsletters and to rate and share the blog post in the social network.

Best Practices and Design Guidelines

- Create custom attractive header and theme with gradients to give a unique identity
- Use familiar fonts and keep text clutter-free, formatted, and readable
- Use a light background and include a search box
- Use a layout with a maximum of 1,024 pixel width to support maximum number of computers
- Have one sidebar for calendar, archives, and recent posts
- Keep contact and subscription link prominent for immediate action by the visitor

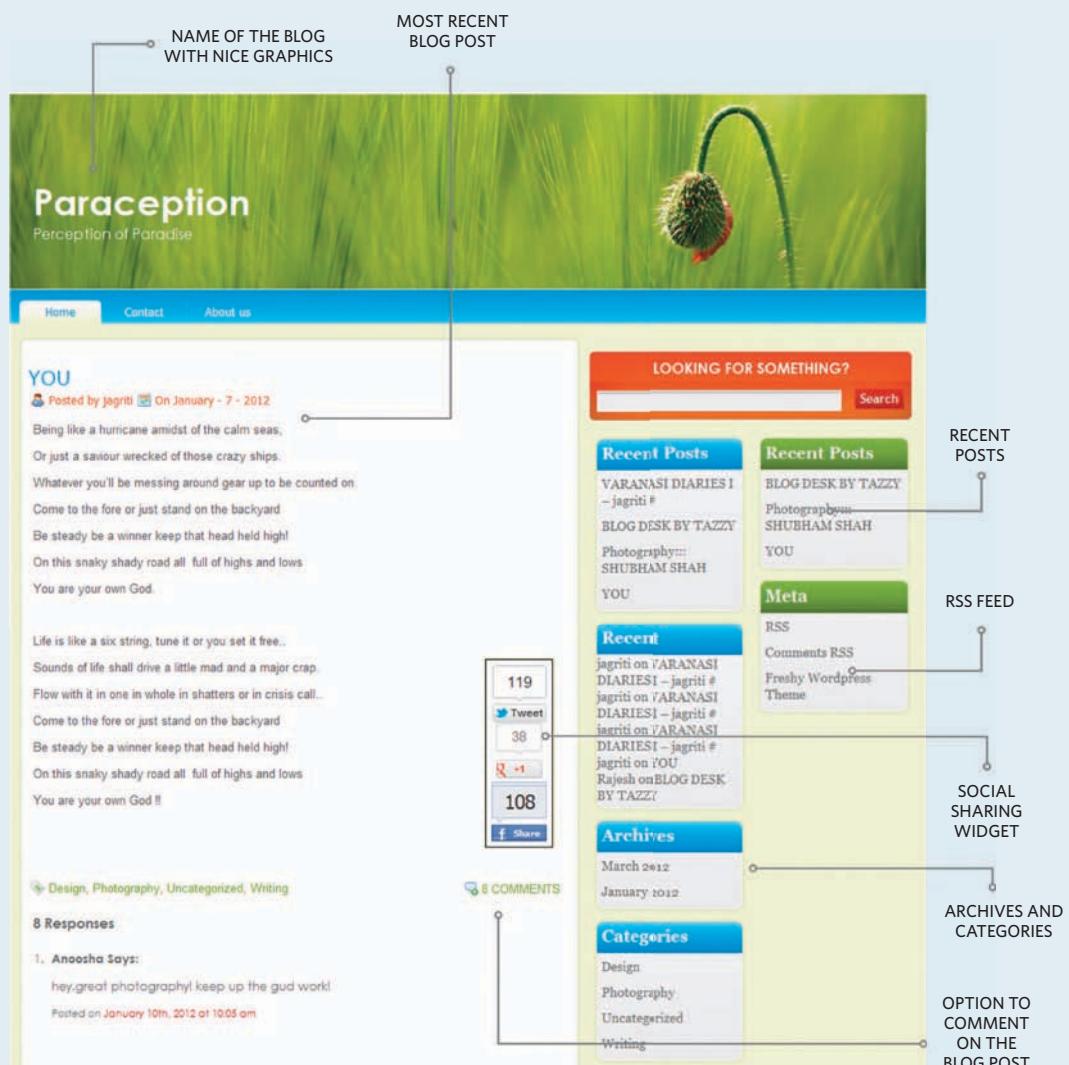
User Experience

- Use optimized graphics in the homepage of the blog for quick loading
- Keep navigation simple and pages short for quick loading
- Limit banner ads and Flash-based rich Internet applications
- Keep an About page with author photo and biography for credibility
- Allow interactivity for immediate sharing and commenting

(+) See also **Personal Website** on page 56, **WordPress Theme** on page 64, and **Web Widget** on page 98.

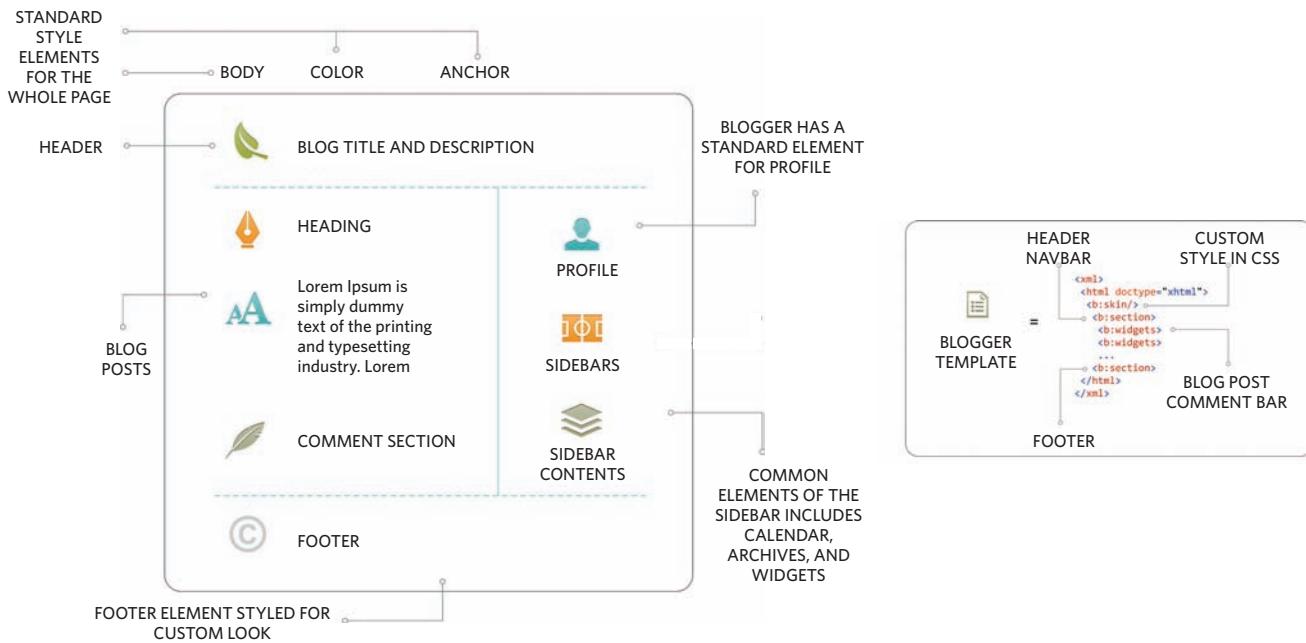
Blog at Jagritisinha.com

Jagriti Sinha's blog uses WordPress, a popular platform for web publishing. The design is simple, featuring the blog title; a tagline with an image bar at the top sets the tone for the blog. Most of the real estate is used for the blog post on the left side, and the site has advanced widgets for sharing and commenting on the blog post.



28 Blogger Template

PRECONFIGURED CUSTOM LAYOUTS FOR BLOGS AT BLOGGER.COM



Blogger templates are predesigned to display your blog and post entries with a particular theme and layout and are used on Blogger.com. It gives a custom look to your blog and allows for further editing of styles. A Blogger.com template allows for a customizable look, provides choices for a multiple-column layout, and lets you change background color and images.

Best Practices and Design Guidelines

- Style all format elements, including headings, links, tables, bold, italics, etc
- Allow changing of color and fonts in template designer
- Host all the images used in the template on Blogger.com or a reliable public image hosting site
- Limiting the amount of branding in the footer is an acceptable practice
- Test your template for multiple browser and mobile compatibility

User expectations from a blogger template are both plug-n-play features and aesthetic looks.

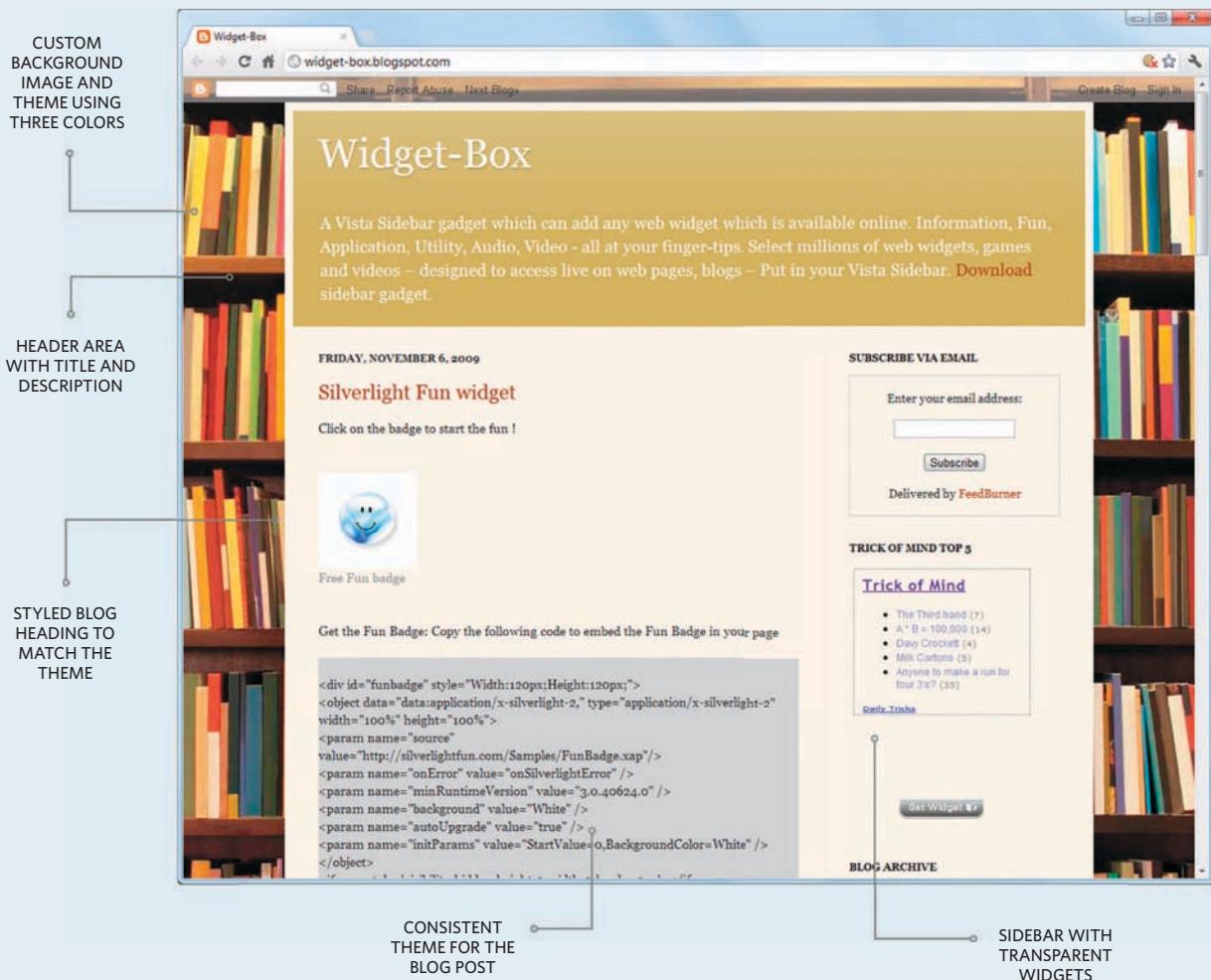
User Experience

- Have professional graphics in the top header bar
- Have good color combinations (matching or contrasting) in the theme
- Choose a minimal number of colors in the theme
- Include social networking stickers for greater user experience
- Test your template at Blogger.com rigorously

(+) See also **Blog** on page 60 and **WordPress Theme** on page 64.

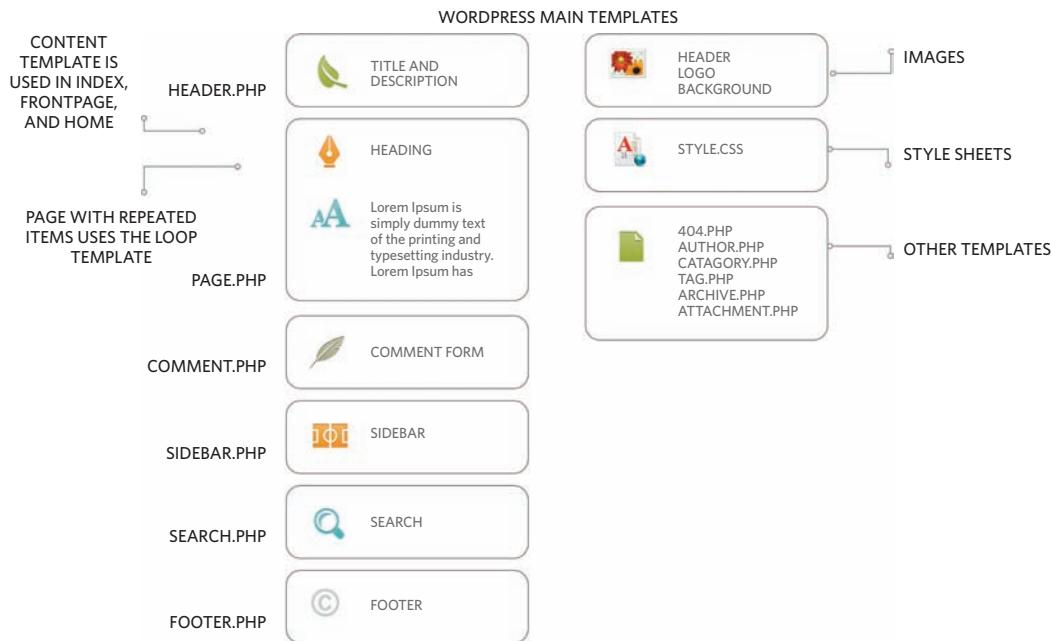
Widget-box.blogspot.com Theme

The Widget-box.blogspot.com uses a custom template for its blog with a simple design and color scheme. It uses very few colors overall, light colors for the background, black for content, and dark red for headings.



29 WordPress Theme

TEMPLATE FOR LAYOUT AND STYLE FOR WORDPRESS BLOG PLATFORM



A collection of templates, style sheets, and images creates a unique GUI for a website based on WordPress (a popular content management system). The actual content is database driven and is unaffected by the theme. WordPress themes are assets of PHP files and allow you to change the basic structure, including page templates, mini posts, and numerous settings and customizations available in the theme.

Best Practices and Design Guidelines

- Start with a bare-bones theme with a two- or three-column layout
- Use a fluid layout, which adapts itself according to the browser size
- Allow change of header and background image with color options
- Use widgets, tag cloud, and RSS properly in the sidebar
- Allow ability to add visitor statistics widgets and banner ads easily
- Include SEO meta tags in header template

User expectations from a WordPress theme are aesthetic looks and full customizability.

User Experience

- Use two or three colors in the theme with readable fonts for content
- Allow internationalization and localization of themes with language attributes
- Use coding standard for HTML, CSS, and PHP for easy maintainability for developers
- Have your themes targeted for a particular type of website, such as education or photography

+ See also **Blogger Template** on page 62 and **Blog** on page 60.

ElegantTheme.com's Nova Studio

The theme Nova Studio is an example of elegant design; it uses Helvetica for easy readability and two colors for the whole theme. The theme is completely customiz-

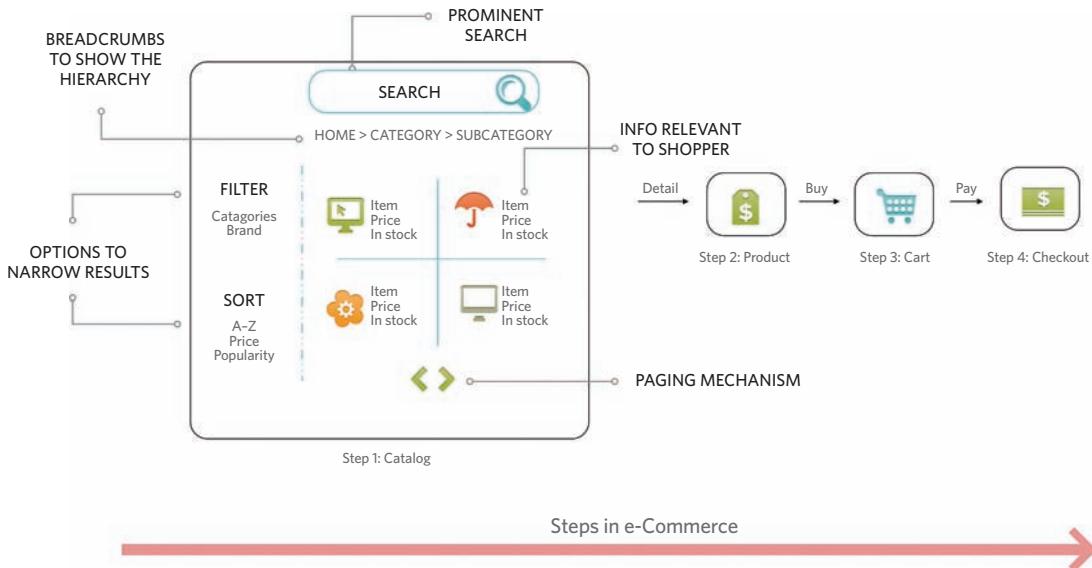
able with the following features: multiple browser compatibility, advertisements, widget-ready sidebars, threaded comments with gravatars, localization support, and more.

The screenshot illustrates several key features of the Nova Studio theme:

- THEME TARGETED FOR DESIGN STUDIOS**: Points to the main header area which includes the "nova STUDIOS" logo and a navigation bar with links to Home, Page Templates, Full Width, Blog, Shortcodes, and Gallery, along with a search bar.
- TWO-COLOR THEME WITH HELVETICA**: Points to the main content area where the text "beautiful design and functionality" is displayed in a large, bold, sans-serif font (Helvetica).
- CUSTOMIZABLE SEARCH, HEADER, AND FOOTER**: Points to the top right corner of the page.
- CUSTOMIZABLE SLIDE SHOW FOR HOMEPAGE**: Points to a large, high-quality image of a modern building's glass facade.
- CUSTOM BUTTONS AND LINKS**: Points to the bottom right corner of the page, which contains a "read more" button.
- WEB DESIGN spread your brand**: Points to the "WEB DESIGN" section in the footer.
- RECENT WORK awesome design**: Points to the "RECENT WORK" section in the footer.
- ABOUT US who we are**: Points to the "ABOUT US" section in the footer.
- OUR MISSION what we are about**: Points to the "OUR MISSION" section in the footer.
- beautify your online presence**: Points to the main headline below the image.
- Customized Footer Content**: Points to the footer area which includes a paragraph of placeholder text and the "Designed by Elegant WordPress Themes | Powered by WordPress" credit.

30 Catalog

RETAIL PRODUCT OFFERING AN ONLINE STORE



A catalog is a visual list of products meant to help customers find a product to buy. It is also sometimes called a category or product listing page. A clearly organized list of products is key to a great e-commerce user experience. A catalog is the first step in e-commerce, where a user decides to buy a product after browsing, sorting, and filtering through multiple items.

The design of the product listing page should help users find the product.

Best Practices and Design Guidelines

- Create clean and aesthetic gallery listing (grid view) or vertical listing (list view) of products
- Provide a user-friendly and intelligent search with option for keywords, model number, category, and so on
- Classify items in terms of category and brand to further browse
- Make a consistent display format with list view, grid view (4x8), and large grid view (2x4)
- Help users shop by providing information about product, thumbnails, price, and availability

User Experience

- Fast response time is desirable, so keep the default list small; 24 for low bandwidth
- Keep browse and search results similar for less confusing experience
- Allow user to narrow the search or search within search
- Clean, uncluttered, and professional layout inspires trust and confidence in shoppers

(+) See also **Product Page Detail** on page 68 and **Shopping Cart** on page 70.

Olive and Myrtle

The catalog for Olive and Myrtle shows an aesthetic layout with a simple design. It allows users to increase the number of products on the page. It uses a lot of white space that is much easier on the eyes.

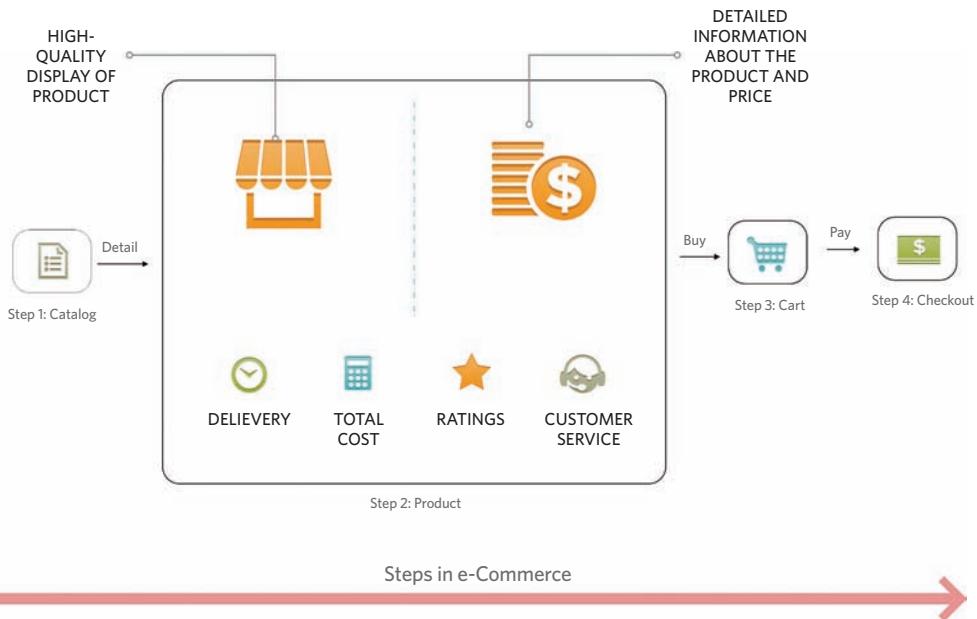
The screenshot shows a clean, minimalist search results page for the query 'clean'. The page includes a prominent search bar at the top, a breadcrumb navigation, and a sidebar with product categories. The main content area displays a grid of search results with product images, titles, descriptions, and purchase options like 'Add to Cart' and 'Add to Wishlist'.

- PROMINENT PLACEMENT OF SEARCH:** The search bar is located at the top right of the page.
- CUSTOM NUMBER OF RESULTS:** A dropdown menu labeled 'Show 60 per page' is visible.
- SORT RESULTS OPTION:** A 'Sort by Relevance' dropdown is present.
- CLEAN AND CONSISTENT LAYOUT:** The overall design is clean with a white background and a clear layout.
- RELEVANT INFORMATION WITH ADD TO CART OPTION:** Each product listing includes a brief description, price, and purchase buttons.
- BREADCRUMBS SHOWING YOUR LOCATION FROM HOME:** Breadcrumbs are located at the top left of the page.
- CATEGORIES TO FILTER THE RESULTS:** A sidebar on the left lists categories such as New Arrivals, Home Décor, Kitchen, Water Bottles, Bed & Bath, Cleaning, Bags & Totes, Paperie, Kids & Baby, Pets, Garden, Green Gifts, Shop by Brand, and Sale.

31 Product Page



A SINGLE, DETAILED INFORMATION PAGE FOR A PRODUCT



A product page is an information-rich page meant to help shoppers decide on buying a product. It is meant to be a single page with all the information required, including images, specifications, size, color, discounts, shipping cost, customization options, and related media on the product.

Best Practices and Design Guidelines

- Use a two-column layout with pictures on the left and other information on the right
- Include everything on a single page so users don't waste time looking back and forth
- Keep bulleted list of information for quick access
- Use breadcrumbs navigation to go back to product category to choose another product
- Add to Cart button should be prominent to encourage shopping

User Experience

- Product name should be displayed prominently with high-quality product photos
- Include multiple photos at different angles for better visibility
- Scroll down or show information in tabs on the same page and avoid page reload
- Use "Add to Cart" button instead of "Buy" button
- User-generated content, including ratings and reviews, inspires trust

+ See also **Catalog** on page 66 and **Shopping Cart** on page 70.

Land's End Product Page

The product detail page at Land's End is clutter-free and beautiful. Multiple high-quality images at different angles

give users a chance to "feel" the actual product. Quick options for color and size instantly help users take the next step.

OPTION FOR CUSTOM FIT AND COLOR

MULTIPLE HIGH-QUALITY PICTURE OF THE PRODUCT

CLEAN AND AESTHETIC TWO-COLUMN LAYOUT WITH A SIDEBAR

RATING WITH DETAILED CUSTOMER REVIEWS

INTERACTIVE "ADD TO CART" BUTTON

CROSS PROMOTING SIMILAR RELATED ITEMS

CONTACT FOR CUSTOMER SERVICE

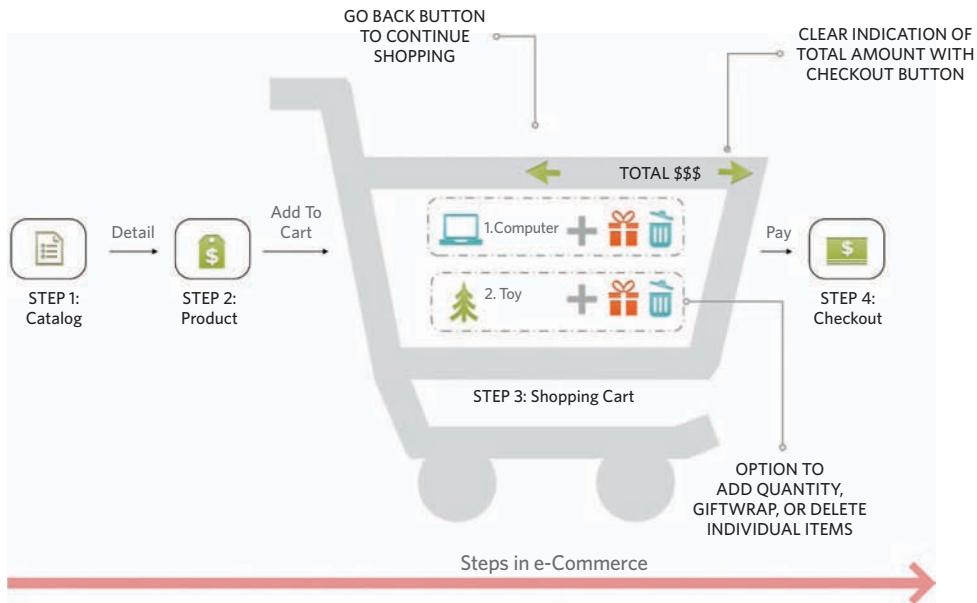
LAND'S END
HOME > MEN > SHOES & BOOTS
Men's Leather Boat Shoe
Item # 38579-BAG5 \$ 85.00
Size 10.5
8 8.5 9 9.5 10 10.5 11
11.5 12 13
[SIZE CHART](#)
Color Chestnut Brown
Reduced Price
Quantity 1 IN STOCK **ADD TO BAG**
Rating 25 Reviews [Like](#) [Send](#) [+1](#)
DESCRIPTION
The casual shoe with a seafaring pedigree.

- Full-grain leather upper
- Suede lining
- Rawhide lacing
- Supportive nylon shank
- Rubber footbed/outsole

The legendary style that proved itself on boat decks, now worn comfortably on land everywhere, from Montauk to Malibu. Full grain leather upper, suede lining, rawhide lacing, rubber footbed and outsole. Imported.
VIEWS + REVIEWS
REAL PEOPLE. REAL OPINIONS. GUARANTEED. PERIOD.
Rating 28 out of 34 (62%) customers would recommend this product.
Width NARROW FIT WIDE FIT
REVIEW THIS PRODUCT **Choose a Sort Order**
Rating Stylish Gift
ALL FUN, NO FEES. [SHOP GIFT CARDS](#)
CUSTOMER SERVICE

32 Shopping Cart

A SHOPPING CART ALLOWS CUSTOMERS TO PURCHASE MORE THAN ONE ITEM ONLINE



A shopping cart application allows you to easily add multiple items to the cart and check the final price, including shipping, taxes, and any other costs, before finalizing the purchase. The shopping cart is the third step in e-commerce.

Best Practices and Design Guidelines

- Use a prominent, aesthetically pleasing Checkout button to encourage buying
- Use website color scheme in the shopping cart with visible top navigation bar
- Create a clear shopping cart summary with all the upfront costs
- Show clickable item with thumbnail in the cart for review
- Use empty cart for shopping instructions for first-time visitors

User Experience

- Allow simple ways to update or remove quantity in the cart
- Have clean and distraction-free shopping cart page
- Inform user about enabled security for assurance
- Include a quick preview while browsing for more items in the top-right corner of the page

(+) See also **Catalog** on page 66, **Product Page** on page 68, and **Checkout** on page 72.

Shopping Carts at Walmart and Amazon

The shopping cart interface at Walmart.com is easy to use and has a consistent look and feel with the top navigation bar in place. It also gives an updated summary any time the user changes the items in the cart.

Amazon.com's shopping cart is a bit more sophisticated, displaying users' recently viewed history and "Saved per actual screen for Later," giving users more purchasing options based on recent activity.

SHOPPING CART THEME MATCHES THE WEBSITE WITH CONSISTENT TOP NAVIGATION BAR

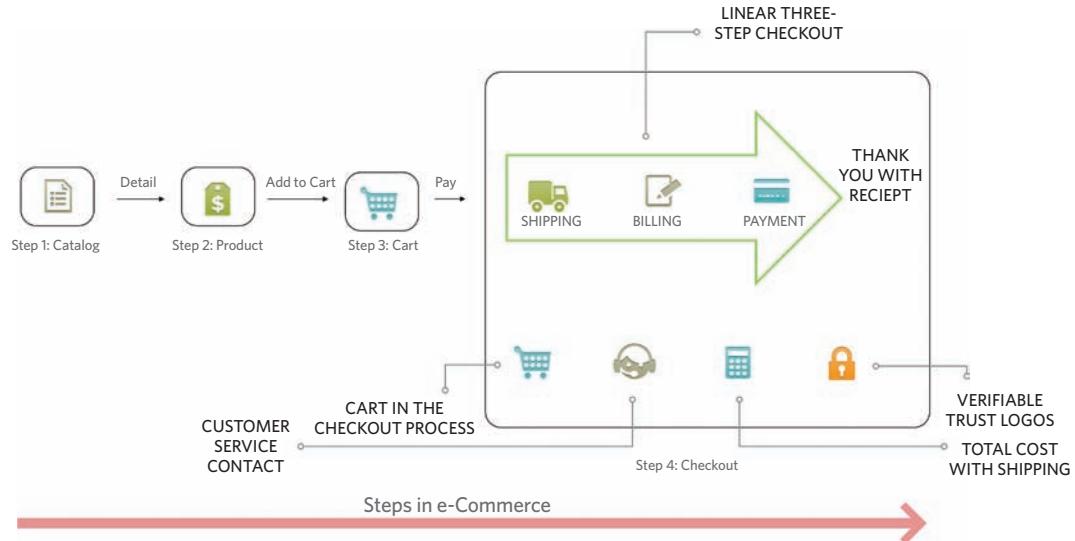
SHOPPING CART SHORTCUT FOR QUICK REFERENCE

PROMINENT CHECKOUT BUTTON WITH TOTAL AMOUNT FOR CLEAR DIRECTION, AESTHETIC LOOK TO ENCOURAGE BUYING

AMAZON.COM ALSO SHOWS ADDITIONAL ITEMS FROM VIEWED HISTORY AND "SAVED FOR LATER" ITEMS, WHICH MIGHT BE A POTENTIAL BUY

33 Checkout

ONLINE POINT OF PURCHASE



This is the final step in e-commerce where the sale transaction occurs. In this step, the buyer pays for the item in the shopping cart using an online payment method like a credit card and gets a receipt. Checkout is a three-step process: obtaining shipping, billing, and online payment information.

Best Practices and Design Guidelines

- Use a progress indicator to show where user is in checkout process
- Use distraction- and links-free navigation during checkout process, also known as enclosed checkout
- Keep the existing shopping cart visible for review
- Provide optional Log in to Account step for existing customers
- Use Guest Checkout or better Start Checkout option for new customers
- Provide order summary page with Buy button to charge the buyer

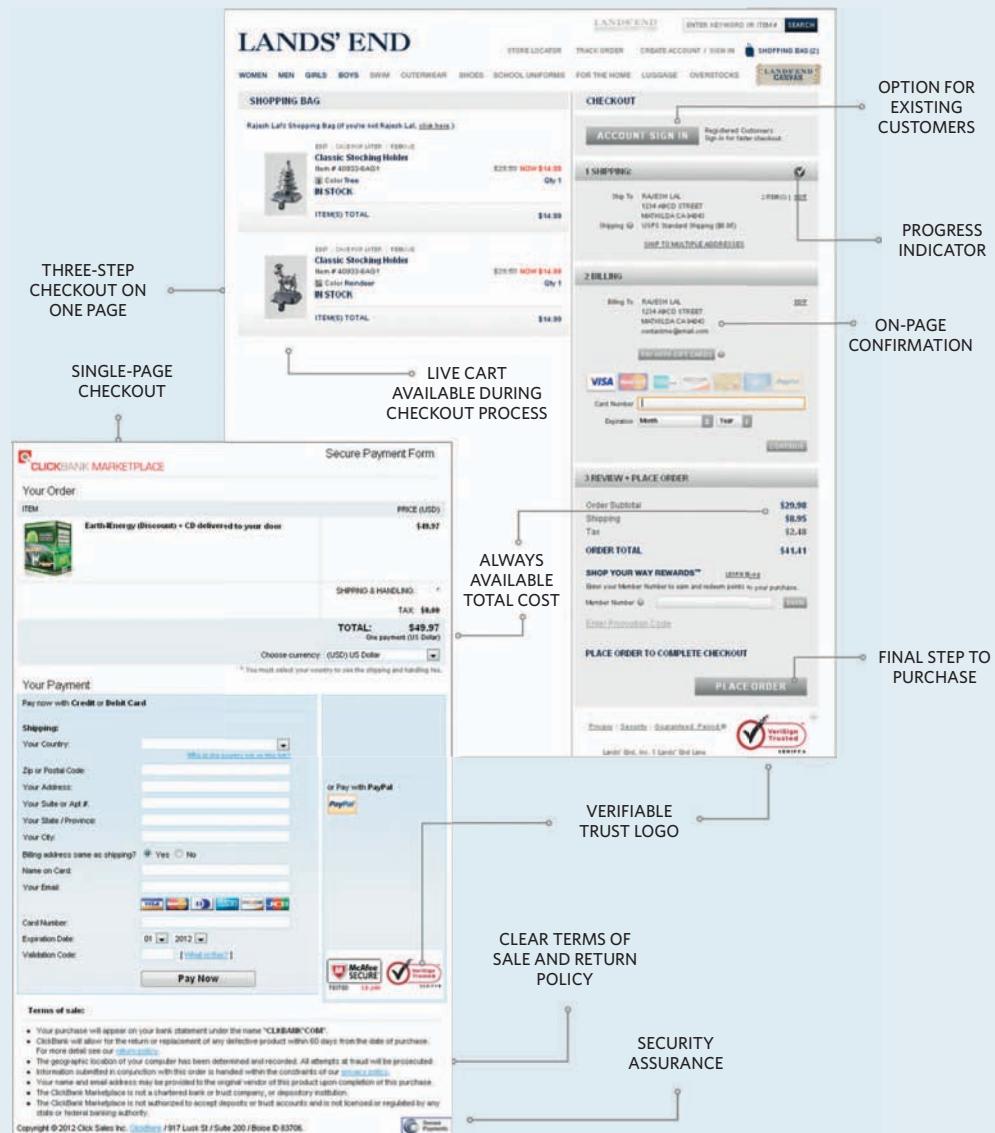
User Experience

- Online chat helps user with any immediate concerns
- Fewer steps with default options
- For one-time buying service, one-page checkout process is better
- Address buyer's concerns about security, delivery, return, and customer service

(+) See also **Catalog** on page 66, **Product Page** on page 68, and **Shopping Cart** on page 70.

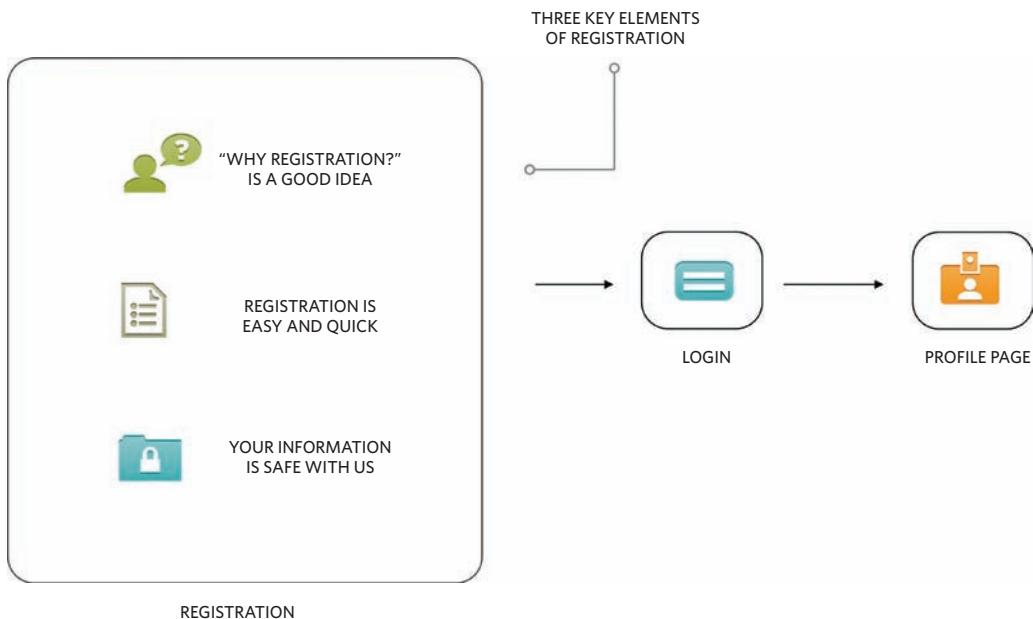
Land's End Checkout Process

A three-step process on a single page gives a great user experience. The always visible shopping cart gives reassurance to the buyer. Use of early shipping calculation, and Start Checkout for first-time customers are great features.



34 User Account/Registration

THE PROCESS OF REGISTERING WITH A WEBSITE TO AVAIL PERSONALIZED SERVICES



Account creation is the first step in creating a potential customer base. It allows companies to create a database of users and provides a medium for promotion. Registration helps visitors identify themselves to the online service and saves users time. An account can be free for a basic newsletter or paid for premium features.

Best Practices and Design Guidelines

- Use a one-page registration form for easy account creation
- Make benefits of registration clear on the registration page
- Keep registration fields to a bare minimum
- Provide quick validation and assistance to avoid user mistyping or losing data
- Have a clear privacy policy

User Experience

- Have descriptive inline help for each registration field with examples of valid entries
- Email address or having unique user name is easier
- If using email address as login name, make it clear that the password field is a new password users have to create (it is not user's existing email password)
- Keep clear distinction between login for existing customer and registration for new customer
- Clearly explain how registration will help with faster shopping and consider offering an incentive

+ See also **Login** on page 76, **WordPress Theme** on page 64, and **User Profile** on page 78.

TrickofMind.com, a Puzzle-Sharing Website

TrickofMind.com allows users to register to post their own puzzles and comment on existing puzzles. It doesn't ask the user to enter password information; rather, the site emails a temporary password to the email address.

Annotations on the Facebook-style Registration Form:

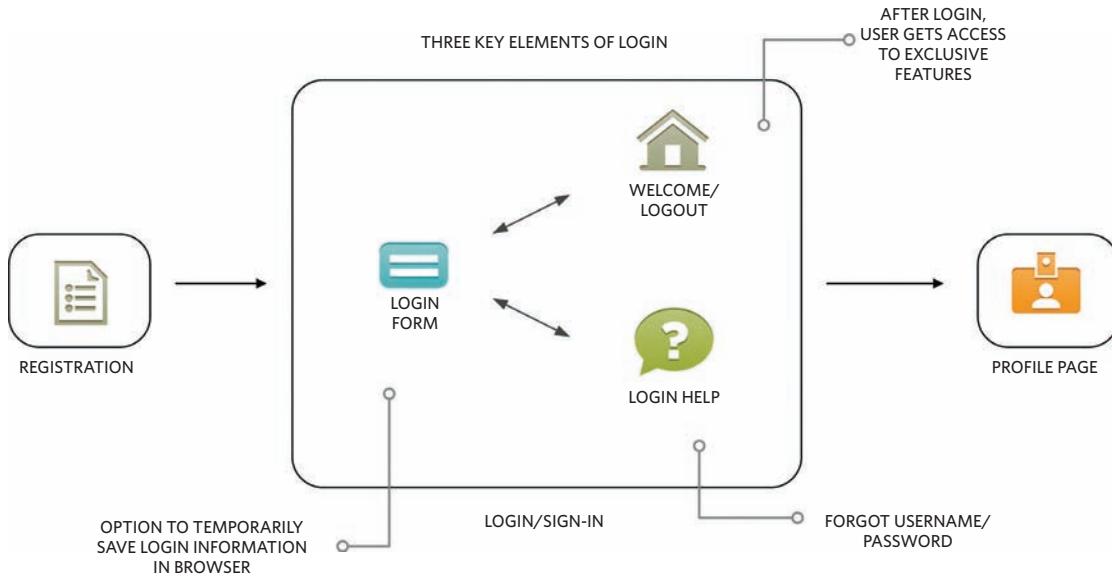
- CLEAR DISTINCTION BETWEEN LOGIN FOR EXISTING USERS AND REGISTRATION FOR NEW USERS:** Points to the 'WHY REGISTER?' section below the form.
- "NEW" CLARIFIES THAT THIS PASSWORD IS NOT PART OF EXISTING EMAIL ACCOUNT:** Points to the password field area.
- MINIMUM NUMBER OF FIELDS REQUIRED FOR REGISTRATION:** Points to the minimum required fields (Username, Email, Password).
- CLEAR ERROR HELP:** Points to the error message 'ERROR: The email address isn't correct.'
- USERNAME IS YOUR LOGIN ID:** Points to the Username field.

Annotations on the TrickofMind Registration Form:

- Facebook © 2012 - हिन्दी**: Points to the footer text.
- WHY REGISTER?**: Points to the 'WHY REGISTER?' section below the form.
- MINIMUM NUMBER OF FIELDS REQUIRED FOR REGISTRATION**: Points to the minimum required fields (Username, Email, Password).
- CLEAR ERROR HELP**: Points to the error message 'ERROR: The email address isn't correct.'

35 Login

A SECURITY MECHANISM TO IDENTIFY USERS ONLINE



The login process allows a visitor to go through an authentication mechanism using a combination of a user name and password. The user name uniquely identifies the user, and the password authorizes the validity and access level of the account. Users are then redirected to their account page.

Best Practices and Design Guidelines

- Keep the logo of the website in both login form and forgot password form
- After login, greet the user with his name, giving him logout option
- Clear validation messages on the same page using multiple cues such as color, text, etc
- Use Captcha control, which asks user to read text from an image to confirm user
- Login help form for user to retrieve username/password

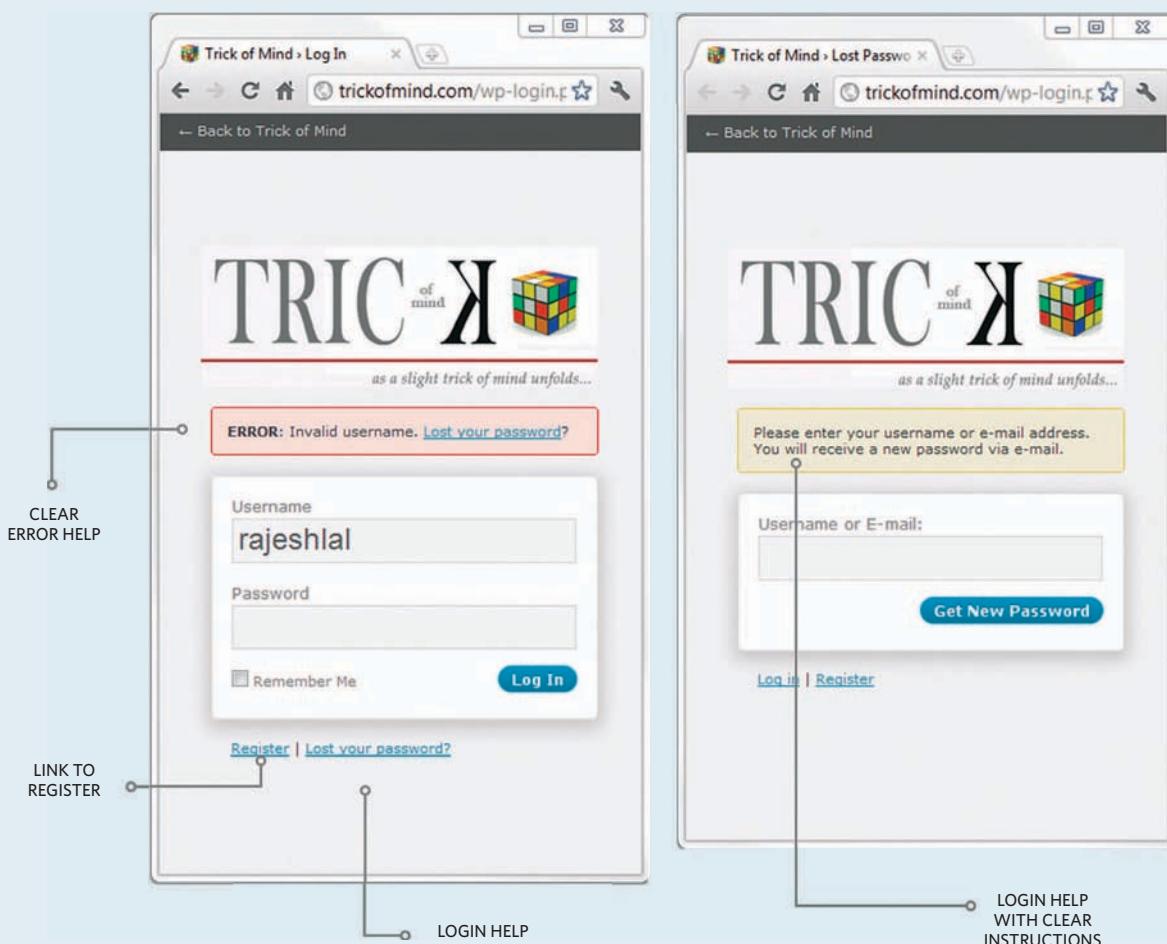
User Experience

- Clear error messages on whether the login/password was wrong or if the account is locked
- Quick password reset option if the user forgot the password
- Include security best practices or phishing alert in the login screen
- Have a login form on the homepage
- Make the login form accessible from keyboard only and ensure logical tab order

(+) See also **User Account/Registration** on page 74 and **User Profile** on page 78.

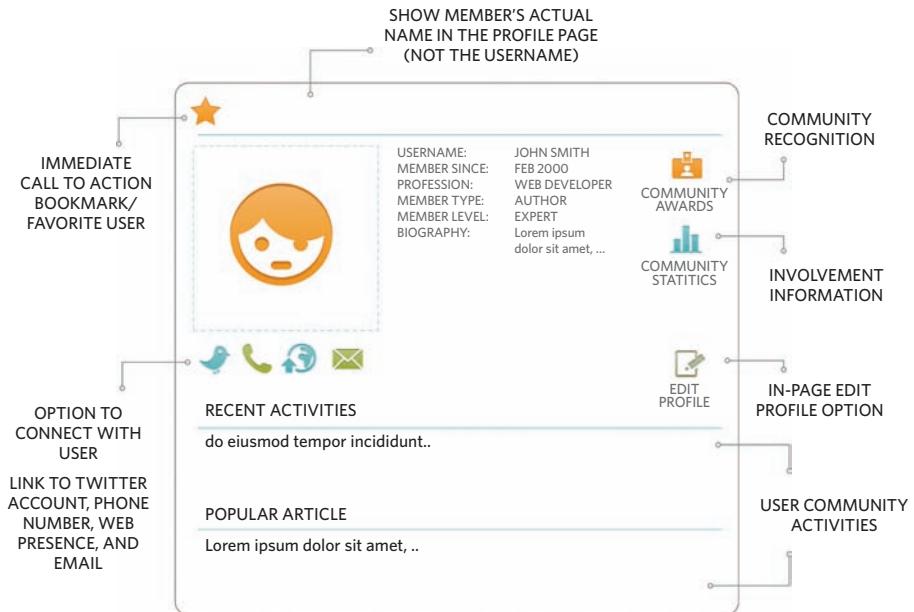
TrickofMind.com Login Form

The login form is simple and without any other content. It has a link to registration and also provides a help link, "Lost Your Password," to retrieve a new password. The login help form has clear instructions to retrieve a password.



36 User Profile

A DIGITAL REPRESENTATION OF A USER IN AN ONLINE COMMUNITY



A user profile consists of a set of personal data, including name/pseudonym, picture/avatars, short biography, profession, hobbies, and other interests, which collectively represent the user in the online community. The user profile displays all user information along with the community activities.

Best Practices and Design Guidelines

- Use one-page layout for complete user information
- Place user's picture/avatar and community statistics at the top of the page
- Provide in-page edit option for users to change their profile
- Clear call to action for bookmark, contact, and connect with the user

User Experience

- Display member's real name along with the user-name
- Allow customization with HTML presentation elements to help user organize contents
- Accommodate beginning users to advanced users
- Have default avatar for all joining users

(+) See also **Login** on page 76, **User Account/Registration** on page 74, and **Online Forums** on page 80.

CodeProject.com and Foursquare

CodeProject.com has a detailed profile page with complete information about the user and her community activities. The Foursquare profile page is much simpler but has social badges, which encourage user activities on the website.

CodeProject.com Profile (rajesh-lal - Professional Profile)

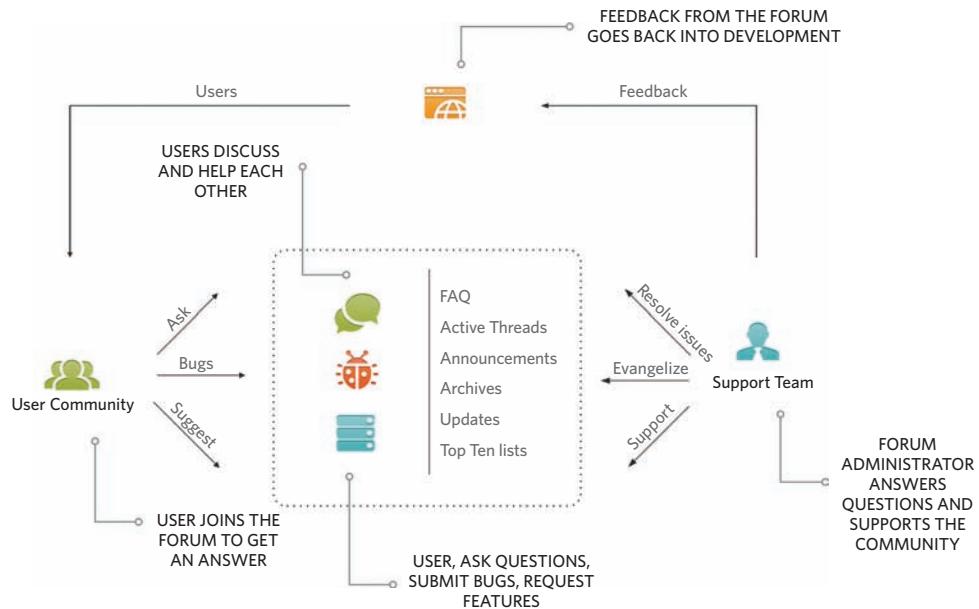
- EDIT OPTION:** A link to edit the profile.
- SHORT BIOGRAPHY:** A brief bio section.
- PROFESSIONAL LAYOUT WITH COMMUNITY-RELEVANT INFORMATION:** The main content area.
- COMMUNITY STATISTICS EDUCATE OTHER MEMBERS ABOUT USERS' INVOLVEMENT:** A summary of user activity.
- COMMUNITY AWARDS AND BADGES:** Badges for Legend, Author, Tutor, Master, Novice, Browser, Shepherd, and Enthusiast.
- BOOKMARK CONTACT OPTION:** Options to add to favorites or bookmark.
- PICTURE OF THE USER GIVES PERSONAL TOUCH:** A photo of the user.

Foursquare Profile (Vilia B.)

- SEARCH:** A search bar at the top.
- TIPS:** A section showing tips from the user.
- BADGES:** A collection of social badges.
- ACTIVITY:** A sidebar showing activity feed.
- BOOKMARK CONTACT OPTION:** Options to add to favorites or bookmark.

37 Online Forums

WEBSITE WHERE USERS CAN DISCUSS ISSUES, ASK QUESTIONS, AND INTERACT WITH EACH OTHER



Online forums, also known as bulletin/message boards, are online places where users with similar interests come together to discuss features, bugs, and enhancements related to a product or service. Discussion forums are used to support user communities and have become a part of software/service offerings.

Best Practices and Design Guidelines

- Allow users to easily participate in the discussion with a simple email login process or as a guest
- Allow most active thread to filter to the top of the archived thread list
- Group topics into relevant, easy-to-find categories
- Allow full-featured text input with emoticons for richer interaction
- Show statistics for the number of users registered, online, and active

User Experience

- Show statistics for each thread based on activity
- Have section to contact the administrator
- Keep the forum real time and dynamic

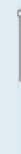
(+) See also **Chat Room** on page 35, **Knowledgebase** on page 88, and **User Profile** on page 78.

Interviewinfo.net

Interviewinfo.net is an online forum for job seekers and offers free resources. The forum page shows how the questions are categorized into multiple headings and subhead-

ings with the number of threads, posts, etc. The right-hand navigation bar also archives all the active threads, unanswered threads, and active users.

TOPICS ARE GROUPED INTO MULTIPLE CATEGORIES



ARCHIVES OF ACTIVE DISCUSSION, UNANSWERED AND ACTIVE USERS



EACH THREAD IS SORTED BY POST SO THE NEWEST POST AUTOMATICALLY BUBBLES TO THE TOP

NUMBER OF THREADS AND REPLIES ALLOWS USER TO KNOW IN ADVANCE THE AMOUNT OF ACTIVITY IN THAT THREAD

The screenshot shows the Interviewinfo.net homepage with the following layout:

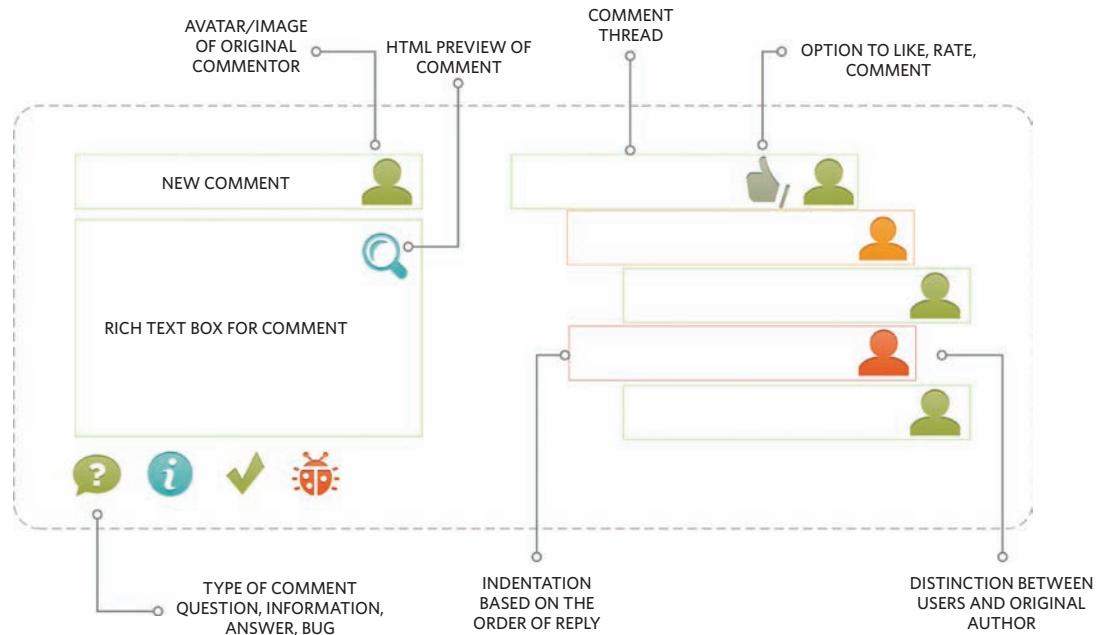
- Header:** Welcome to Interview Info | Sign In | Join | Help | SEARCH
- Main Navigation:** Home, My InterviewInfo, Experiences, Interview Resources (highlighted), Photos, The Force, Contact Us
- Section: Discussions**
 - Beginner Interview Resources:**

Forums	Last Post	Threads	Posts
Cover Letters Get that cover letter you need to GET NOTICED, Different formats	resume cover letter by roony 12-13-2010 9:10 PM	24	25
Resume Resources Resumes which can make a difference	resume objectives by roony 12-13-2010 9:15 PM	7	9
First Interview General/College Graduates/Freshers interviews, What to expect in your first interview	Need help with an interview by Starvalker 02-26-2010 11:34 AM	11	14
General Questions	Using Recruiters: How To... by cGurus 01-11-2008 3:35 AM	140	140
 - For Employers (Only Questions):**

Forums	Last Post	Threads	Posts
IO and Puzzle Questions Some trick questions	world series by puzzle 01-09-2008 7:39 AM	21	21
Technical Questions List of technical questions collected from all of the web and interviewers	Re: Developers using XML by theforce 09-15-2006 5:55 PM	6	11
Case Studies What will you do when.... Alice in wonderland kind of questions	Capital One - CASE STUDIE... by Web User 09-23-2006 11:17 PM	3	4
Algorithmic Questions Question which can be asked to judging analytical skills	Algorithmic Questions par... by interview 01-09-2008 6:05 AM	3	3
Personal Question set	Interview questions likel... by Aril Malavia 09-19-2006 12:54 PM	1	1
 - Right Sidebar:**
 - Shortcuts:** View all users
 - Active:** resume objectives, resume cover letter, Need help with an inte..., Web Services, .Net 3.0 Interview Que..., ASP.NET 2.0, UML interview question..., Optimizing SQL Query P..., Optimizing SQL Query P..., Sql Server 2005 - T-Sql...
 - Unanswered:** resume objectives, resume cover letter, Need help with an inte..., Web Services, .Net 3.0 Interview Que..., ASP.NET 2.0, UML interview question..., Optimizing SQL Query P..., Optimizing SQL Query P..., Sql Server 2005 - T-Sql...
 - Most Active Users:** reeraDressel_0, AmieyLaveta_0, Boondoncocaip_0

38 Comment Thread

LOGICAL GROUPING OF COMMENTS IN A CONVERSATION



A comment thread is a set of comments grouped hierarchically based on a topic for easy access later. It is ordered in descending order and indented logically so as to show the newest comment at the top and the most recent reply in the comment thread.

Best Practices and Design Guidelines

- Include an avatar/icon for users
- Have a rich theme to keep users engaged
- Keep an interactive comment thread with option to minimize all content
- Use different background colors to separate different user comments
- Use number count for replies to individual comment thread
- Add comment reply page with rich text options

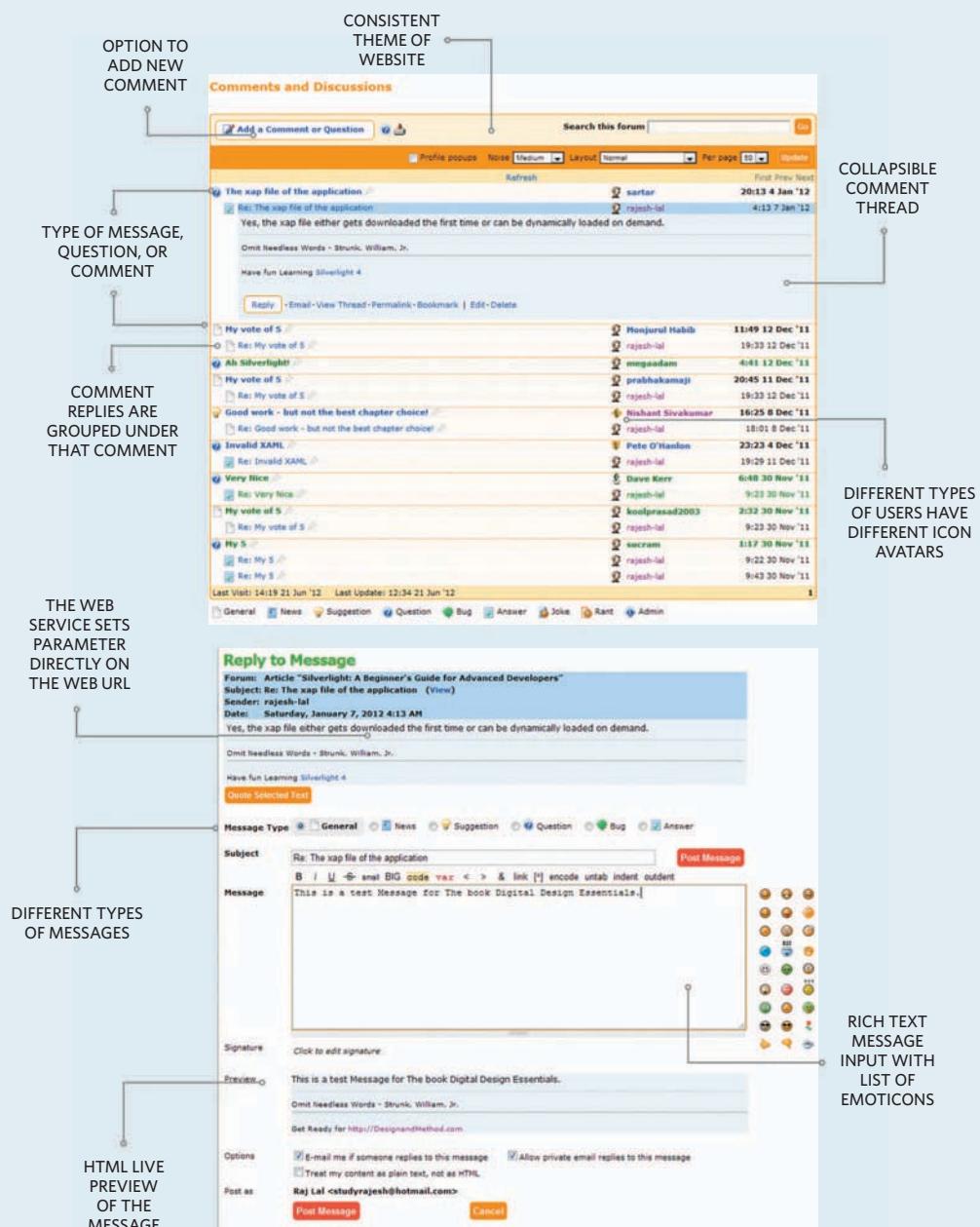
User Experience

- Optimize the display to show maximum number of comments
- Have an option for quick reply
- Option to interact, rate, and add like to individual comments and replies
- Have standard icons for different types of comments, such as news, fun, and questions
- Instead of date/time, show how long ago in terms of minutes and hours the comment was made

(+) See also **Online Forums** on page 80 and **Chat Room** on page 35.

CodeProject.com Lounge

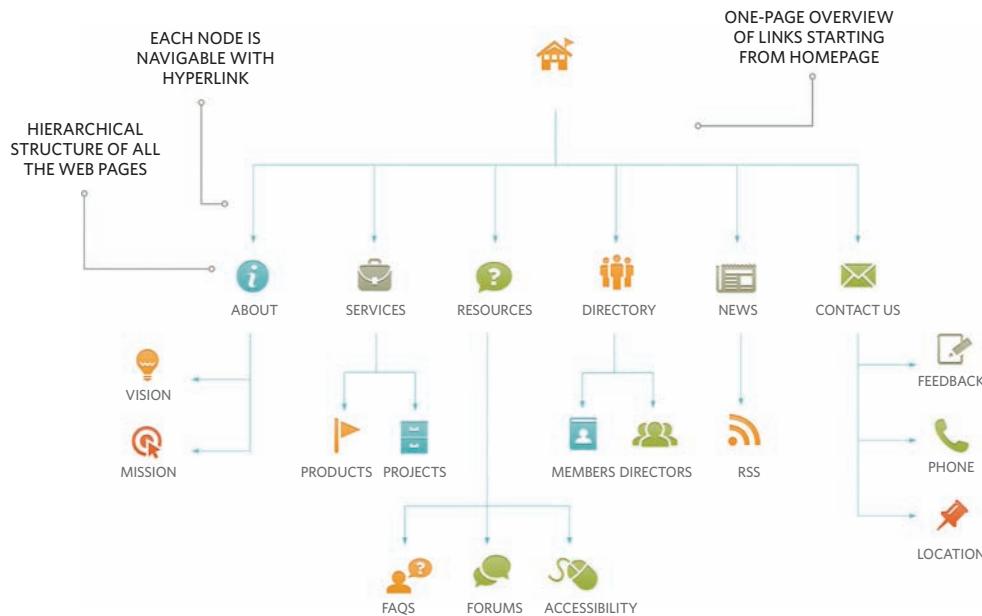
This is a developer forum that features rich comment threads. It allows a user to add comments of different types to an existing article and reply to them.



39 Sitemap



A WEB PAGE THAT SHOWS AN OVERALL STRUCTURE AND HIERARCHY OF A WEBSITE



A sitemap is a well-structured, navigational map of all the pages available on the website, with hyperlinks for easy access. It is meant for both users and search engines for indexing purposes. It also lists sections on the website that are dynamically generated and not accessible from the homepage.

Best Practices and Design Guidelines

- Keep sitemap link on the website navigation
- Follow standard structures for creating a sitemap
 - Hierarchical tree structure—links starting from the homepage
 - Categorical—blocks of simple lists of sections with titles and links
 - Categorical with multiple levels—blocks of lists with three level subcategories
 - Graphical—flowchart-like structure with subnodes and links
- Use a simple static HTML page for sitemap
- Use descriptive and relevant keyword-rich anchor text
- Use the website header and footer for consistency
- Follow accessible content guidelines

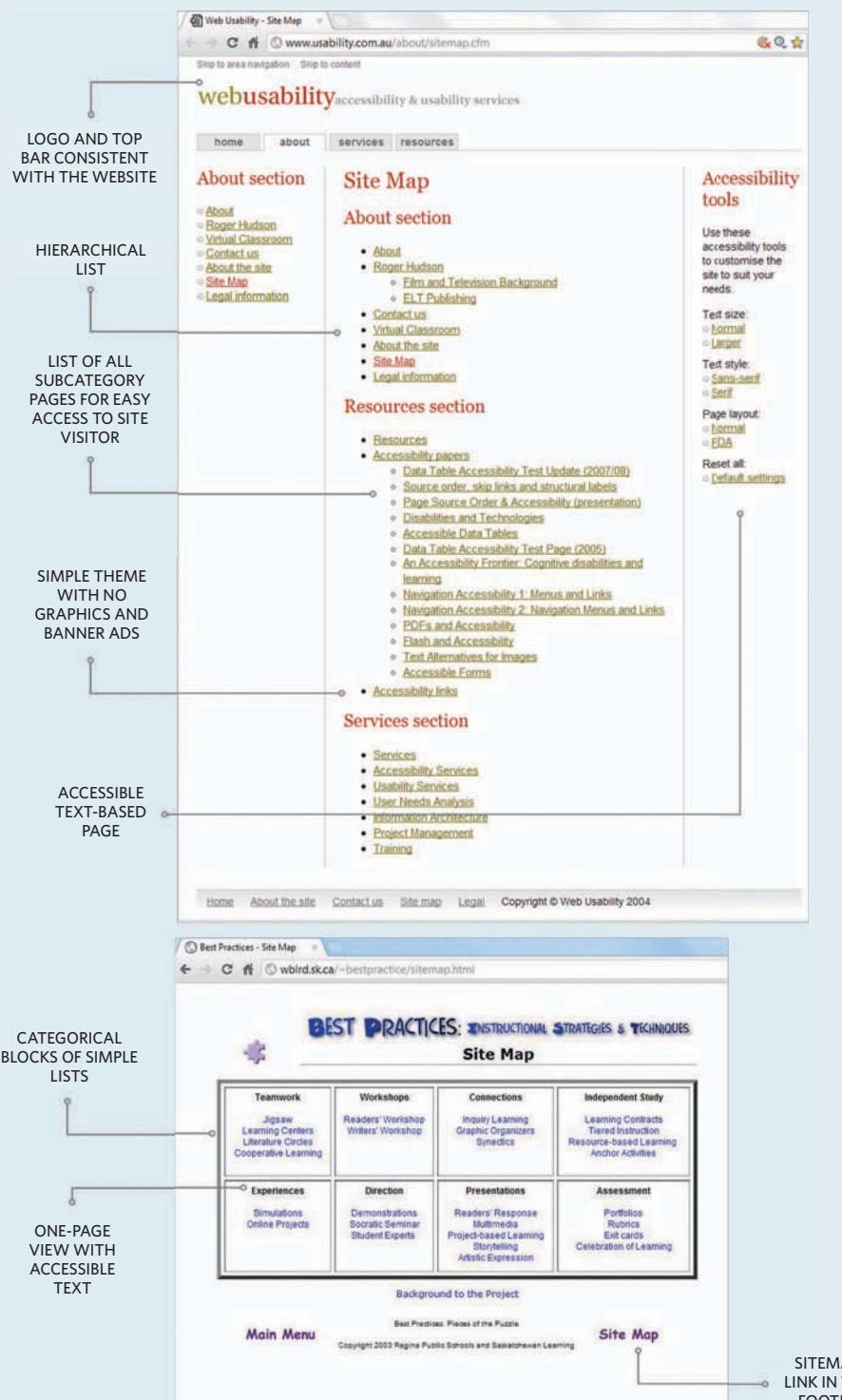
User Experience

- Have user-friendly and logical categorization to help users find things
- Use minimal graphics and avoid animations, ads, and RIAs on the page
- Use it in the error 404 page
- Avoid very large page for sitemap
- If you are using sitemap in the footer, keep the length to one-third of the page

(+) See also **Accessible Web** on page 50, **Homepage** on page 54, and **Resource Center/Help Center** on page 86.

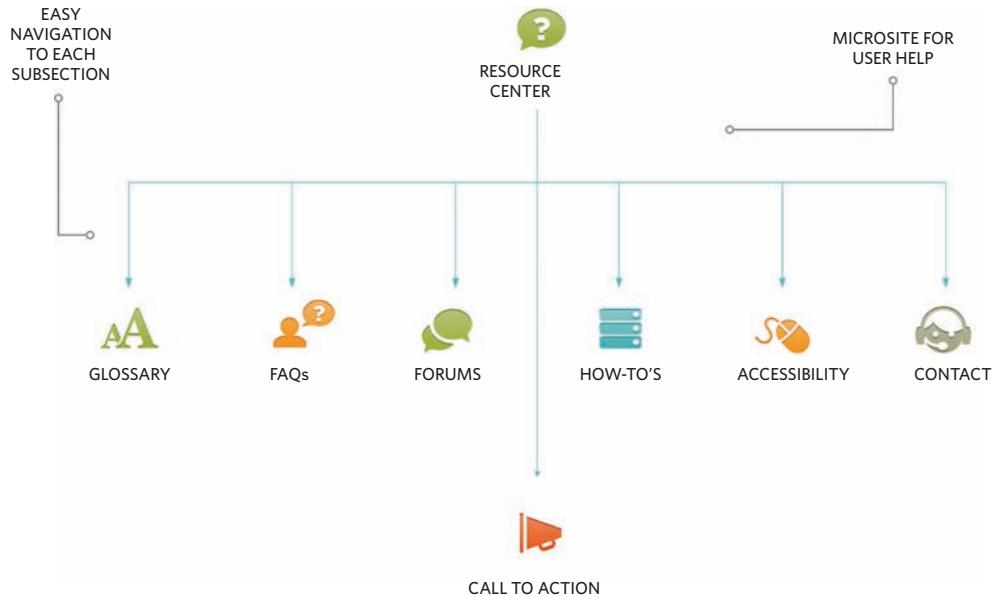
Usability.com.au and Wblrd.sk.ca Sitemaps

Usability.com's website uses a hierarchical tree-like structure for its sitemap. It has a simple theme with no graphics and banner ads and features an accessibility tool. Wblrd's sitemap uses a categorical block structure. It's a simple text-based one-page sitemap.



40 Resource Center/Help Center

A REFERENCE SECTION OF THE WEBSITE WITH COMPREHENSIVE INFORMATION FOR VISITORS



Resource centers are sections of websites to educate visitors about the company, product, or services. It engages users with frequently asked questions, quick information, a glossary, and useful downloads. It is a great tool to increase brand awareness and mindshare.

Best Practices and Design Guidelines

- Have a simple layout with minimal graphics, except for icons or screenshots
- Make it dynamic with regularly updated information
- Have a call to action
- Use accessible titles and link guidelines for FAQ and glossary pages
- Have a forum for user interaction
- Provide accessibility guide and contact information for further queries

User Experience

- Keep the simple layout for the resource center consistent with all subsections
- Use an easy-to-navigate and comprehensive glossary
- Use one-page FAQs and one-page glossary
- Do not use banner ads
- For the FAQs page, keep a list of questions at the top with anchor links to answers

(+) See also **Knowledgebase** on page 88, **Website** on page 52, and **Homepage** on page 54.

Gbc.org and Ameritas Group Resource Centers

Gbc.org has a simple layout for its resource section and features information in the form of handbooks, guides, glossaries, and other downloads. Ameritas Group has a unique resource center tailored for their users, which is different for providers and benefits administrators. The layout is minimal and free of any distraction, with no banner ads.

A-Z INDEX WITH ANCHORS TO DEFINITIONS

SIMPLE LAYOUT

GLOSSARY

New entries beginning with: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Appeal: A formal written request to review the content of a specific exam question for accuracy, validity, or errors in content and grammar. Appeals must be submitted in accordance with the guidelines in the LEED Professional Disciplinary and Exam Appeals Policy. Exam scores are not modified under any conditions. [Learn more »](#)

Appointment ID: See confirmation number.

Application: The process of applying for an exam with GBCI. It is the first step to taking a LEED Professional Exam. Applications are specific to a credential or certificate. All applications are subject to audit. Candidates must provide documentation of eligibility to take the exam (see Eligibility Requirements). Applications are valid for one year and provide three chances to take the exam. Candidates will be notified within seven days if their application is approved or if more information is required. If the application is denied or expires, they must wait three months before reapplying. [Learn more »](#)

Application audit: A review of a LEED Professional Exam application for eligibility. The auditor reviews the eligibility documentation submitted according to the guidelines in the applicable candidate handbook. Five to seven percent of applications are audited and candidates are notified of the results within seven days. [Learn more »](#)

Application fee: A fee which must be paid before a credential or certificate application can be submitted. The application fee pays for the cost of auditing and maintaining the LEED Professional Exams. The application fee is \$50 for LEED Green Associates and LEED for Homes Green Raters and \$100 for LEED APs with specialty. [Learn more »](#)

Audit: (See application audit or credential maintenance audit.)

Website Feedback

FREQUENTLY ASKED QUESTIONS

[What are the benefits of eServices?](#)
[What types of eServices are available?](#)
[How do I sign up for eServices?](#)
[What should I do if I get the message "Your Credentials Cannot Be Verified?"](#)
[If I am signed up for eBill, how will I receive my bill?](#)
[Can I pay online?](#)
[How often does my password expire?](#)
[How can I submit enrollment change or termination notifications?](#)
[How do I sign up for eBill if I am a full-time student?](#)
[How long does it take for eCards and eCertificates to arrive after I have re-ordered them?](#)
[Where do I find enrollment forms or claims forms?](#)

What are the benefits of eServices?

eServices are free and effortless, plus they save time and money when administering members' dental and vision benefits.

What types of eServices are available?

eEnroll: Enroll, change or terminate member coverage in real time, as well as view member coverage status, including effective dates and dependent coverage levels. You can also verify and update information prior to receiving monthly bills. Once you become a part of eEnroll, you'll gain access to eBill.

eBill & Electronic Funds Transfer (EFT): Simple billing is one of the benefits of eServices. Key features include "Bill Me" and "Pay Bill."

"Bill Me" gives you the option of choosing when you'd like to receive your bill. After updating all member information, you simply order your bill by selecting the "Bill Me" icon. The following business day you'll receive an e-mail confirming the bill is ready.

With "Pay Bill" you can pay bills online through Electronic Funds Transfer and you have access to 12 months of billing history (no paper bill is mailed with the eBill option).

Electronic Data File Transfer: If a policy has more than 250 members, Electronic Data File (EDF) Transfer is available. You can transfer enrollment information straight from your payroll system to an Electronic Data File. The file is transmitted to our secure server weekly or monthly, whichever works best for you.

eCard & ePolicy: View, distribute and print dental and vision policies and certificates. To distribute certificates electronically, download the PDF files and attach them to e-mails or post them on a company intranet.

How do I sign up for eServices?

Complete and submit the [eServices agreement](#).

What should I do if I get the message "Your Credentials Cannot Be Verified?"

Make sure your CAPS LOCK is not on when entering your User ID and Password. If you still receive the same message, contact us at 800-628-8889.

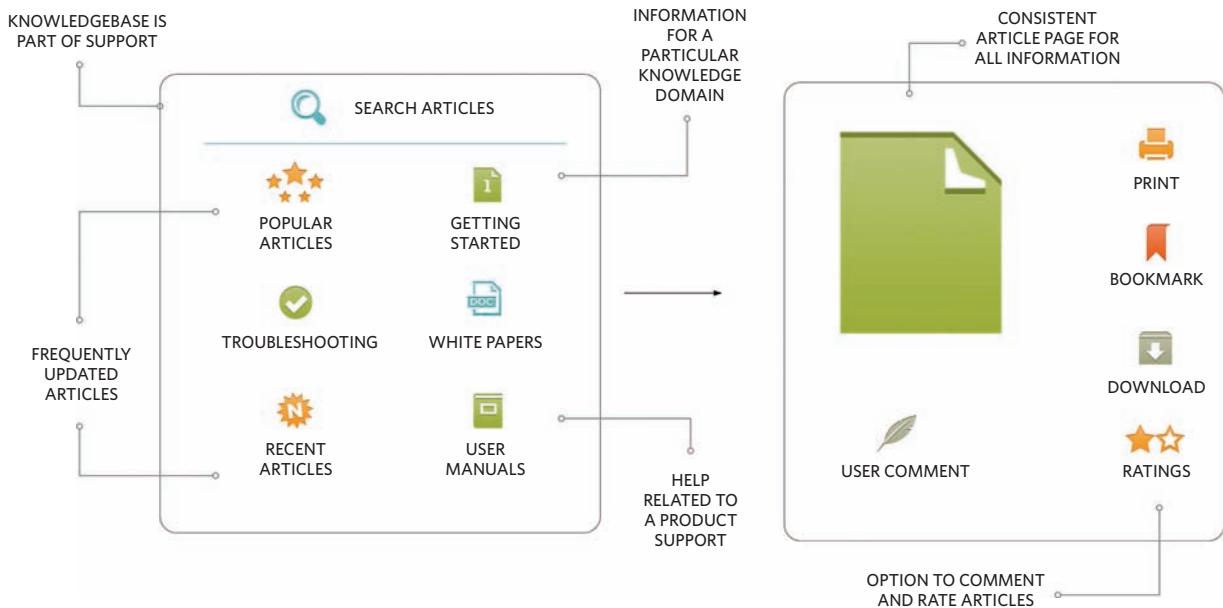
If I am signed up for eBill, how will I receive my bill?

You'll receive an e-mail message when your bill is ready for review online. You can also access up to 12 months of billing history and download bills via the [Member Benefits](#) section of the [Member Center](#).

41 Knowledgebase (KB)



A WEBSITE FOR ARTICLES RELATED TO A PARTICULAR KNOWLEDGE DOMAIN



A knowledgebase is an online, automated support system for a particular product. It contains numerous articles, white papers, troubleshooting information, and user manuals and is meant to supplement a product or service by giving information in the form of simple articles. A knowledgebase provides answers to specific product-related questions.

Best Practices and Design Guidelines

- Keep the KB home layout simple with blocks of information
- Avoid heavy graphics, Flash, and banner ads
- Allow advanced search for exhaustive query support
- Have a section for first-time users
- Allow user interaction, comment, and ratings on the article page
- Use icons and styles to add visual cues to different types of information

User Experience

- Have minimal layout to put focus on the content
- Use consistent layout for all article pages
- Use breadcrumb navigation to go back to the KB homepage
- Use light background and follow accessibility guidelines for content

(+) See also **Online Forums** on page 80 and **Resource Center/Help Center** on page 86.

Netop Knowledgebase

The knowledgebase at kb.netop.com is simple and intuitive. It categorizes all information into groups and has sections for featured articles and most-recent articles. The theme of the website is very simple with few colors, and it uses Verdana, which is easy to read. The article page has standard options to print, download, bookmark, email, and share.

CLEAN AND SIMPLE DESIGN

QUICK AND ADVANCED SEARCHES

INFORMATION CATEGORIES

ARTICLES WITH NUMBER OF VIEWS AND UPDATE INFORMATION

QUICK ACCESS TO KNOWLEDGEBASE
http://kb.netop.com

NETOP® KnowledgeBase INFORMATION & SUPPORT CENTER

Have Questions About Netop Products?
We can help you. Begin by searching for a subject or browse through our list of categories and articles.

BROWSE CATEGORIES

- Vision Pro (79)
- School (47)
- Additional modules and tools (2)
- Vision (313)
- Remote Control (202)
- MyVision (13)
- Live Guide (17)

FEATURED ARTICLES

- Netop School supported operating systems by version
- School on Terminal Server, Citrix Server or a MultiPoint Server
- Using Netop School in a Virtualized environment
- How to prepare your Netop Remote Control License for version 10 or version 11

RECENTLY ADDED ARTICLES

- Audio/Video encryption in Netop Live Guide
- Netop Live Guide - Remote view and Remote assistance
- Browser Support in Netop Classroom Management
- Release your Vision student computers when a lesson is over
- Netop Vision / Netop Vision Pro User's Guide for Command-line Migration Tool (EN)

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BREADCRUMB NAVIGATION FOR QUICK ACCESS TO CATEGORY AND TO GO BACK TO KB HOME

USE OF ICONS AND SECTION FOR ATTACHMENTS

Netop MyVision Frequently Asked Questions (EN)

If you are having problems installing or using MyVision some of the answers below may help you solve the issue.
The Q&As are within these categories:

- Registering and downloading MyVision
- Installing on the teacher computer
- Installing on student computers
- Setting up a class
- Starting MyVision
- Classroom view
- Uninstall or reinstall MyVision
- Log files and version

Article Properties

- Business area: Education
- Language: EN
- Product: MyVision
- Product version: 3.0
- Resource type: Product documentation
- Solutions: Classroom Management

Attachments (1)

- netopmyvisionfrequentlyaskedquestions_en.pdf (387 Views, 450.6 KB)

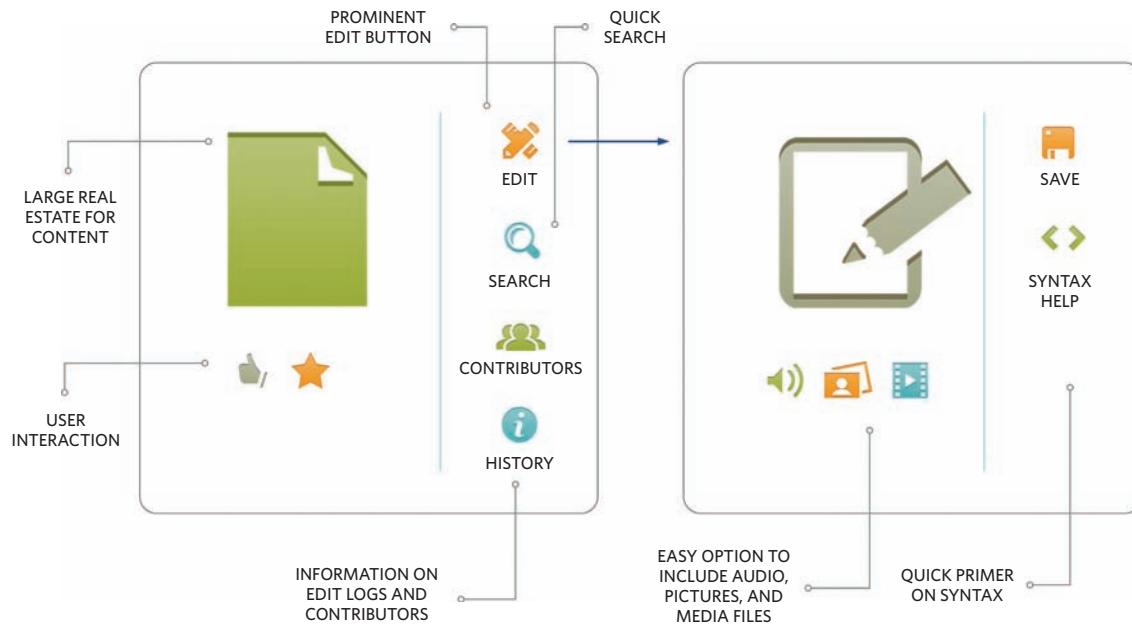
Subscribe to Article | Print Article | Email Article to Friend | Export to PDF | Export to MS Word | Bookmark Article | Tweet This Article | Digg It | Stumble Upon | Delicious

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42 Wiki



A WEBSITE THAT CAN BE VIEWED AND MODIFIED BY ANYONE USING THE INTERNET



A wiki is a website created for collaboration, where many people come together and pool information. It is a content-management system where anybody can create new pages or edit existing pages of the website. It allows people to work together on the same page and does not require any special knowledge to create or edit pages.

Best Practices and Design Guidelines

- Keep main area of the page for content
- Have simple and consistent structure for all the pages with categories
- Limit use of HTML frames, style sheets, and JavaScript
- Avoid Flash, banner ads, and any other kind of advertisement

User Experience

- Use simple text-based color scheme and easy-to-read fonts
- Avoid any header graphics or graphically rich navigation controls
- Allow editing with plain text as well as rich text with advanced formatting options

(+) See also **Online Forums** on page 80, **Content Management System** on page 112, and **Knowledgebase** on page 88.

Designandmethod.wikispaces.com

The wiki platform, Wikispaces, provides an easy-to-use interface for wiki-based websites. The website has a single page in the beginning that you can start editing for your content. Then, as you link more pages and create them, the website takes shape in an incremental way. The edit page features a rich text box control for easy HTML content creation for the page, and it also allows embedding, files, images, and widgets on the web page.

PROMINENT EDIT BUTTON

MAIN AREA FOR CONTENT

USER DISCUSSION COMMENTS AND REVISIONS

QUICK NAVIGATION WITH HISTORY INFORMATION

QUICK SEARCH

RICH TEXT CONTROL WITH OPTION TO INCLUDE LINK, WIDGET, OR FILE

OPTION TO COMMENT AND DISCUSS PAGE CONTENT

43 Online Surveys

A WEB TOOL FOR COLLECTING INFORMATION FROM WEBSITE VISITORS



An online survey is a web-based tool to collect data from users. It can be in the form of an instant poll, a web widget with a multiple-choice question, or a mini web wizard with multiple pages of questions. It allows online companies to engage users and hear their voices on pressing issues.

Best Practices and Design Guidelines

- For instant poll:
 - Use objective answers with radio buttons or check boxes
 - Show results after taking the poll
 - Randomize answer order to avoid border answer bias (border choice prone to selection)
- Have clear indication ("Finish/End" button) for one-page survey
- Use a multipage survey with progress bar
 - Tell survey completion time in advance
 - Avoid large set of questions in one big table
 - Keep your first survey page simple
 - Keep a fixed set of questions on every page and consistent layout
- Use accessible guidelines for content

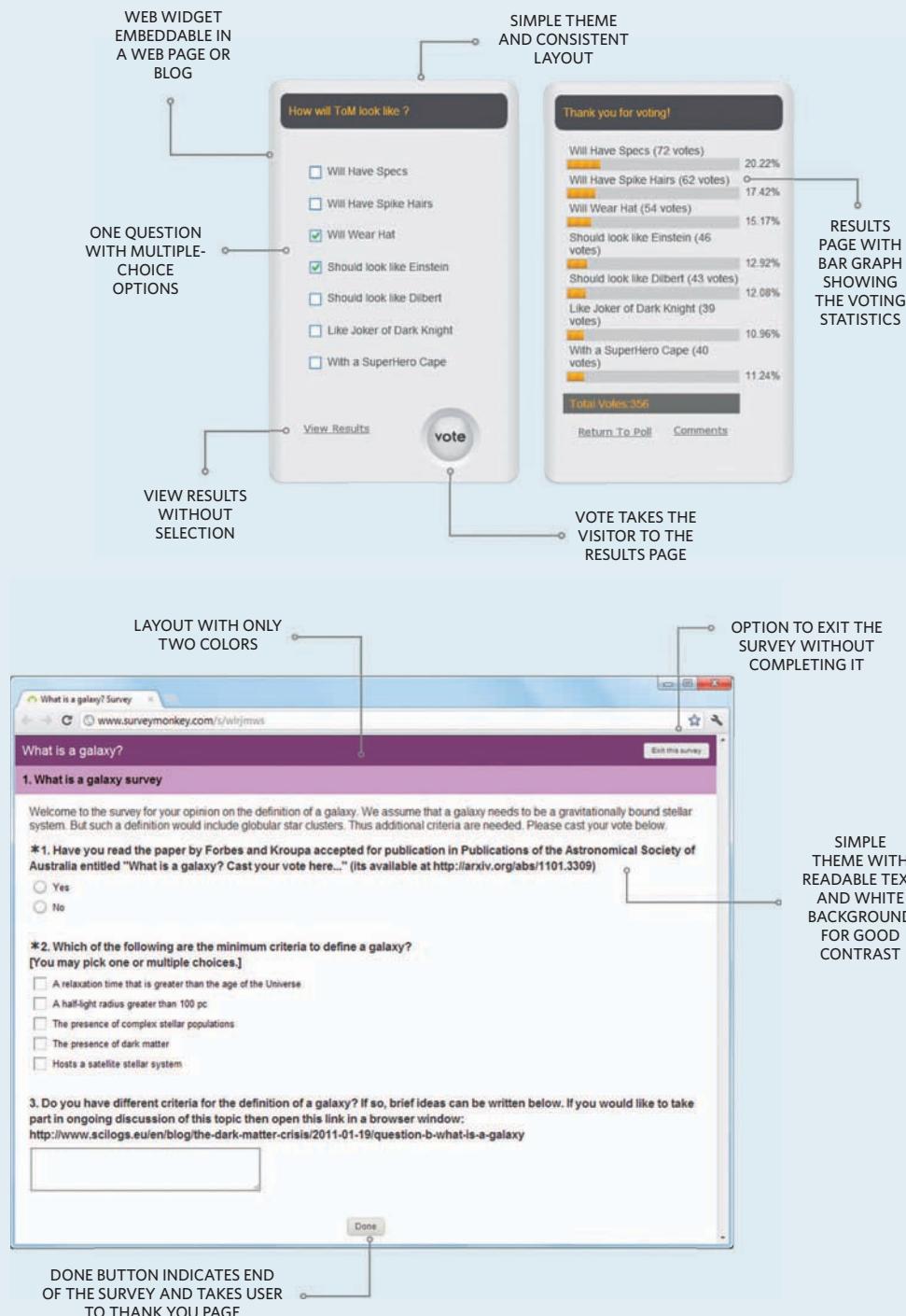
User Experience

- Keep questions one line
- Keep subjective questions optional
- Tell user how many more questions are in the survey
- Keep everything on one page

(+) See also **Accessible Web** on page 50 and **Web Widget** on page 98.

TrickofMind.com and Survey Monkey One-Page Example

TrickofMind uses a widget-based survey to engage users. It uses a single question, multiple-choice format, and shows the result. Survey Monkey's one-page survey example uses a pleasing theme and one-page format. The questions have a good amount of white space and the text can be scaled.



44 Rating App

A UTILITY TO SCORE/VOTE A PRODUCT ONLINE



A rating system allows for quality assessment as well as user engagement. It collects feedback from existing customers to improve the product and also provides insightful information to potential customers. Five-star rating systems are quite popular, where the user has an option to give up to a five-star rating, with five being the best score and one, the worst.

Best Practices and Design Guidelines

- Have three distinct states:
 - Current state, with existing scores
 - Active state, when user is selecting a star
 - Rated state, when user has rated the product
- Seamlessly blend rating system with website, occupying least amount of space
- Use Ajax methodology (no page refresh) to add the score in the background
- Design to encourage ratings and be easy to use

User Experience

- Show status while rating and after rating
- Have a rate board with graphics (bar diagrams) for each type of score

See also **Web Widget** on page 98 **Ajax Web Application** on page 114.

AddRating.com and Fendi.com

AddRating.com provides a custom rating widget, which can be embedded in any website. It provides the current score, the active state when the color of the rating "stars" changes to red on mouse hover, and the final state after rating. On the other hand, Fendi.com has a unique built-in, hidden rating system. It shows AM♥R (AM lover) with a number, which shows the number of people that "liked" or clicked AM♥R for that particular item. The rating happens seamlessly in the background and the final number gets updated.

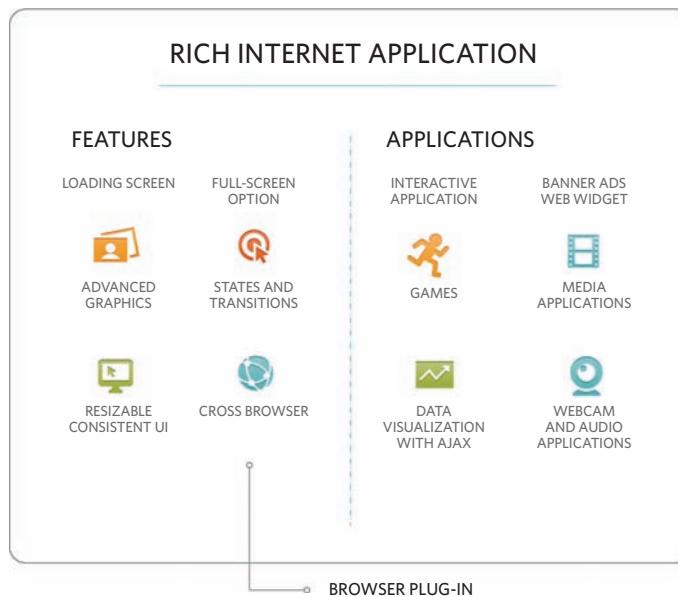
RATING ACTIVE STATE WITH CURRENT RATING

RATE BOARD SHOWING STATISTICS FOR EACH TYPE OF RATING

SIMPLIFIED AND UNIQUE RATING SYSTEM AT FENDI.COM

45 Rich Internet Application (RIA)

WEB APPLICATION THAT DELIVERS A RICH, DESKTOP-LIKE EXPERIENCE



RIA provides interaction and features on a web page with a consistent UI across multiple browsers. RIA is normally used as either an island of rich functionality on a web page or a whole web page. It uses scalable vector graphics, GPU-accelerated animations, 3-D, media, and Ajax. RIAs dominate online gaming, and are used for creating web widgets, banner ads, advanced media players, and Ajax-based sophisticated data visualizations.

Best Practices and Design Guidelines

- Have a progress bar for loading status of RIA
- Ensure RIA has fixed-size application across browsers and platforms
- Use gradients, transparency, and high-quality graphics
- Note that RIA also features a full-screen option

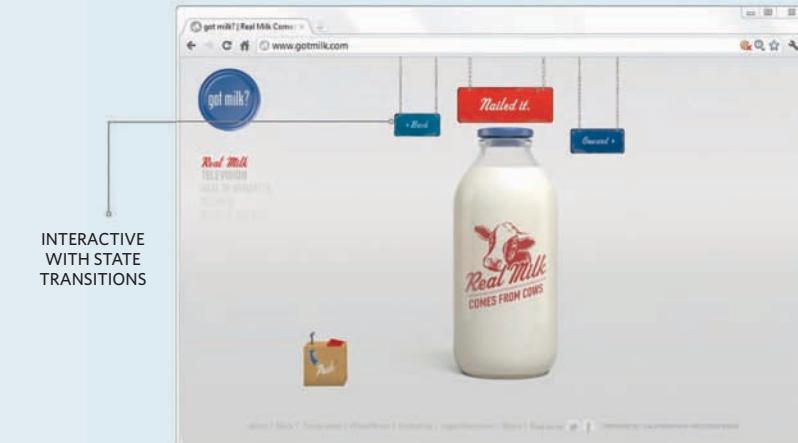
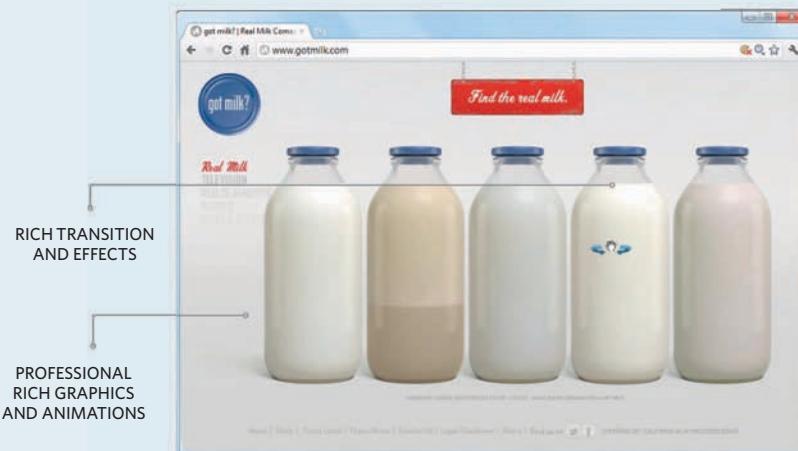
User Experience

- Advanced graphics and seamless animations are expected from RIA
- Use for advanced dynamic and interactive data visualization
- Have a visually rich user interface with state transitions on user activity
- Use up-to-date colors and contrast

(+) See also **Web Widget** on page 98, **Media Player** on page 28, and **Banner Ad** on page 102.

GotMilk.com

GotMilk.com uses Microsoft Silverlight technology to deliver a full-screen RIA. It uses high-quality graphics. The loading screen sets the stage for a high-quality interactive application, and once loaded, the interactivity with subtle state transitions and clutter-free design delivers an immersive experience.



46 Web Widget

A WEB APPLICATION THAT CAN BE EMBEDDED IN A WEBSITE, BLOG, OR SOCIAL PROFILE



KEY ELEMENTS OF A WEB WIDGET



SINGLE-PURPOSE
MINI UTILITY



CUSTOMIZATION OF
LAYOUT WITH COLOR
PALETTE



SHARING CODE AND
VIRAL DISTRIBUTION

Web widgets are small utilities and add extra functionality to a web page. A web widget can be a visitor count, clock, calendar, or simple feature to subscribe users. Users can go to a widget provider website, customize the widget, and use the generated HTML code to embed it in their website.

Best Practices and Design Guidelines

- Have a visually appealing and easy-to-use widget
- Use four steps for widget customization:
 - Identification to personalize the wizard with user ID
 - Customization of layout, color, and fonts
 - Preview of widget, showing the new custom widget
 - Deployment code to be generated so users can use it on their web page
- Use space effectively without overloading data
- Use little branding and avoid banner ads

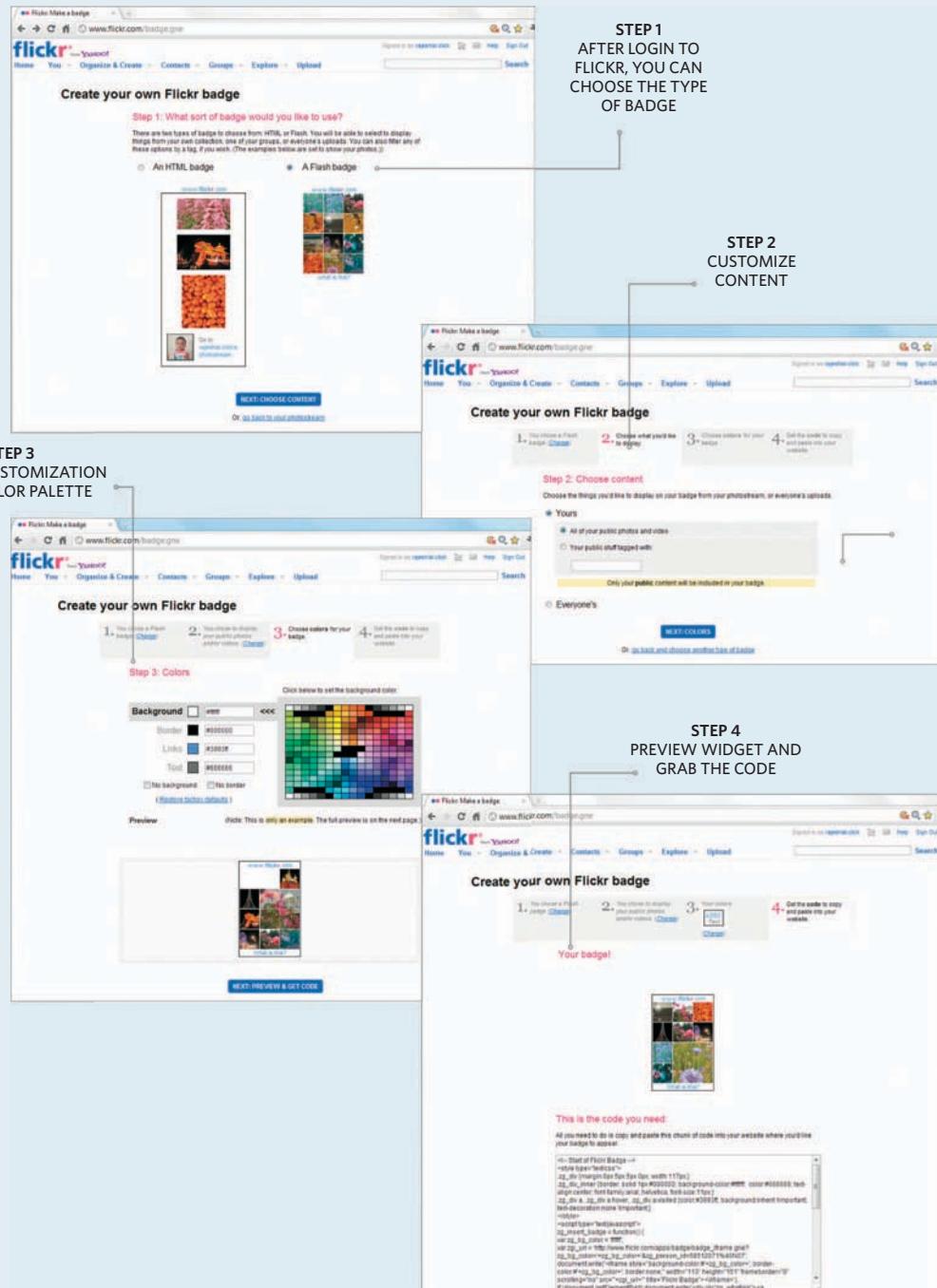
User Experience

- Focus widget on one feature
- Make self-explanatory with a default layout and data
- Use default values to get the user started quickly
- Use a seamless, borderless design to fit with any web page
- Avoid asking for login, registration, or emails to use the widget
- Support sharing and bookmarking online through social sharing plug-ins
- Allow custom size with default size to fit on the side navigation

 See also **Desktop Widget/Gadget** on page 30.

Flickr Badge

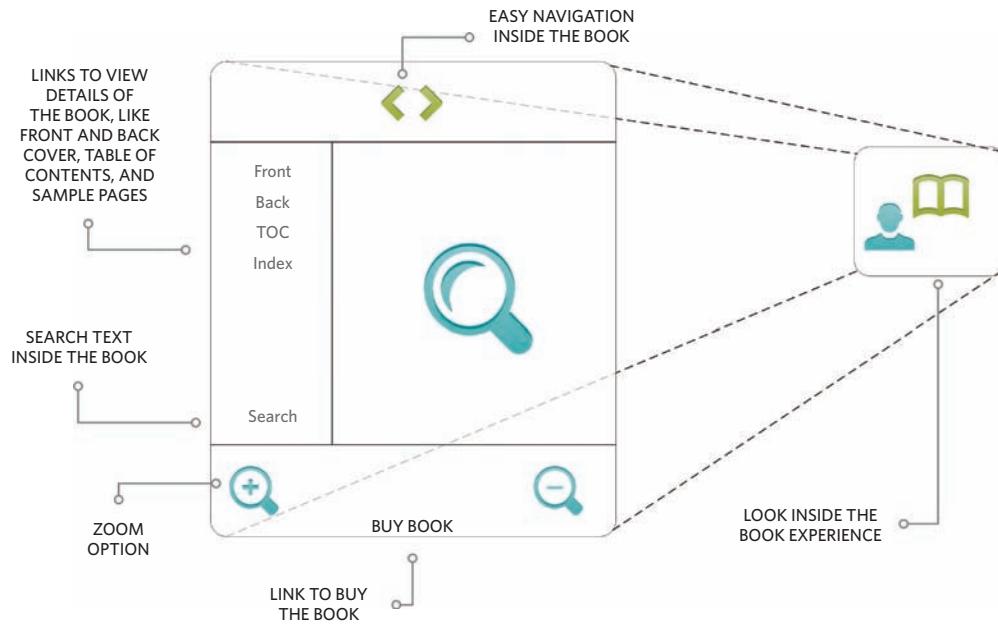
Flickr Badge allows you to embed your photo gallery in a web page. The customization is a simple step-by-step process that generates HTML code. The HTML code can be embedded in any web page.



47 Book Widget



A BOOK WIDGET ALLOWS YOU TO PREVIEW A BOOK BEFORE YOU BUY IT



A book widget gives online users a look inside the book experience like in a physical bookstore. Users can see the front cover, back cover, table of contents, sample pages, and index, and search inside the book.

Best Practices and Design Guidelines

- Have easy access and navigation to a list of available preview pages
- Allow easy navigation between pages with Previous and Next buttons
- Add full-screen option with ability to zoom in and out
- Allow a search option for keywords in the book
- Have a buy book option

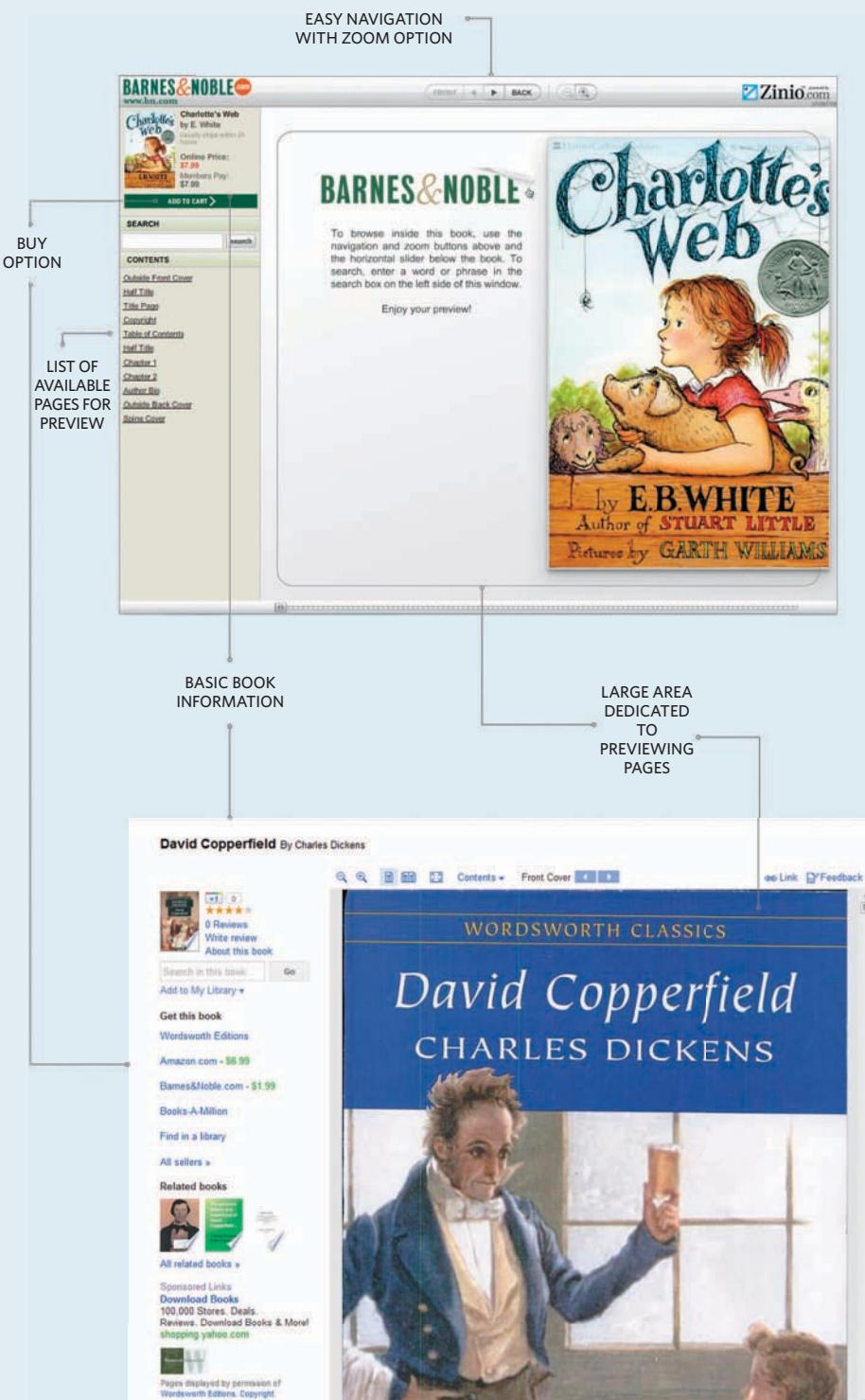
User Experience

- Use page transition animation to give a page-flip experience
- More pages to preview is more useful for the user
- Have quick loading of the pages

(+) See also **Web Widget** on page 98 and **Desktop Widget/Gadget** on page 30.

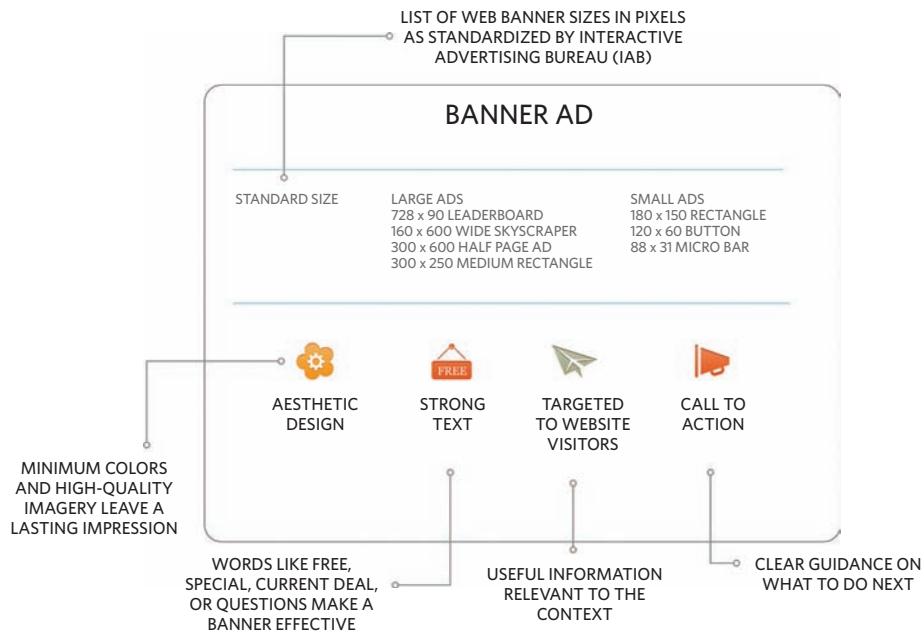
Barnes and Noble and Google Book Widget

Barnes and Noble has an easy-to-use interface with navigation and zoom options at the top center. It also shows tiny thumbnails in the bottom to give context to the navigation. The Google book widget has a simpler interface and shows the list of available pages only when you click on the contents link at the top. Both widgets have search options for particular keywords.



48 Banner Ad

A BANNER AD IS A GRAPHICAL WIDGET USED FOR ADVERTISING ON THE WEB



Banner ads are special kinds of web widgets intended to attract traffic to a website. Banner ads normally have a high aspect ratio (wide or tall), containing rich graphics, animations, and sometimes audio, video, and interactive elements. Simple banner ads can be a set of three rotating images.

Best Practices and Design Guidelines

- Make use of rich graphics and dynamic content, like a banner with different local offers
- Have prominent brand incorporation and call to action
- Include a URL in the banner
- Keep rotating banner, three to five frames
- Use no more than 40Kb size for large ads and 10 to 20Kb for smaller ads
- Note the animation recommendation is 15 seconds

User Experience

- Avoid flashy content, bumpy animations, and overly bright colors
- When using media, let the user choose to start and stop audio and video
- Think billboards—don't use more than a few words (seven is optimum)



See also **Rich Internet Application (RIA)** on page 96 and **Web Widget** on page 98.

IAB Banner Ad

The design and color choice of the IAB website is professional, grabs users' attention with a question, and has a clear call to action view.

PROFESSIONAL AND SEAMLESS BANNER AD AT INTERACTIVE ADVERTISING BUREAU

BANNER AD USES JUST TWO COLORS: BLUE AND ORANGE; PROFESSIONAL AND AESTHETIC DESIGN

The screenshot shows the IAB website's "Ad Unit Guidelines" page. At the top, there's a navigation bar with links like "About the IAB", "Insights & Research", "IABlog", "IAB Videos", "Members", and "Join the IAB". Below the navigation, a large blue banner with white text reads "SmartBrief Jobs" on the left and "Looking for interactive pros?" on the right. To the left of the banner, a sidebar lists "Ad Standards & Creative Guidelines" and "Ad Unit Guidelines" with sub-links for "Display Ad Units", "Digital Video Ad Format", "Pop-up Guidelines", "Rich Media Creative Guidelines", "Universal Ad Package", and "Contracts & Privacy". The main content area contains text about the IAB Ad Unit Guidelines and a link to download them.

THREE VIEWS OF SMARTBRIEF JOBS BANNER AD

BANNER STARTS WITH STRONG TEXT, A QUESTION TO ATTRACT ATTENTION

USEFUL INFORMATION EDUCATES USER AND GENERATES INTEREST

CONTEXTUALLY RELEVANT TO IAB WEBSITE VISITOR

SIMPLE CALL TO ACTION

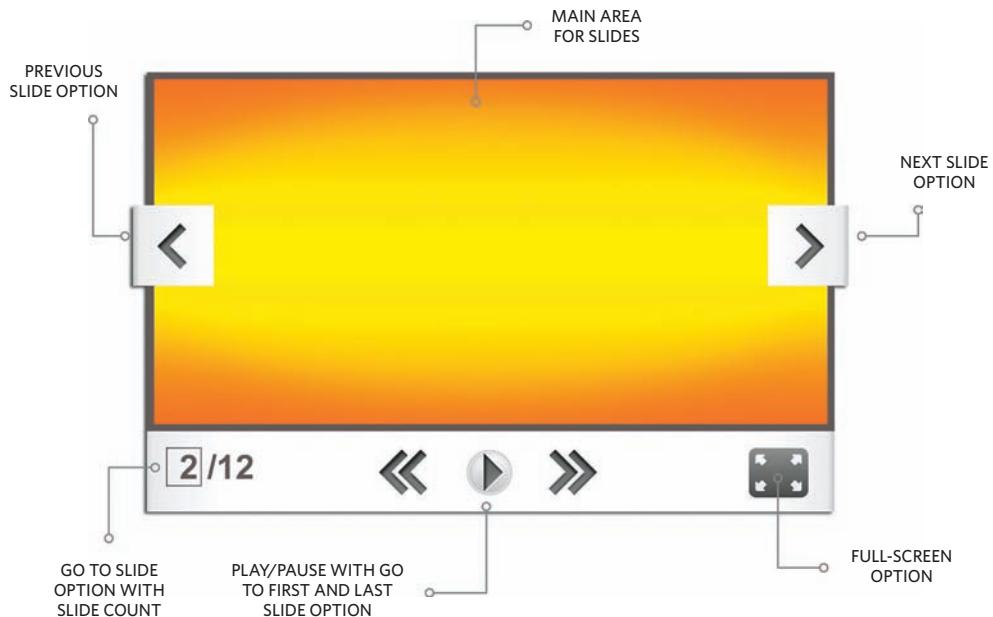
The diagram illustrates three different views of the SmartBrief Jobs banner ad, each with a callout pointing to specific elements:

- View 1:** Shows the banner starting with strong text ("SmartBrief Jobs") followed by a question ("Looking for interactive pros?").
- View 2:** Shows the banner starting with strong text ("SmartBrief Jobs") followed by a statement ("There are now more than 40,000 IAB SmartBrief subscribers in your candidate pool."). This view is described as being "contextually relevant to IAB website visitor".
- View 3:** Shows the banner starting with strong text ("SmartBrief Jobs") followed by a call to action ("Click here to post your available jobs."). This view is described as having a "simple call to action".

49 Web Slideshow



AN APPLICATION TO SHOWCASE A SERIES OF SELECTED IMAGES OR SLIDES IN A PREDEFINED ORDER



Web-based slideshows are created using rich Internet application technologies like Adobe Flash and Microsoft Silverlight or standard web technologies such as HTML, CSS, and JavaScript. A basic slideshow can be an image rotator with customizable images, whereas an advanced web slideshow might port a desktop presentation like PowerPoint, Keynote, or even PDF into a formatted slideshow application.

Best Practices and Design Guidelines

- Allow viewer control of the slideshow
- Keep the navigation controls outside of the slide content
- Have slideshow controls easily clickable
- Make the transition of the slideshow seamless
- Have thumbnail view of slides for picture/media slideshow

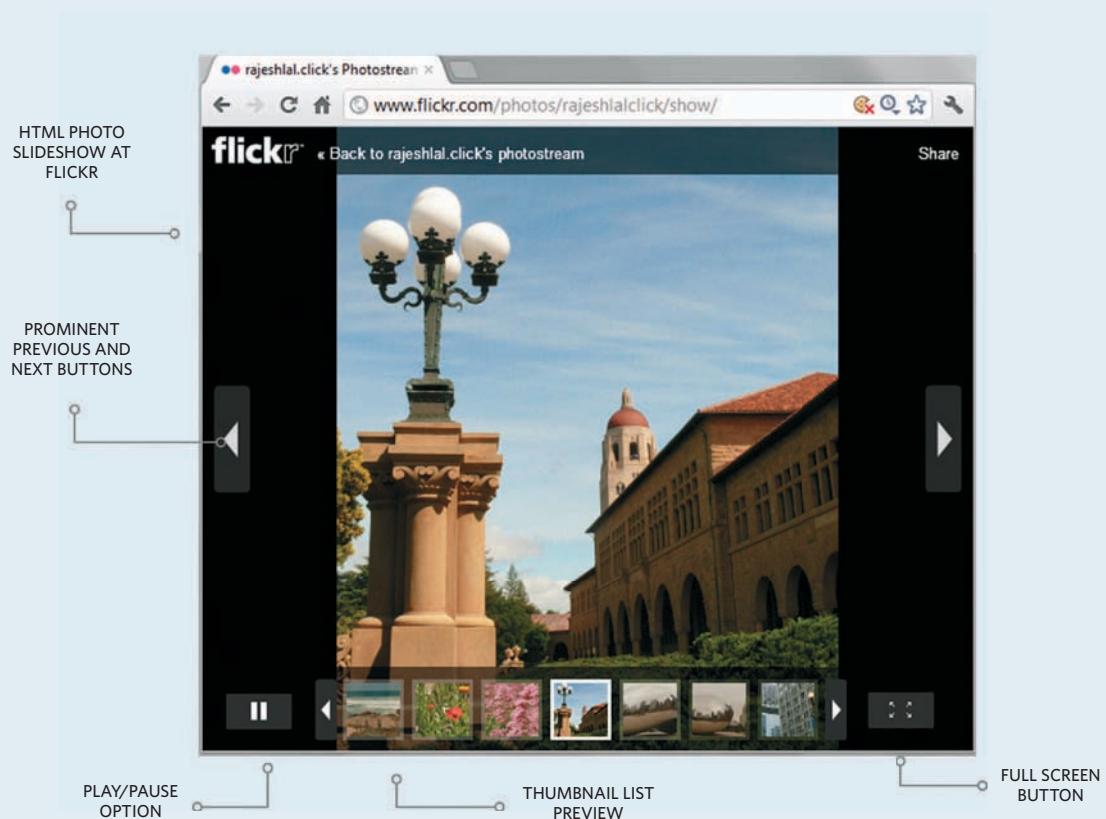
User Experience

- If more than four slides, keep a slide count and go to slide option
- Use translucent, unobtrusive UI controls for the picture slideshow
- Give visual feedback to the current status of loading of next slide
- Support autoplay to next slide with duration of 3 seconds or more

(+) See also **Web Widget** on page 98, **Media Player** on page 28, and **Rich Internet Application (RIA)** on page 96.

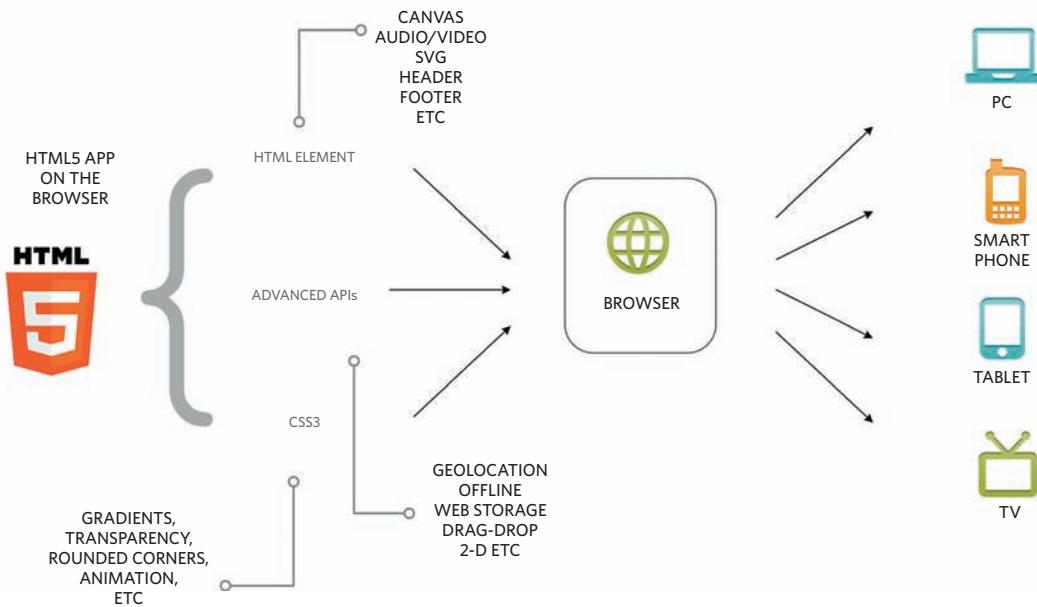
Silverlight Slideshow Widget and Flickr Badge

Silverlight Slideshow Widget allows you to include/add a custom set of images, whereas Flickr Badge shows the user photo gallery in full-screen mode.



50 HTML5 App

AN APP-LIKE EXPERIENCE ON A WEBPAGE USING THE LATEST WEB TECHNOLOGIES



A web app uses advanced HTML5 technologies to create online game, graphics utility, rich Internet application, or media application. HTML5 comes with a new set of HTML elements and advanced web APIs, and supports CSS3, the latest in graphics and animation. It also supports multiple browsers and devices like mobile, tablets, PCs, and TVs.

Best Practices and Design Guidelines

- Have a one-page app
- Understand the design challenges regarding the target device
 - Screen sizes: mobile, 2 to 4 inches; tablet, 7 to 14 inches; desktop, 14 to 27 inches; television, 25 to 65 inches
 - Viewing distance: mobile, 1 foot; tablet, 1 foot; desktop, 2 feet; television, 10 feet
 - Connectivity: Mobile, 3G; tablet, wifi; PC, LAN; TV, LAN
 - Reliability: Mobile, unreliable; tablet, wifi connected; PC, connected; TV, fast connection
 - Input: Mobile, finger; tablet, touch; desktop, keyboard and mouse; TV, D-pad and remote

- Use layout detection and adapt for the device
- Use audio/video elements with a fallback option of Flash

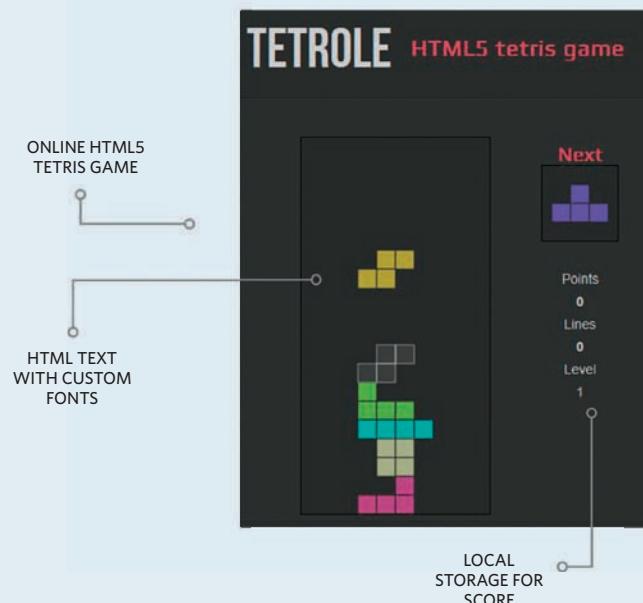
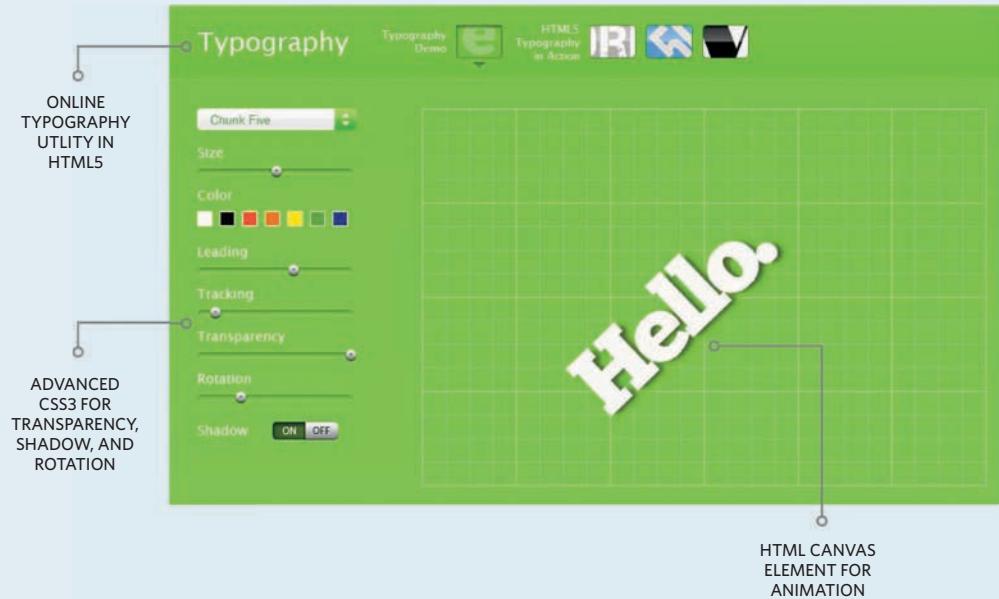
User Experience

- Keep design simple for cross platform
- Use cutting-edge graphics with SVG
- Gracefully degrade for nonsupported browsers
- Use single column to support mobile devices

(+) See also **Mobile Web App** on page 129 and **Rich Internet Application (RIA)** on page 96.

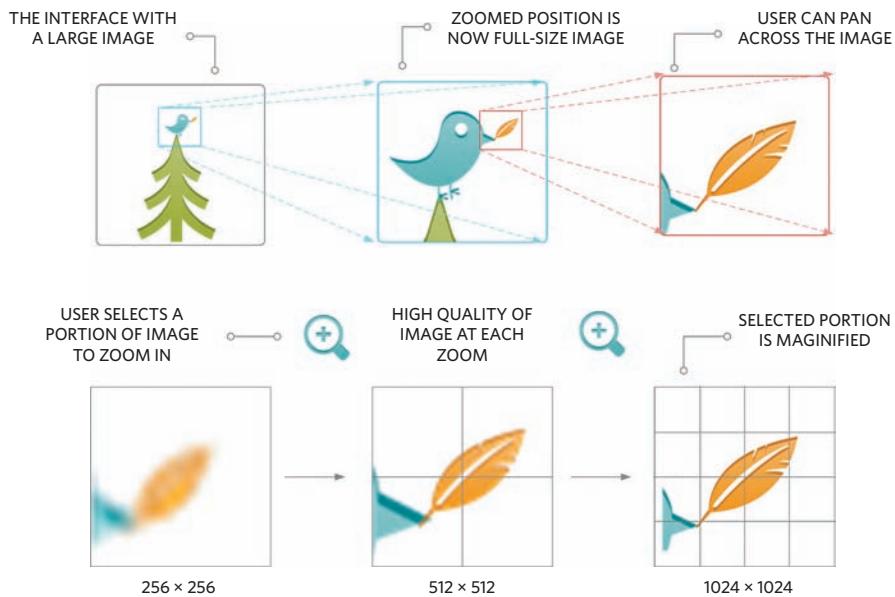
Online Typography Example at www.apple.com/html5/showcase/typography

The typography utility shows some of the advanced HTML5 capabilities. It uses HTML elements to render the user interface and CSS3 @font-face to dynamically render custom fonts. Tetrole, an online HTML5 Tetris game at <http://ole.im/tetris>, also utilizes the HTML5 canvas element to render the Tetris blocks and their animation. It uses CSS3 for color styles and advanced API for local storage to save the score.



51 Zooming User Interface (ZUI)

AN INTERFACE THAT USES ZOOM TO INTERACT



A zooming user interface allows a user to zoom in/out of a large interface to see more or less detail. The user can pan across the virtual surface in two dimensions and zoom into elements of interest. As you zoom in, the object becomes more and more clear, first as a small thumbnail, then as you zoom in, it becomes a full-size element and, finally, a high-quality magnified view.

Best Practices and Design Guidelines

- Have a responsive user interface with seamless interaction
- Create a user interface with unobtrusive controls to
 - Zoom in-and-out of the interface
 - Pan across the interface by dragging
 - Have an option for full screen and go back to start screen
- Allow option to zoom in/out using mouse scroll and pan using mouse flick
- Keep an option to set the zoom level

User Experience

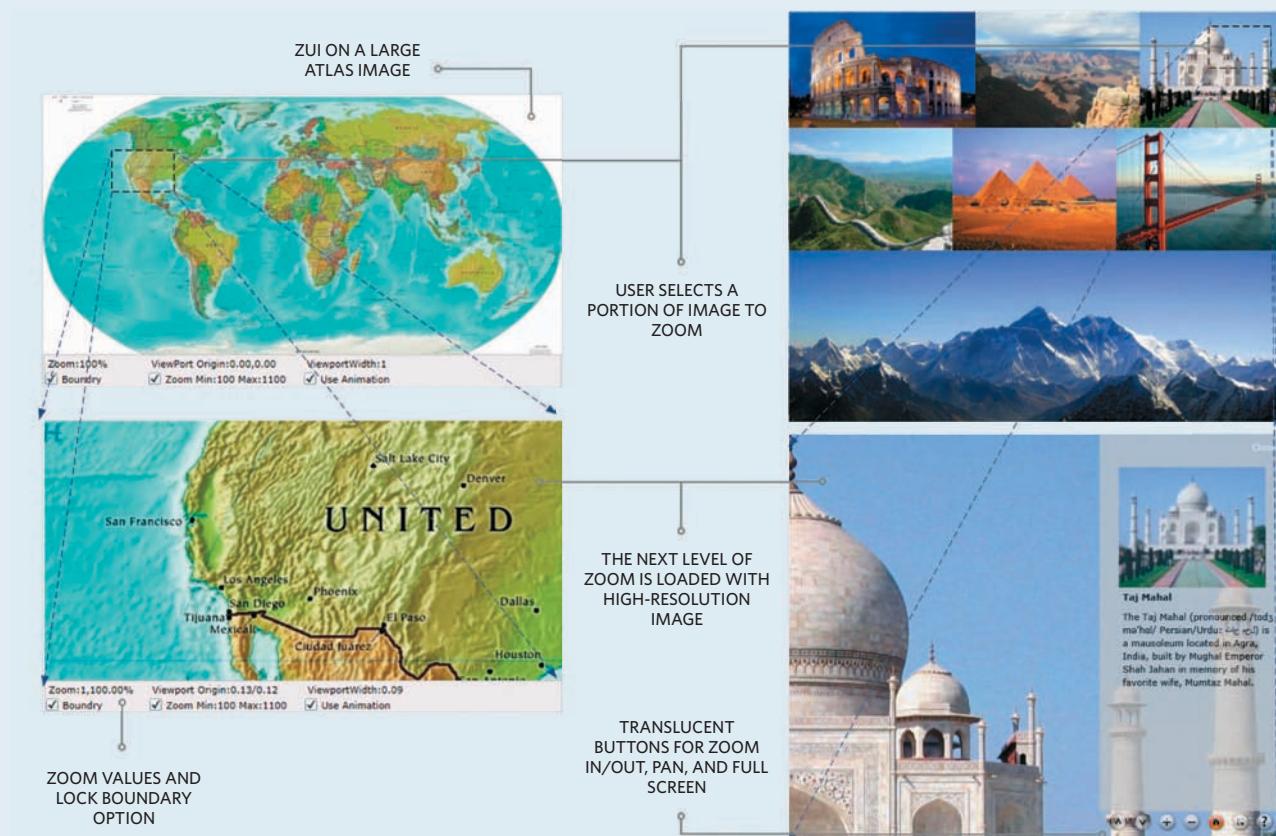
- Create smooth transition between the zoom without jerks
- Use translucent buttons
- Start with a default screen zoom level showing the big-picture view

(+) See also **Dashboard/Scorcards** on page 32 and **Rich Internet Application (RIA)** on page 96.

Silverlight Deep Zoom

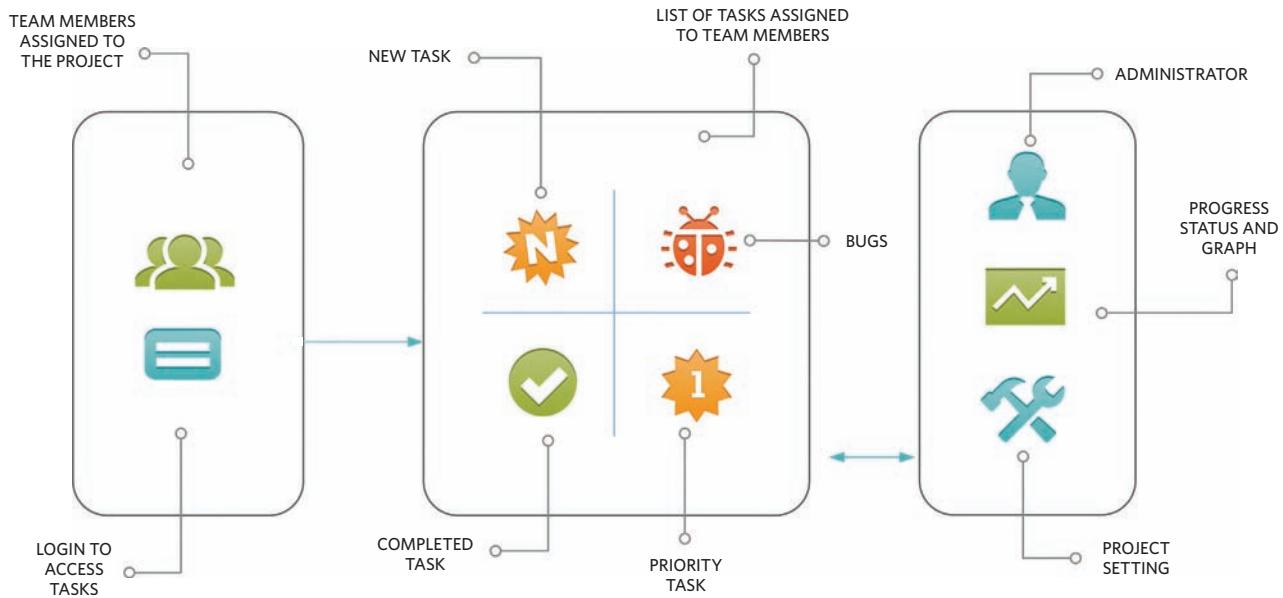
Silverlight uses ZUI to pan across a very large, high-quality image. The example at <http://tinyurl.com/DeepZoom-MultipleImage> shows a series of images stitched together. Each individual image can be zoomed in for further interaction and information.

The example at <http://tinyurl.com/DeepZoomSingleImage> shows an atlas map that can be zoomed to a particular location.



52 Task Tracking System

AN ONLINE APPLICATION FOR MANAGING A TEAM WORKING ON A PROJECT



A task tracking system (also called a project management system) is an online system that provides an easy way to monitor a specific task with a team who might be geographically separated. It allows for estimation, planning, organizing, and managing resources related to a particular task.

Best Practices and Design Guidelines

- Have personalized view of the project for each user
- Have a single list with multiple types of issues, bugs, and features assigned to a user
- Show only relevant information to the user and allow filtering and sorting
- Have specific tabs-based interface for project, task list, timetable log, and reports
- Allow login mechanism with different services for members and managers
- Allow filtering and sorting of data

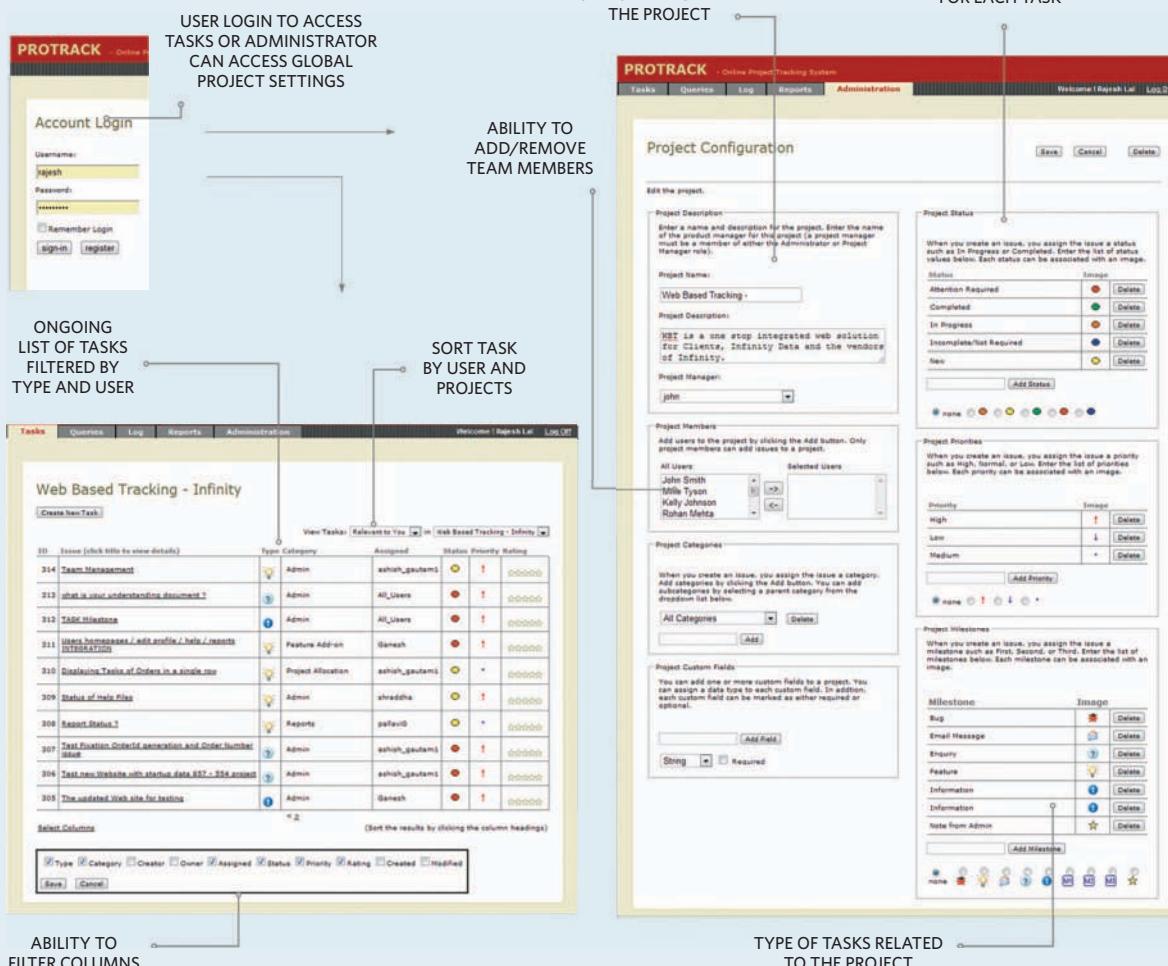
User Experience

- Optimize the display to show maximum information
- Keep the user interface simple and easy to use
- Have a simplistic theme and style with focus on data
- Use standard dashboard with one-page project settings
- Use standard icons for different types of data, such as bugs, features, high priority, and ratings
- Use an easy to understand user interface to encourage collaboration

(+) See also **Online Forums** on page 80 and **Chat Room** on page 35.

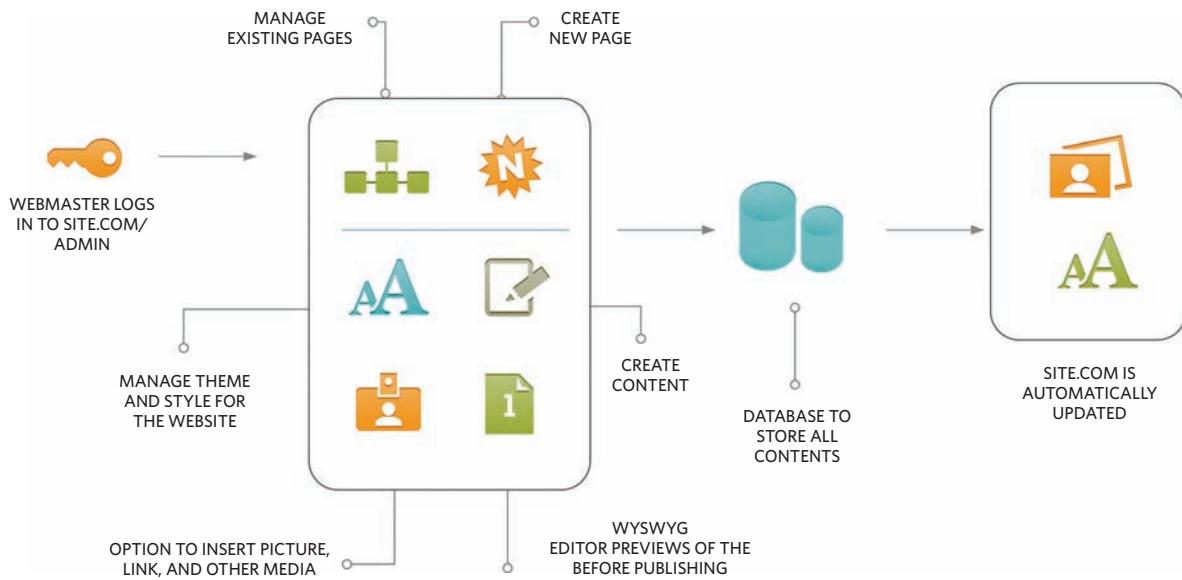
CASE STUDY
Protrackonline.com

This is a project tracking system with web-based login for both team members and administrators. Team members can check multiple types of tasks related to a project, add comments/files to each task, and change the status to complete their own assigned tasks.



53 Content Management System (CMS)

A WEB-BASED SYSTEM FOR CREATING, EDITING, AND PUBLISHING CONTENT ON A WEBSITE



A content management system (CMS) allows a webmaster to manage the content on a website without having to know the technology used to publish the content. It offers a user-friendly way to log in to the admin section and manage content, such as edit text, add images, upload files, insert links, and add new pages.

Best Practices and Design Guidelines

- Have simple web-based access
- Provide flexible editing of content and easy workflow for publishing content
- Have ability to customize theme, background, and style of the website
- Allow changing of style and theme of the website
- Have change preview “what you see is what you get” (WYSWYG) editor to preview changes

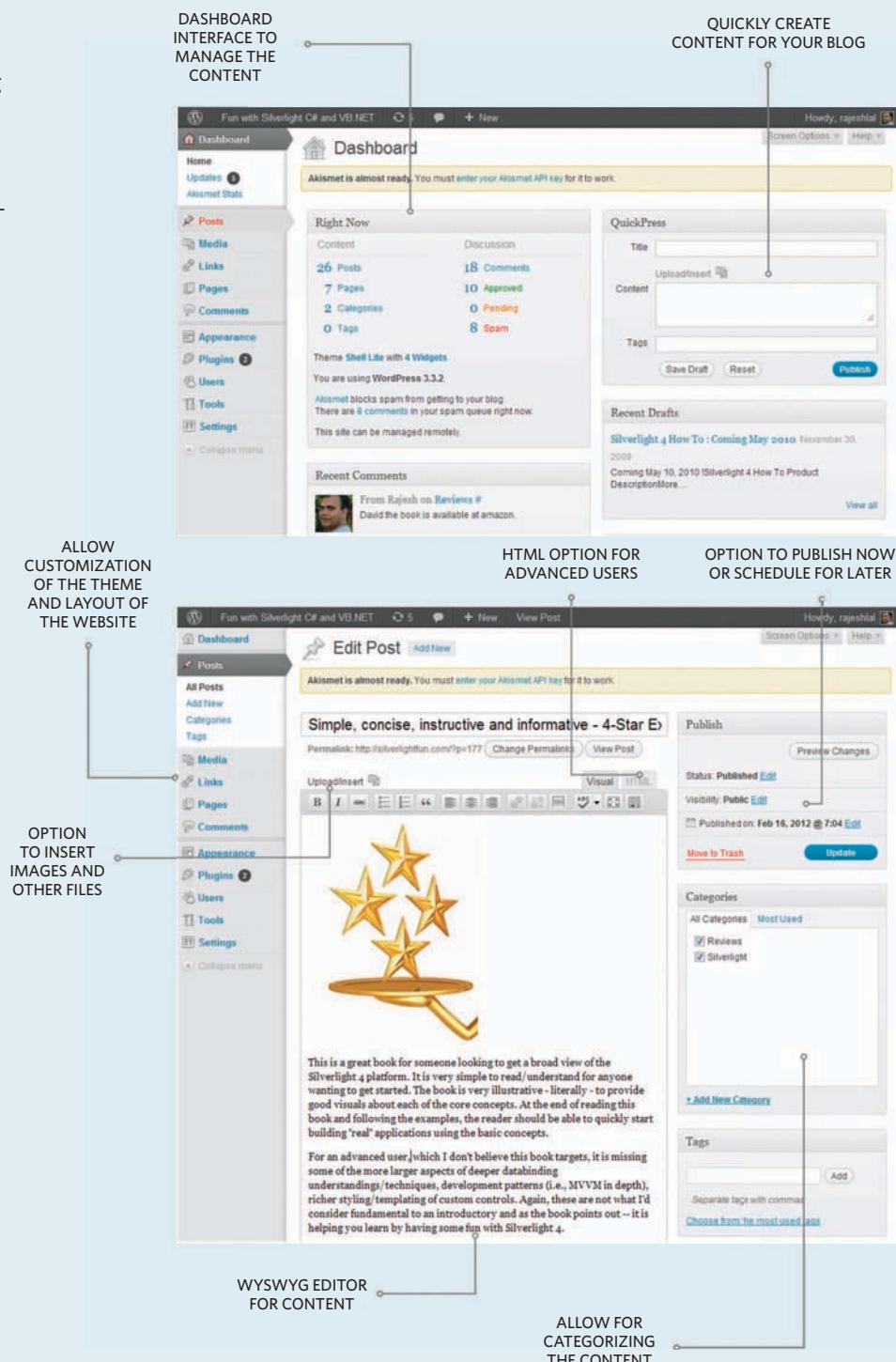
User Experience

- Have a dashboard for managing all web pages and content
- Have easy-to-use interface for creating and managing content
- Allow preview of content before publishing
- Allow quick publishing and schedule publishing for a later date

(+) See also **WordPress Theme** on page 64, **Wiki** on page 90, and **Dashboard/Scorecards** on page 32.

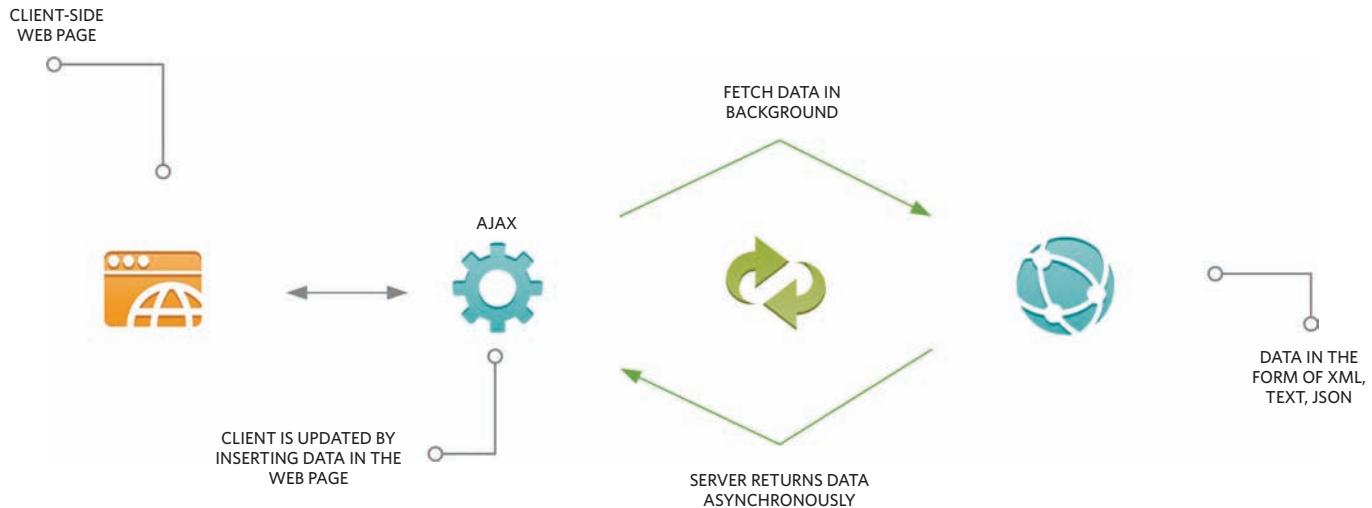
Silverlightfun.com Uses a WordPress Content Management System

WordPress provides a quick way of publishing content and makes it easy to manage content. It inherently uses an open-source MySQL database to store and retrieve the content.



54 Ajax Web Application

A RESPONSIVE WEB APPLICATION USING AJAX TECHNOLOGY ON THE CLIENT-SIDE WEB PAGE



The Ajax web application uses AJAX (Asynchronous JavaScript and XML) technique for building websites that are more responsive and have the feel of a desktop application. The application creates a rich client interface that contacts a server in the background to retrieve data and updates the page without reloading the page. The server returns text/XML data that is parsed and rendered back to the web page.

Best Practices and Design Guidelines

- Allow user to trigger Ajax operation
- Have user interface for three steps:
 - UI before the Ajax call
 - Status indicating the call is being made, keeping the UI responsive
 - UI after the data update
- Always tell user when the background process starts
- Use indicators like progress bar and loading animation for background process
- Have alternate method for navigation: Ajax updates are not browser navigable

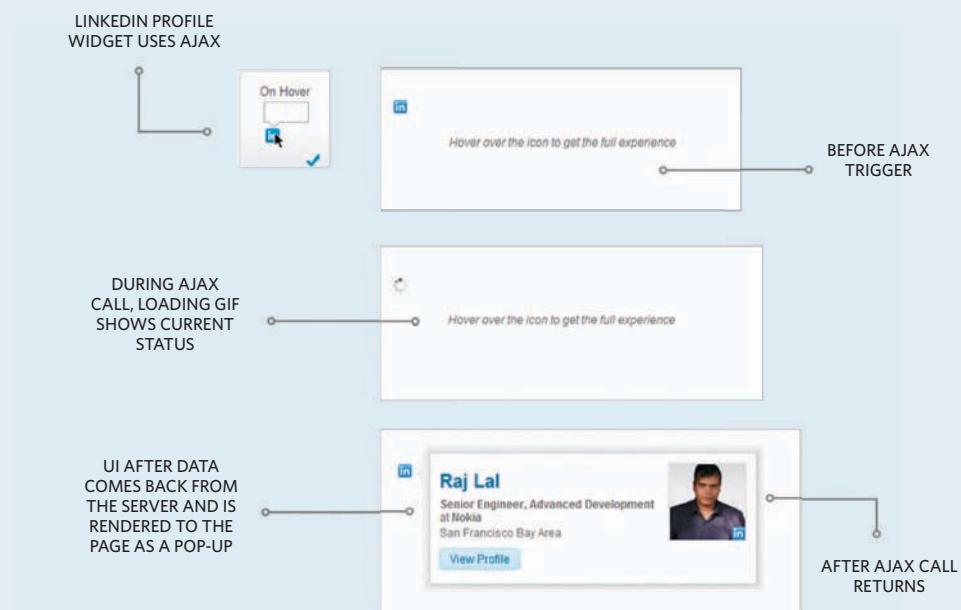
User Experience

- Desktop-like experience with no page reload
- Clear indications of server call and update are essential

+ See also **Web Widget** on page 98, **Rating App** on page 94, and **Rich Internet Application (RIA)** on page 96.

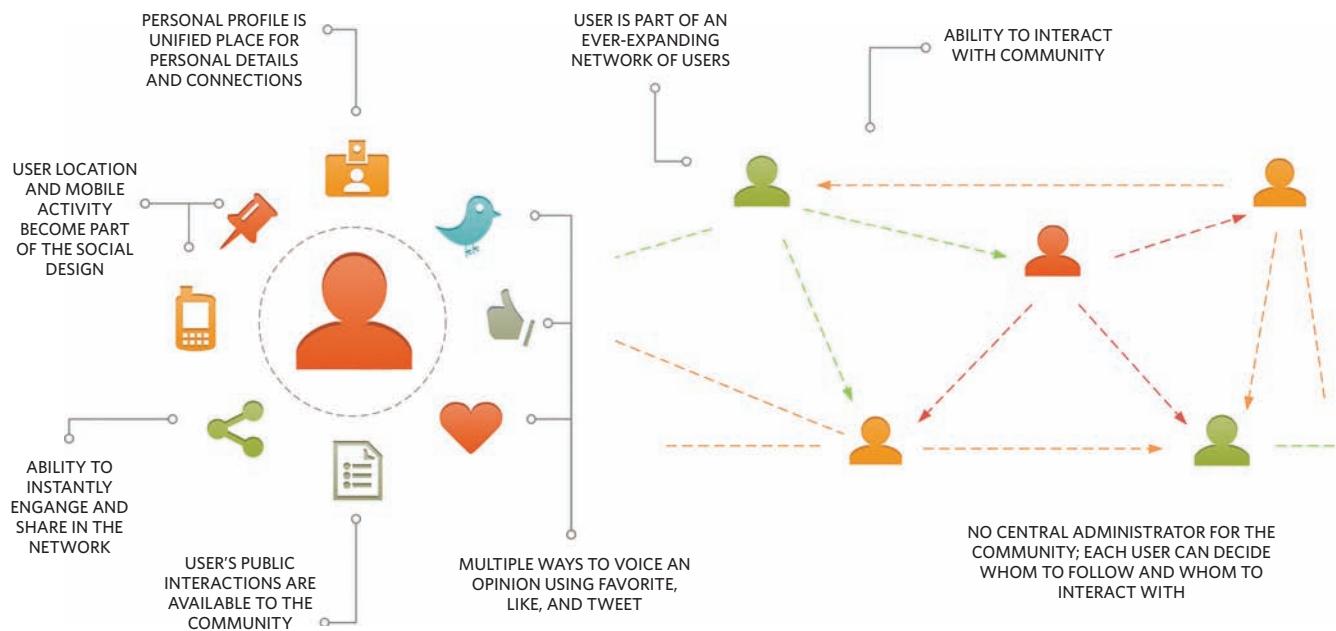
Highcharts.com and LinkedIn

Highcharts.com uses Ajax to generate graphs dynamically, using remote data. The data is asynchronously fetched from the server and rendered to create beautiful graphs. LinkedIn uses Ajax to create a user profile widget. On mouse hover, Ajax triggers the background process, during which time the loading animation is shown. The client page is then updated with the user profile.



55 Social Design

A WEB APPLICATION DESIGNED FOR COMMUNITY



Social design is a way of designing online applications that puts social communication at the center of the interface. It encourages conversation and community development and gives users a sense of belonging to the community. The social design is popular among Web 2.0 websites.

Best Practices and Design Guidelines

- Create a vibrant community around the user interaction
- Allow user to find and connect with existing and new people
- Have customizable and detailed personal profile page
- Show real-time content updates to engage user
- Group users by location and choice, and allow private and public groups within the network

User Experience

- Allow interaction with user's location
- Make the social design easily accessible from mobile phones
- Allow instant sharing of content within the network
- Make it easy to communicate among groups without the need for individual emails

(+) See also **Web 2.0 User Interface Design** on page 120, **User Profile** on page 78, and **Online Forums** on page 80.

Stackoverflow.com

Stackoverflow.com is a collaboratively edited question-and-answer website for programmers. It has a real-time stream of updated interesting content that instantly grabs a programmer's attention.

INTERESTING
CONTENT
PROMOTED
FOR USER
ENGAGEMENT

REAL-TIME
UPDATED
CONTENT

OPTION TO
INSTANTLY
SHARE CONTENT

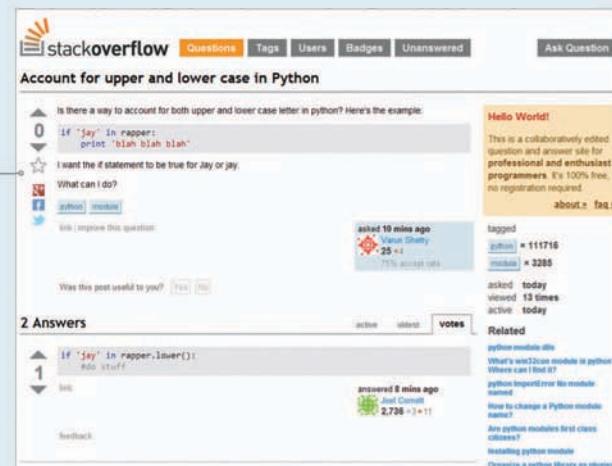
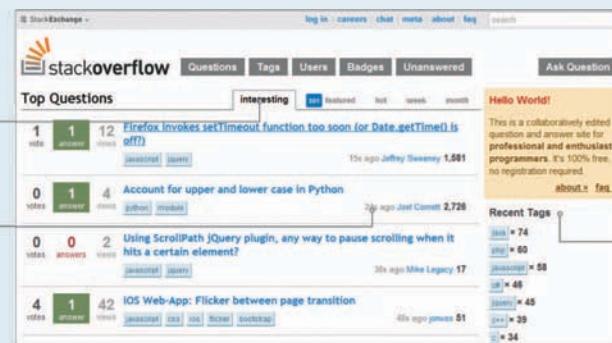
USER PROFILE
PAGE WITH
AVATAR, WEBSITE,
AND DETAILS

PROFILE PAGE
KEEPS A LOG OF
USER ACTIVITY

EASY
ENGAGEMENT FOR
COMMUNITY; NO
REGISTRATION
FOR VISITORS

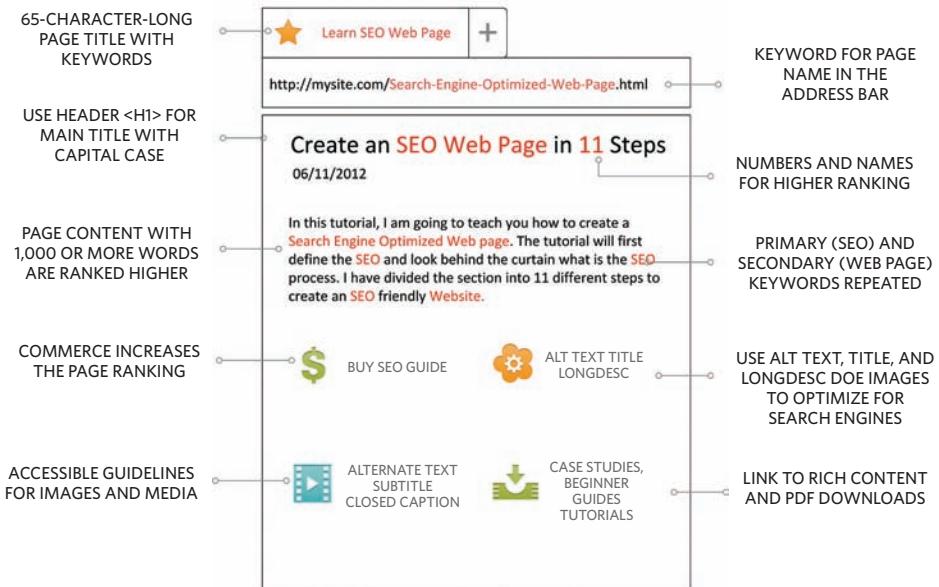
The screenshot shows the Stackoverflow homepage with the following annotations:

- Top Questions**: A list of the most popular questions on the site. The first question is about Firefox's setTimeout function.
- Recent Tags**: A sidebar showing the most active tags on the site, such as `python` (74), `java` (60), `javascript` (58), `c` (46), `sql` (45), `c++` (39), and `html` (34).
- Account for upper and lower case in Python**: A specific question page for a question about Python's `lower()` and `upper()` methods. Annotations include:
 - A link to the question page.
 - An annotation pointing to the "share" button with the text "OPTION TO INSTANTLY SHARE CONTENT".
 - An annotation pointing to the user profile section with the text "USER PROFILE PAGE WITH AVATAR, WEBSITE, AND DETAILS".
- User Profile Page**: A detailed view of a user's profile named "ThiefMaster". Annotations include:
 - An annotation pointing to the user's reputation of 64,402 with the text "REPUTATION SHOWS USER'S POPULARITY".
 - An annotation pointing to the "activity" tab with the text "PROFILE PAGE KEEPS A LOG OF USER ACTIVITY".
- Reputation Bar**: A horizontal bar chart showing the user's reputation over time. The bar is green and spans the entire width of the profile page.
- Tags Section**: A list of the user's most active tags, including `python`, `sql`, `java`, `javascript`, `c`, `sql`, `c++`, `html`, and `css`.



56 Search Engine Optimized (SEO) Web Page

A WEB PAGE INTERFACE DESIGNED FOR HIGHER SEARCH ENGINE RANKING



A web page optimized for search engines is crucial if you want to be found by more people on the Internet. Search engine optimization is a series of steps you can take when designing a page that can increase the ranking in the search engine.

Best Practices and Design Guidelines

- Have most important keywords at the beginning of the URL
- Identify primary and secondary keywords for the website and use them in the content
- Use heading tags and capital casing to put emphasis on titles
- Organize the content hierarchically, and use easy-to-read text
- Follow accessible guidelines for text, link, images, and media

User Experience

- Create higher ranking with unique page titles, content, and metadata for each page
- Increase ranking by adding ecommerce
- Include downloads such as case studies and tutorials for better ranking
- Use alternative text for media and descriptive anchors

(+) See also **Homepage** on page 54 and **Single-Page Website** on page 58.

Silverlightfun.com Book Promotion Website

This site follows SEO practices. Name and website meta information contain keywords related to the Silverlight technology.

The screenshot shows the homepage of [Silverlightfun.com](http://silverlightfun.com/). Several annotations highlight SEO best practices:

- 65-CHARACTER-LONG TITLE**: Points to the page title "Silverlight Fun".
- DOMAIN NAME IS SEARCH-ENGINE FRIENDLY**: Points to the URL "silverlightfun.com".
- H1 HEADING TAG USED WITH CAPITALS FOR MOST IMPORTANT TEXT**: Points to the main heading "Fun with Silverlight 4: Illustrated Guide to Rich Internet Applications".
- MEDIA AND IMAGE WITH PROPER ALT AND TITLE ATTRIBUTE FOR SEO**: Points to a thumbnail image of the book cover for "Fun with Silverlight 4".
- UNIQUE TITLE AND SPECIFIC TOPIC ADD IMPORTANCE IN SEARCH ENGINE RANKING**: Points to the H2 tag "Examples in C#, ASP.NET, XAML, Media, Webcam, AJAX, REST & Web Services".
- NEXT IMPORTANT TITLE IN HEADING H2 TAG**: Points to the H2 tag "Beginner's Guide to Silverlight FREE Chapter".
- PDF DOWNLOAD FOR BEGINNER'S GUIDE LINK**: Points to a link for the "Buy Kindle version \$24.95" section.
- BUY OPTION ADDS E-COMMERCE TO THE PAGE, WHICH ADDS RANKING**: Points to the "BUY NOW \$34.95" button.
- MORE THAN 1,000 WORDS WITH HIGHLIGHTED KEYWORDS PUT IT IN HIGH RANKING**: Points to the detailed book descriptions at the bottom of the page.

Page Content Summary:

Section 1: Develop Silverlight Applications
The first section deals with Silverlight as a client side technology. The first four chapters detail developing with Silverlight for a web page, and no server side technology is involved in these chapters. You learn how to use controls, customize controls, create reusable controls, and use vector graphics and animation in Silverlight.

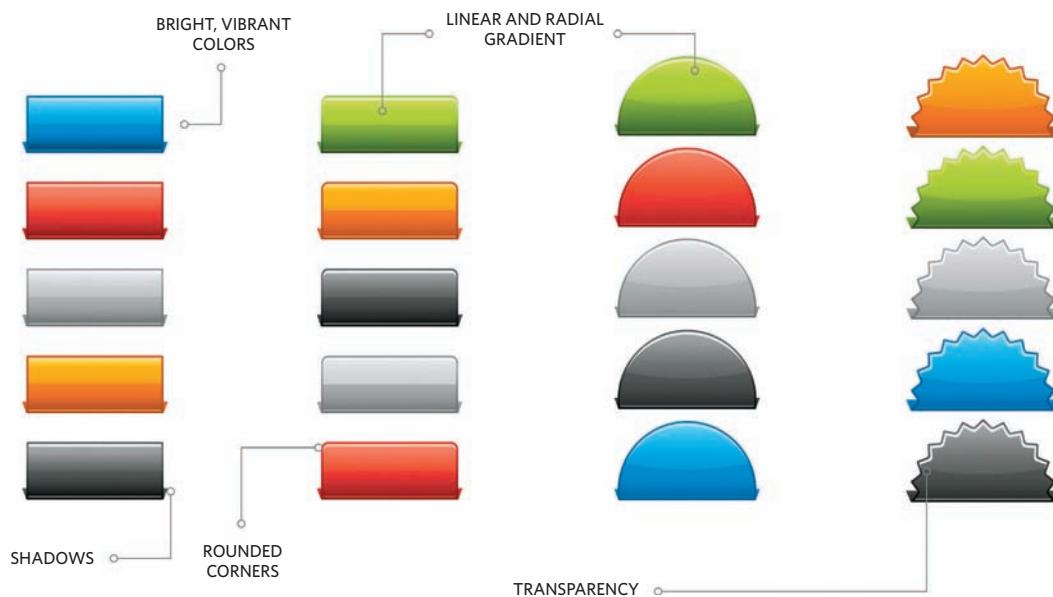
Section 2: Interact with Web
The second section teaches how Silverlight interacts with the Web. This section includes standard web technologies like HTML, DOM, JavaScript, XML, and JSON as well as ASP.NET and AJAX. Additionally, we discuss how Silverlight talks with the browser: what kind of data structures are supported, and how to interact with them. We also discuss how to use Silverlight in an ASP.NET application, and how Silverlight interacts with the Windows Communication Foundation.

Section 3: Advance with Media
In Chapter Nine, *Play with Media*, we discuss how to implement media applications. We discuss advanced topics like Adaptive Streaming, Progressive Download and Live Media Services. Chapter Ten, *Fun with Advanced Media*, we deliver enhanced, and interactive streaming video experience with Media services, details encoding in different formats, and how the media is delivered on the network. Chapter Eleven, *Download, Traditional Streaming and Smooth Streaming*. You will also see how to edit media in the encoder and create several advanced Media Players customized to your needs.

Section 4: Extend the Browser Programming Model
In Chapter Five, *Extend the Browser Programming Model*, we learn how to use the parameters in the Silverlight plug-ins and use isolated storage, and interact with the COM. Chapter Six, *Bring Data Visualization to the Web*, discusses different kinds of data structures. You will learn how to use Generics, and how to use LINQ, Entity Framework, and JSON data. Chapter Seven, *Develop with ASP.NET and Ajax*, discusses Silverlight features that can be used to create complex solutions with ASP.NET and AJAX. You will learn how to create Silverlight controls in ASP.NET along with the Script Manager, and how to make asynchronous calls to web services. Chapter Eight, *Work with Web Services*, further explores web services related to their services and shows examples using the SOAP and REST protocols. You also learn how Silverlight is used in a Windows Communication Foundation to leverage the use of sockets in TCP/IP and other networking API features.

57 Web 2.0 User Interface Design

A VIBRANT STYLE OF WEB ELEMENT DESIGN



Web 2.0 was coined for the next generation of web-based services, which centered on web-based APIs, collective intelligence, user-generated content, bookmarking, tagging, and more. It was also named after a unique style of web design that became popular with Web 2.0 websites. The predominant websites that defined Web 2.0 style were Flickr, Blogger, Last.fm, StumbleUpon, and Vimeo. These websites feature bright colors, advanced transparent graphics, gradients, glows, and shadows.

Best Practices and Design Guidelines

- Use bright colors and advanced graphic effects, including
 - Transparency
 - Shadows
 - Glosses
 - Rounded corners
- Use larger UI elements for better interaction
- Make the UI elements stand out with size bigger than normal
- Use advanced PNG images with transparencies
- Add graphic effects for mouse hover to make the elements interactive

User Experience

- Have graphically rich background wallpapers
- Use vibrant colors
- Make sure the website theme is consistently Web 2.0
- Note that Web 2.0 theme is more popular with community-based websites

(+) See also **Rich Internet Application (RIA)** on page 96, **Homepage** on page 54, and **Social Design** on page 116.

addRating Widget

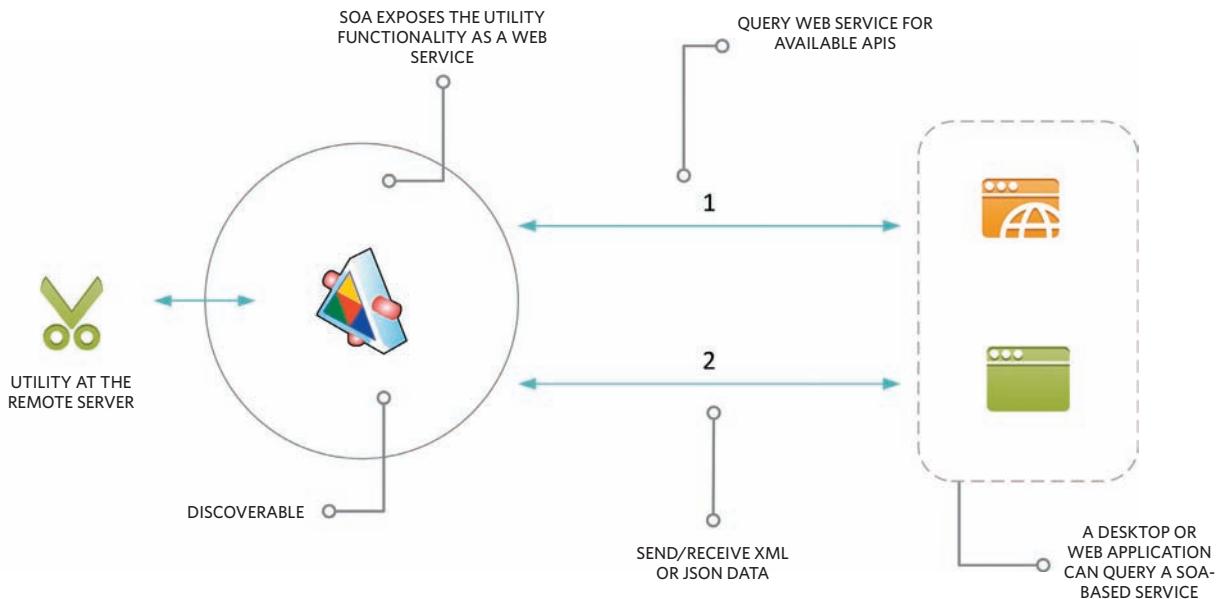
The addRating widget uses a Web 2.0-style logo with bright colors and shadows. The sample screenshots show the Web 2.0-style web elements, such as the sign-in box, newsletter subscribe box, and weekly poll. The colors stand out and the elements use transparent PNGs and shadow effects.



58 Service-Oriented Architecture (SOA) Design



AN APPLICATION HOSTED ON THE WEB AS A SERVICE



A service-oriented architectural design (SOA) is a web-based utility designed for consumption by other desktop and web applications. It is an online service that can be queried by desktop, web, or mobile application for a particular functionality or regularly updated information, such as weather, stock prices, etc.

Best Practices and Design Guidelines

- Create simple user interface with concise definition of what the service does
- Have neutral theme of the web page where the service is hosted
- Have help page with details on all API exposed by the service
- Have web service page with basic definition and options
- Allow testing on the web with form
- Access service by passing parameters to the URL of the web service
- Show results in the form of XML, JSON, or XHTML

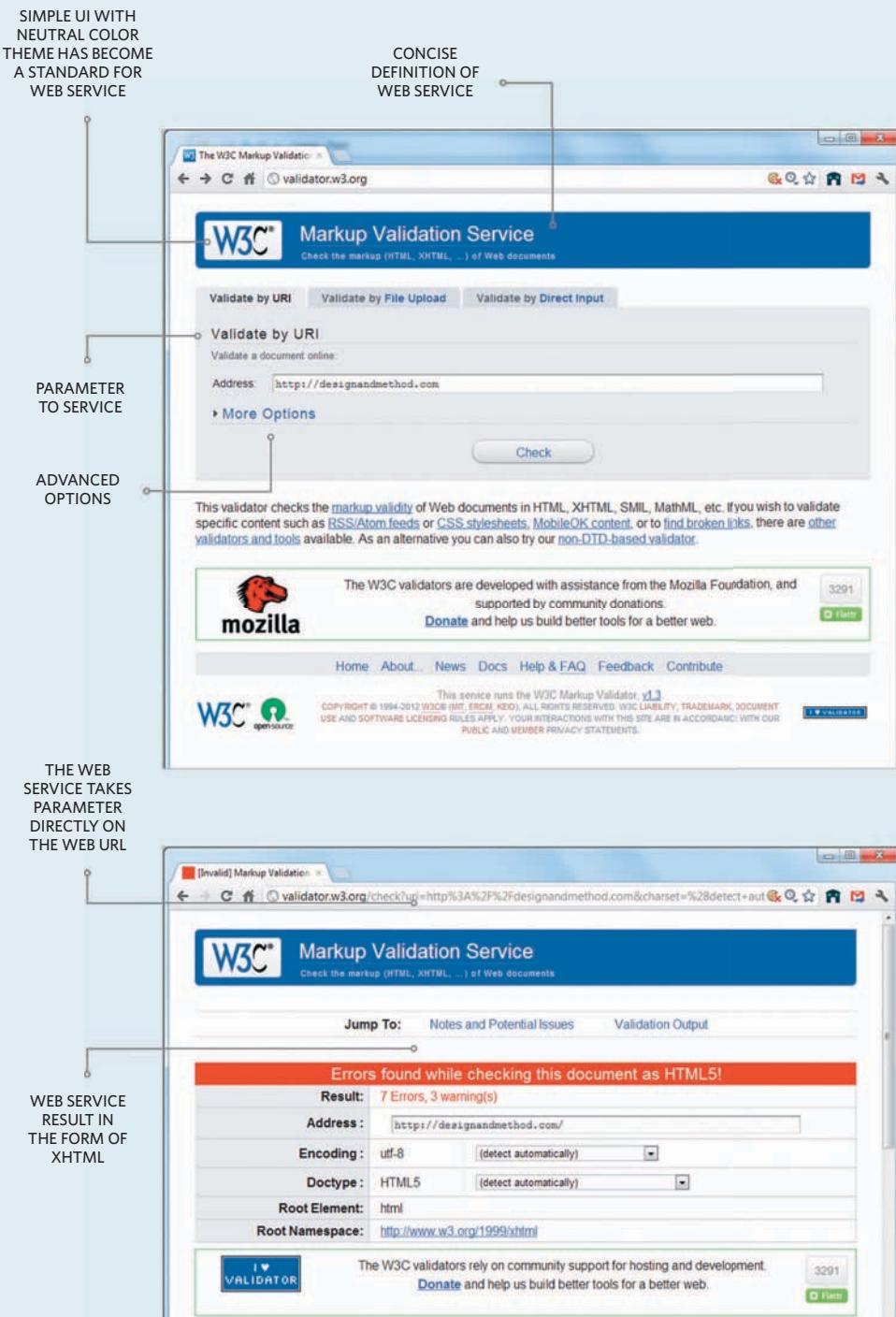
User Experience

- Clear information on the API usage
- Sample test form with data to help user

(+) See also **Website** on page 52 and **Ajax Web Application** on page 114.

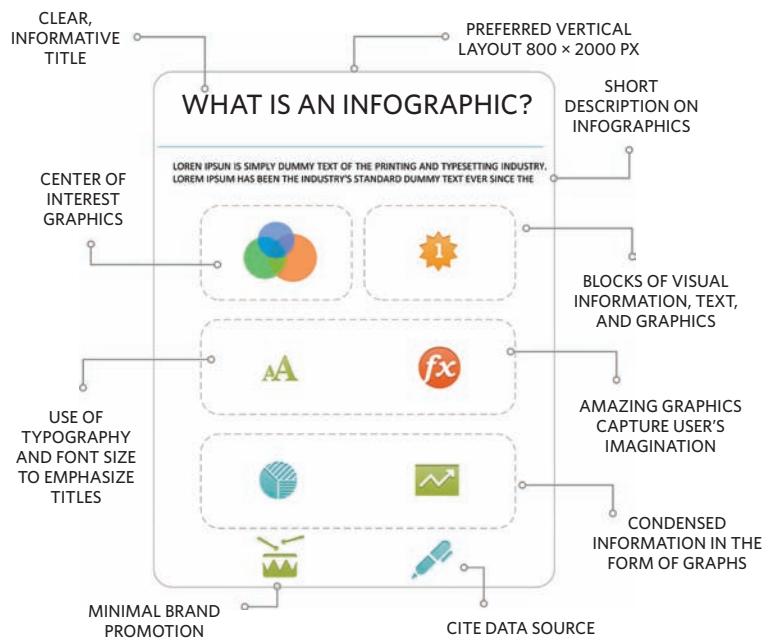
Validator.w3.org

W3C Markup Validator is an online service that checks a web page for markup standards. It has a clear definition about the service on the web page and it has a form-based web service, where a user enters the URL and submits it to check the errors on the page. The resulting page is an XHTML file that renders in a browser with result data.



59 Infographics Design

A VISUAL REPRESENTATION OF DATA



An infographic (information graphic) is a compelling way of showing data with color, type, graphics, illustrations, and charts. It shows complex data in an entertaining and easy-to-understand manner in a one page visual summary. Infographics can be informative, comparative, statistical, and entertaining.

Best Practices and Design Guidelines

- Note most popular sizes of infographics
 - Vertical layout is 800 × 2000+ pixels, easy to embed in blogs
 - Poster size with horizontal layout is 1600 × 1000 pixels
- Make theme based with two or three colors with light gradient
- Use fonts to emphasize important points
- Use sans serif fonts for content text
- Use vector illustrations and icons for each block of information

User Experience

- Try to simplify complex topics
- Keep aesthetic color palette for text and icons
- Make it concise and use clear charts and graphs to show numbers
- Make it visual; avoid being too text heavy



See also **Homepage** on page 54 and **Personal Website** on page 56.

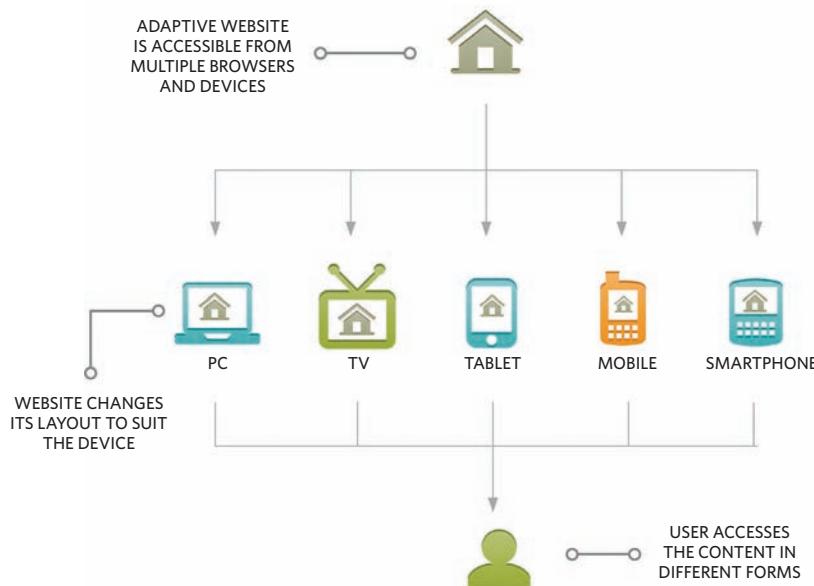
Staying Young Infographics

The infographic features the top ten U.S. cities. It has a clear title and tagline. The main graphic is a U.S. map with pointers to top cities. The information is clearly represented, and there are blocks of information with icons to support the main topic.



60 Adaptive User Interface

AN INTERFACE THAT ADAPTS ITSELF TO A PARTICULAR CONTEXT OR FOR A USER WITH SPECIAL NEEDS



An adaptive user interface changes to suit a particular device, environment, or user. It displays a custom user interface for devices with different sizes and browser capabilities. It resizes the layout, scales the images, and repositions the menus in the website to suit a device.

Best Practices and Design Guidelines

- Use progressive enhancement for developing website around content
- Mobile context, screen size is 2 to 4 inches, distance is 1 foot from the user, in a highly interruptible environment with finger inputs
- Tablet context, screen size is 7 to 14 inches, distance is 1 foot from the user, in casual environment with input touch
- PC context, screen size 14 to 27 inches, distance is 2 feet from the user, on a computer desk, in a focused environment with pixel-accurate input using mouse and keyboard
- TV context, screen size is 25 to 95 inches, distance is 10 feet from the user, used on a comfortable seat/couch, total immersion environment with input using a D-pad or remote

User Experience

- Allow content navigation
 - Accessible navigation sidebar
 - Option to skip to menu
 - Make menu accessible from keyboard
 - Proper nesting of headings
- Follow accessible guidelines for content

(+) See also **Web User Interface (WUI)** on page 48, **10-Foot User Interface** on page 182, and **Accessible Web** on page 50.

Anderssonwise.com

Anderssonwise.com uses adaptive web design to customize the website for different device and browser sizes. Based on the context and size, the website displays different images, layout, and image sizes. The layout is fluid and responsive.

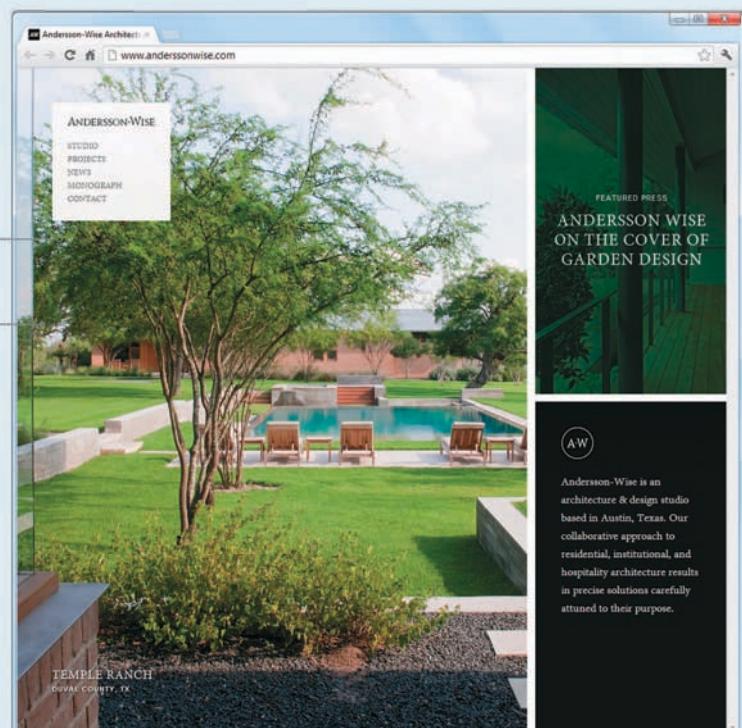
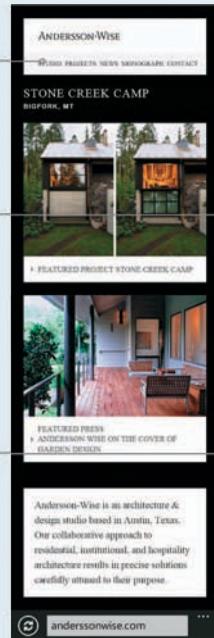
ADAPTIVE INTERFACE CHANGES TO ONE COLUMN IN WINDOWS PHONE BROWSER

MOBILE WEBSITE DOES NOT SHOW THE HIGH-QUALITY ARCHITECTURE BACKGROUND IMAGE FOR FAST LOADING

IN A TABLET, THE WEBSITE CHANGES THE LAYOUT TO TWO ROWS

IN A REGULAR COMPUTER BASED ON THE BROWSER WIDTH, THE WEBSITE CHANGES THE LAYOUT TO TWO COLUMNS WITH HIGH-QUALITY IMAGE

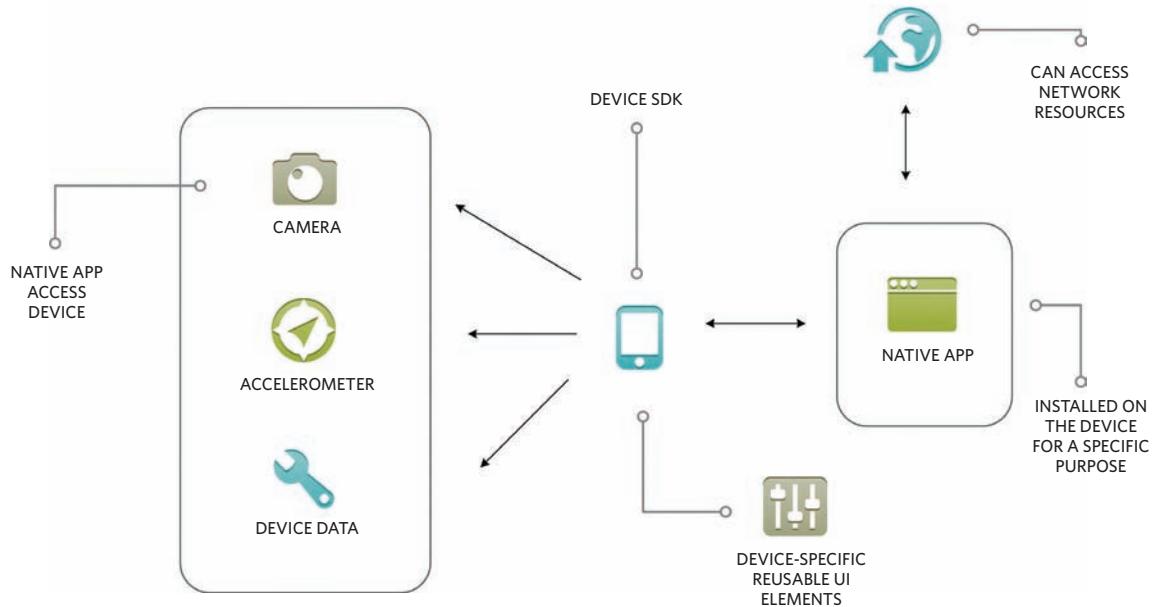
IMAGE SIZE ALSO CHANGES WITH THE LAYOUT



61 Mobile Phone App



A MOBILE APPLICATION THAT USES SPECIFIC DEVICE FEATURES



A mobile phone app either arrives preinstalled on the phone (address book, calendar, calculator, maps, and web browser) or can be downloaded from app distribution websites such as app stores. These apps utilize device features such as camera, phone, messaging, and contacts, and uses available device APIs. Native apps give richer immersive experience with offline content and high performance.

Best Practices and Design Guidelines

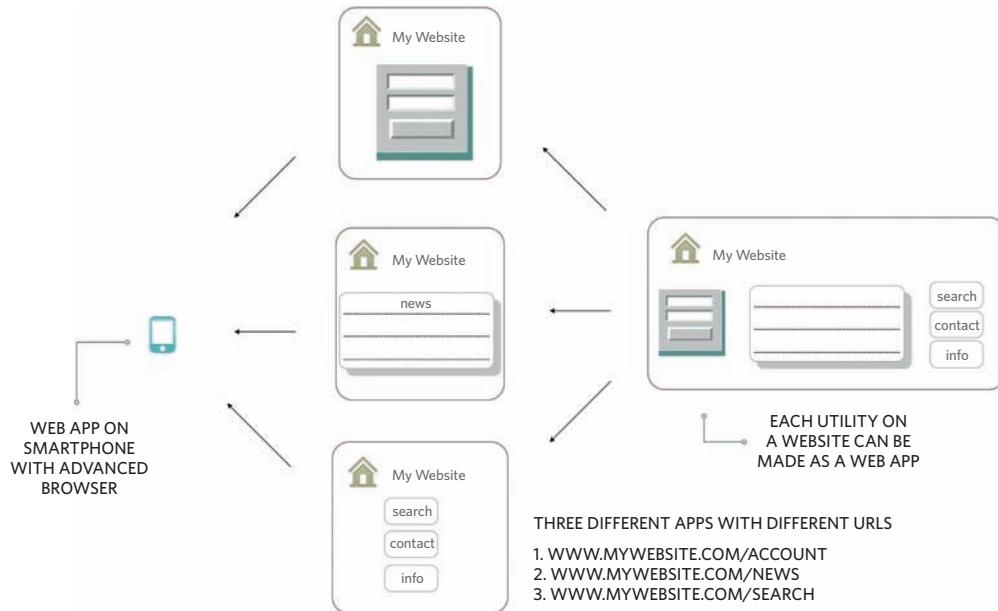
- Focus on single clear functionality
- Use memorable short titles, professional icon, and precise description
- Utilize target device potential for greater usability
- Create features specific to target users and allow for customization
- Have default settings where possible and store user preferences
- Keep screen layout with plenty of white space and do not clutter
- Use color sparingly and consistently
- Use vibration and other accelerometer features only when they add value

User Experience

- Make it fun and intuitive
- Create custom design
- Ensure app works with interrupted network availability
- Provide clear feedback and allow user to abandon long background processes
- Allow for feedback in the app by including email and online support URL
- Consider making it social by adding ways to share and interact

62 Mobile Web App

A WEB APP THAT RUNS ON A MOBILE WEB BROWSER



Mobile web app (MWA) is an HTML5-based app targeted to smartphones with advanced browsers.

MWAs use HTML5 and CSS3 technologies that allow for advanced APIs, styles, and animations that make the web app look, behave, and function as a native app. MWAs are meant for single purpose and quick utility. The functionality can be mortgage calculator, current gold price, or quick medical aid.

Best Practices and Design Guidelines

- Keep one idea in one screen, and don't overload data
- Keep the input to a minimum
- Use 100 percent width to accommodate multiple size in multiple mobile devices
- Optimize the display for vertical scrolling
- Use big, touch-friendly buttons
- Have UI for both landscape and portrait

User Experience

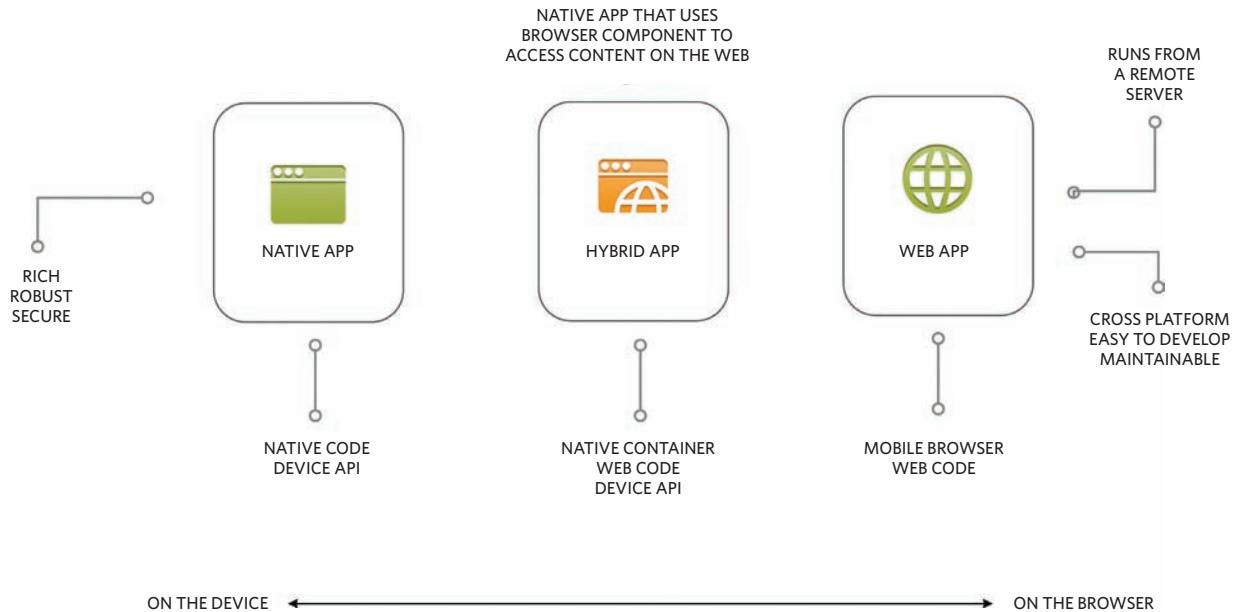
- User expects fast load time, so optimize launch screen and keep all file sizes small
- If login is required, use automatic login after first time
- Inform user when loading data from network
- Use image sprites, in page CSS, and JavaScript for minimum number of server trips
- Consider offline user experience with limited functionality with local storage
- Use advanced CSS3 style, transparency, transitions, and animations for great experience

⊕ See also **Mobile Website** on page 131, **Mobile Phone App** on page 128, and **HTML5 App** on page 106.

63 Hybrid App



A MOBILE APP THAT USES EMBEDDED BROWSER TECHNOLOGY TO ACCESS WEB CONTENT



A hybrid app is a web app packaged as a mobile app. It uses an embedded browser to access content from the web. It is ideal for apps with content on the web but needs device access like GPS, local cache, etc. Examples are specialized medical apps and map applications.

Best Practices and Design Guidelines

- Make hybrid apps straightforward
- Mimic the UI of the native app
- Use each screen for a single purpose
- If used for lot of content, use categorization with a maximum of eight categories
- Consider offline mode in hybrid with local caching
- Use hybrid app for monetizing opportunities, branding, and advertising

User Experience

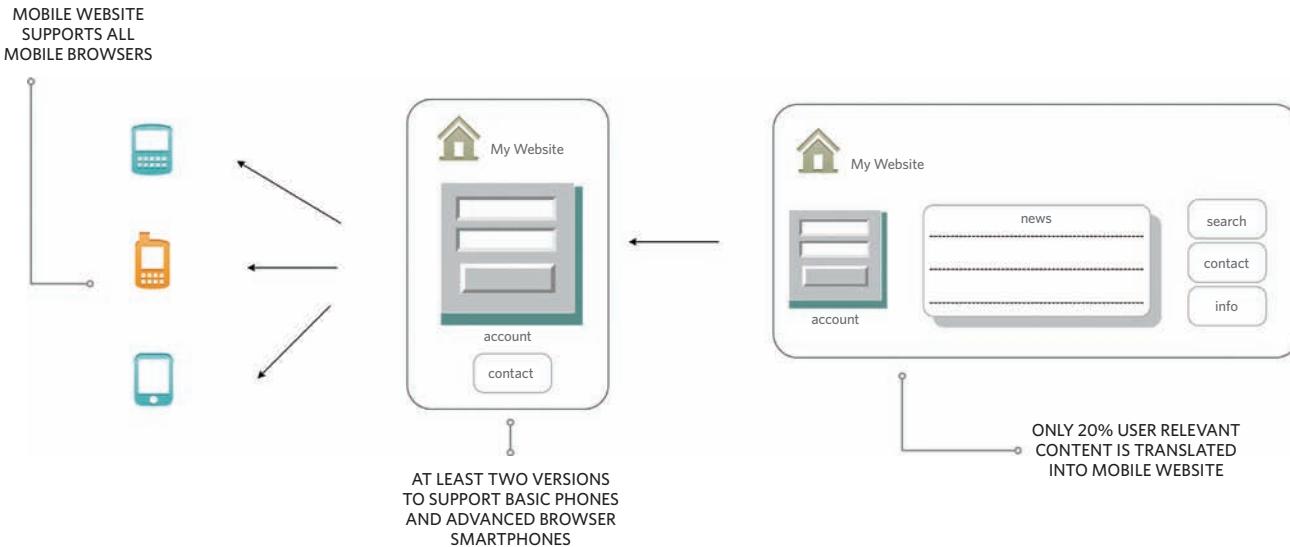
- Use local assets for main categorization and dynamic content from the network
- Inform user when accessing network and location resource
- Cache user's most recent items for offline/low connectivity situation
- Have login for premium content

(+) See also **Mobile Website** on page 131, **Mobile Web App** on page 129, and **Desktop Widget/Gadget** on page 30.

64 Mobile Website



A SCALED-DOWN VERSION OF AN ONLINE WEBSITE TO PROVIDE A BETTER EXPERIENCE ON MOBILE DEVICES



A mobile website provides key functionalities of a website in a mobile device. It is designed to work on smartphones as well as most of the standard mobile phones. A mobile website may have multiple UIs for standard phones and smartphones. It displays UI and functionality based on the feature available on the phone browser.

Best Practices and Design Guidelines

- Select top 20 percent functionality of the website
- Use simple navigation and limit to three levels
- Use single-column layout, with three rows
 - Top for notification
 - Middle for content
 - Bottom for input
- Allow website to scale for all mobile browser layouts for both portrait and landscape
- Allow information to flow downward and make it scroll vertically
- Optimize blocks of information
- Do not use pop-ups, mouse hover, or auto refresh
- Avoid external links, frames, and Ajax
- Keep a link to regular website

User Experience

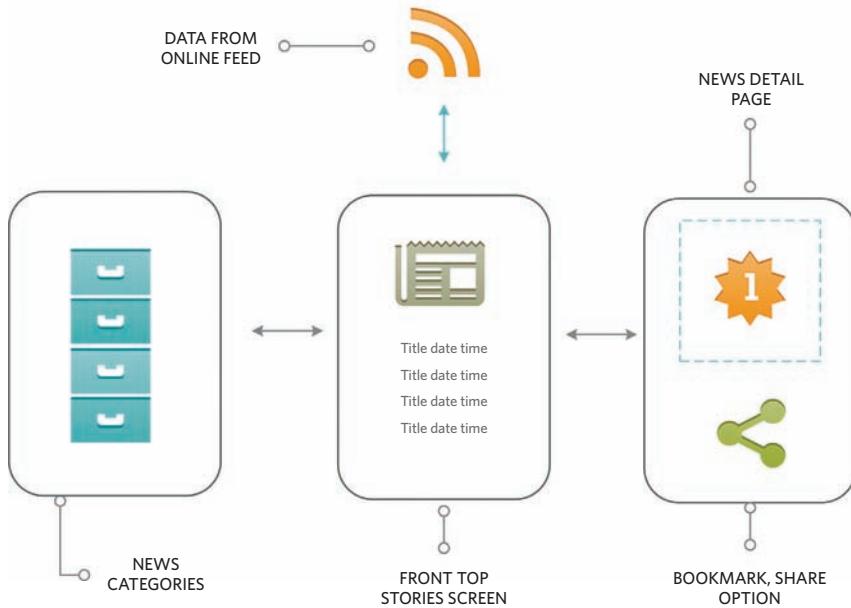
- Use simple words for links and buttons
- Have brief, focused interaction, with minimum input
- Use big, touch-friendly links and buttons
- Make accessible from phone keys/smart keys
- Limit advertising
- Consider a text-only version for mobile phones with limited browsers

(+) See also **Mobile Website App** on page 129, **Mobile Phone App** on page 128, and **Desktop Widget/Gadget** on page 30.

65 Information App



A MOBILE APPLICATION THAT DISPLAYS FREQUENTLY UPDATED DATA FROM AN ONLINE SERVICE



An information app displays an at-a-glance view of current news from a frequently updated online source. The data source can be an online RSS feed or a remote XML/REST-based web service. The information can come from a blog, a news website, or even a social network update. Some examples are stock tickers, RSS feed readers, currency converters, or real-time traffic data.

Best Practices and Design Guidelines

- Have home screen frequently updated with latest news and top entries
- Have easy-to-use, at-a-glance view of information for the home screen
- Keep design content focused
- Keep the top story above the scrollbar
- Leverage images/thumbnails whenever possible
- Have simple navigation between the list screen and the detail screen to display full news
- Have option to share the information by email, social networks, etc

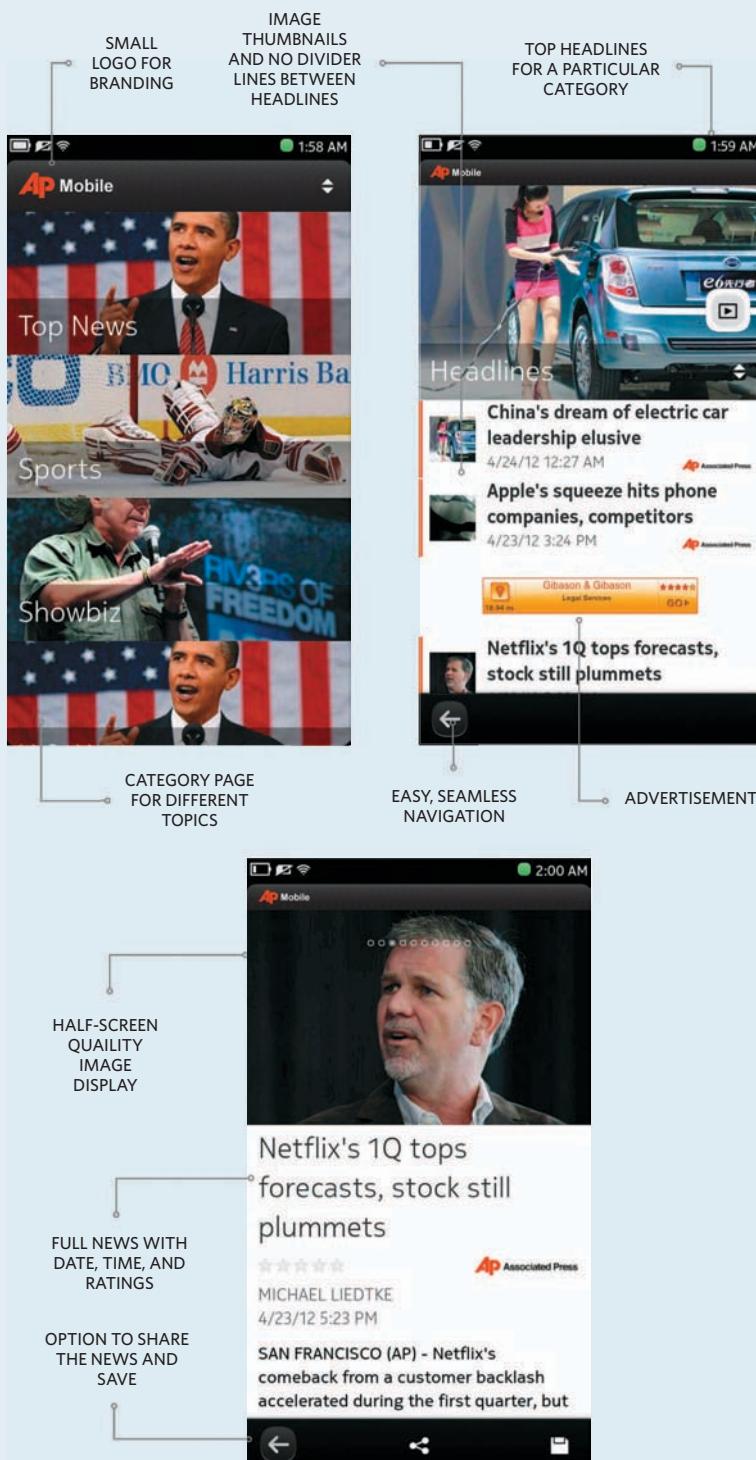
User Experience

- Avoid splash screens
- Do not mix content types—keep one task in one screen
- Have indicator for data loading; no Internet or other warnings
- Have minimal advertisements
- Have an option to bookmark

(+) See also **Mobile Ads** on page 158 and **Mobile Web App** on page 129.

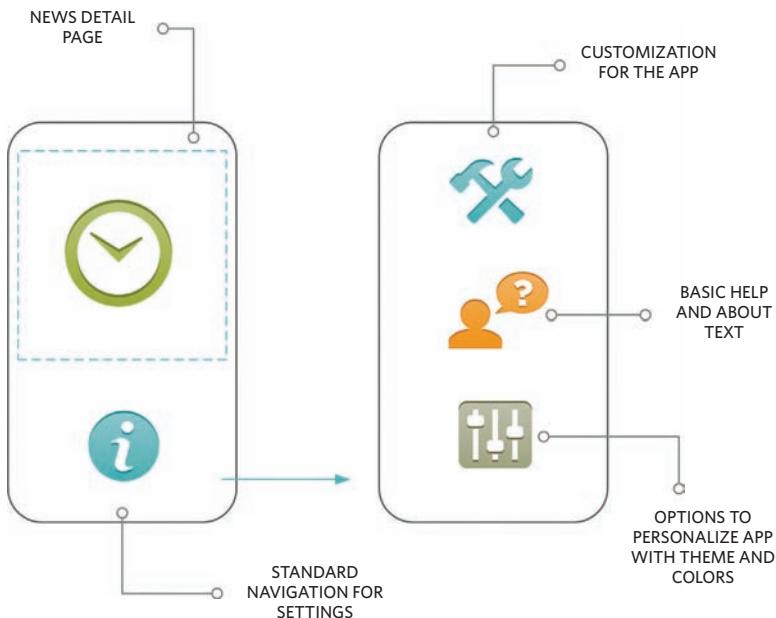
Associated Press News App for Nokia N9

The Associated Press News App for Nokia N9 has a simple and effective user interface. The default screen is the category screen with multiple topics to choose from. Once the user chooses a topic, he lands on a top stories page with thumbnail images.



66 Mobile Utility App

A MOBILE APP FOR SIMPLE DEVICE-RELATED TASKS



A utility app is an app designed to enable fast access to frequently used features, such as the battery, clock, calculator, etc. It uses device API (Application Programming Interface, which functions to access information and features of the device) to get access to advanced features of the mobile operating system and hardware.

Best Practices and Design Guidelines

- Keep the app simple and focused on a single task
- Allow for customization and personalization
- Make interface intuitive with no help required
- Do not use splash screens or banner ads
- Allow the app to work offline

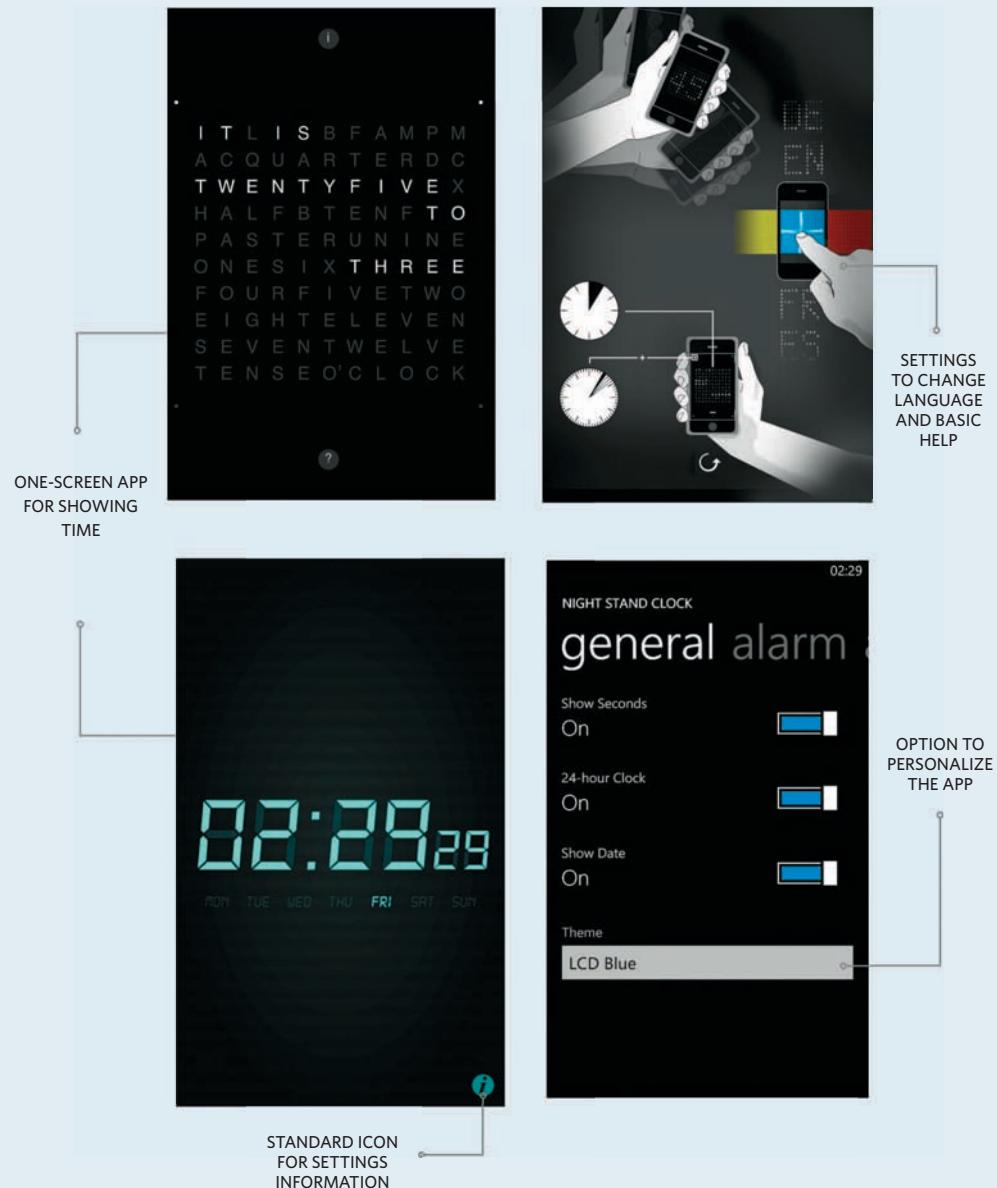
User Experience

- Make it quick and easy to use
- Provide fast loading with no banner ads
- Utilize device capabilities and API
- Set default values; don't ask user to set up the first time
- Avoid login and sign up

(+) See also **Mobile Phone App** on page 128.

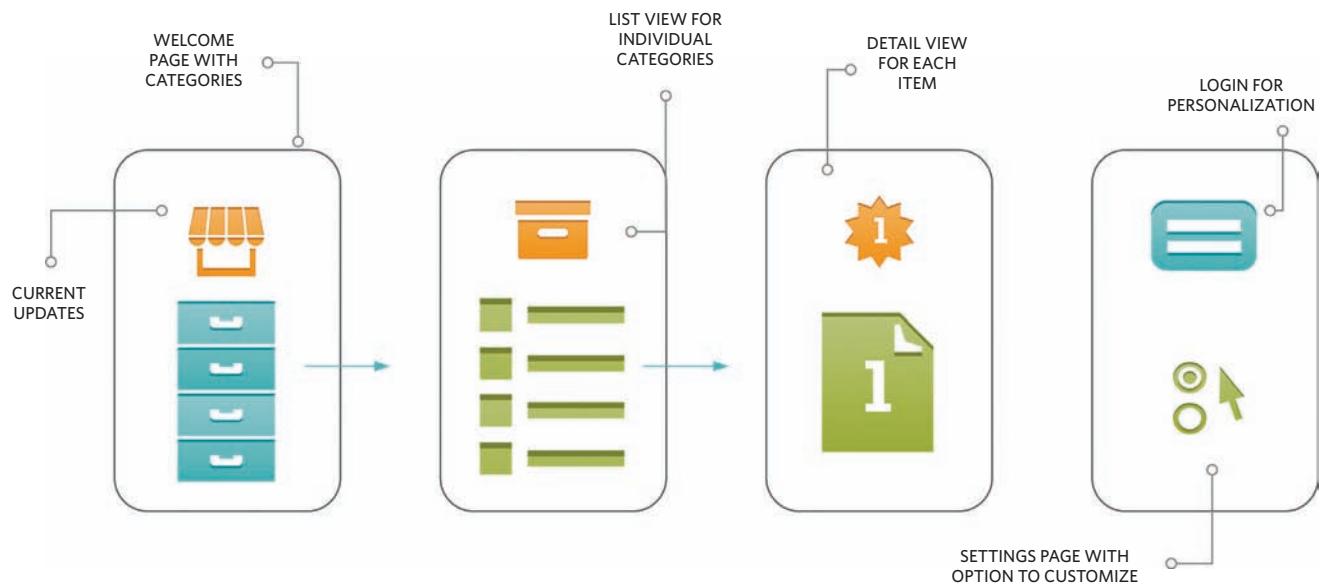
Windows Phone Night Stand Alarm Clock and iPhone QlockTwo

The Windows phone night stand clock gives a modern alarm look to the app. Users can create and customize alarms and personalize the color display. On the other hand, the iPhone's QlockTwo app shows time in simple words. It's intuitive to use but also has an information screen for language customization and basic help. The QlockTwo app also features an About screen (not shown), with information about the company and contact details.



67 Lifestyle App

A MOBILE APP THAT HELPS US WITH EVERYDAY LIFE



A lifestyle app is a simple app for everyday use. It can be related to shopping, fashion, real estate, cooking, culture, travel, sports, and more. The app enriches our daily life by providing simple and useful information at the tip of our fingers. Lifestyle apps feature dynamic and regularly updated information that keeps them interesting and relevant.

Best Practices and Design Guidelines

- Have “today” screen for current information
- Have settings screen with optional login for personalization
- Categorize information into list view and detail view
- Keep the landing screen fresh and updated with relevant and interesting information
- Use standard mobile list view user interface for each category
- Allow interacting with the information on the detail page
- Use optional login in the setting screen for personalization of information

User Experience

- Have straightforward utility with up-to-date information
- Keep the data current
- Allow access to device data such as GPS, maps, gallery, and camera
- Save user preferences for personalized information
- Don’t mandate user login to access information
- Make it social by integrating sharing options

(+) See also **Information App** on page 132 and **Branded App** on page 148.

The Trulia app helps users search for homes. It uses a straightforward approach with a home screen that contains individual categories for the search. Once the user selects, say, Open House, it shows a list of open houses in the area. It uses the built-in GPS and also has integrated maps for a big-picture view of the area. It also allows you to save your favorites by logging in to your account.

STRAIGHTFORWARD HOME SCREEN WITH CATEGORIES

OPTIONAL LOGIN TO SAVE FAVORITES

LIST OF CURRENT OPEN HOUSES IN LIST VIEW UI

MAP VIEW SHOWING CURRENT OPEN HOUSES NEAR YOU

DETAIL VIEW WITH COMPREHENSIVE INFORMATION

ABILITY TO SHARE

Sample List View UI Data:

- \$675,000 250 King St, San Francisco CA... 2 bd / 1½ ba / 1,060 sqft Condo
- \$1,049,000 400 Beale St, San Francisco CA... 3 bd / 2 ba / 1,433 sqft Condo
- OPEN HOUSE** Sun Jun 3, 2:00-4:00PM
- \$1,215,000 425 1st St, San Francisco CA 94... 2 bd / 2 ba / 1,309 sqft Condo
- OPEN HOUSE** Sun Jun 3, 2:00-4:00PM
- \$3,200,000 631 Folsom St, San Francisco... 3 bd / 3 ba / 2,573 sqft Condo

Sample Detail View Data:

Details **Photos** **Map**

Property Details:

- Status:** For Sale
- Bedrooms:** 1 bd
- Bathrooms:** 1 ba
- Size:** 824 sqft
- MLS/Source ID:** 396893
- Price/sqft:** \$789
- Total views:** 297
- Added on Trulia:** 20 days ago

OPEN HOUSE

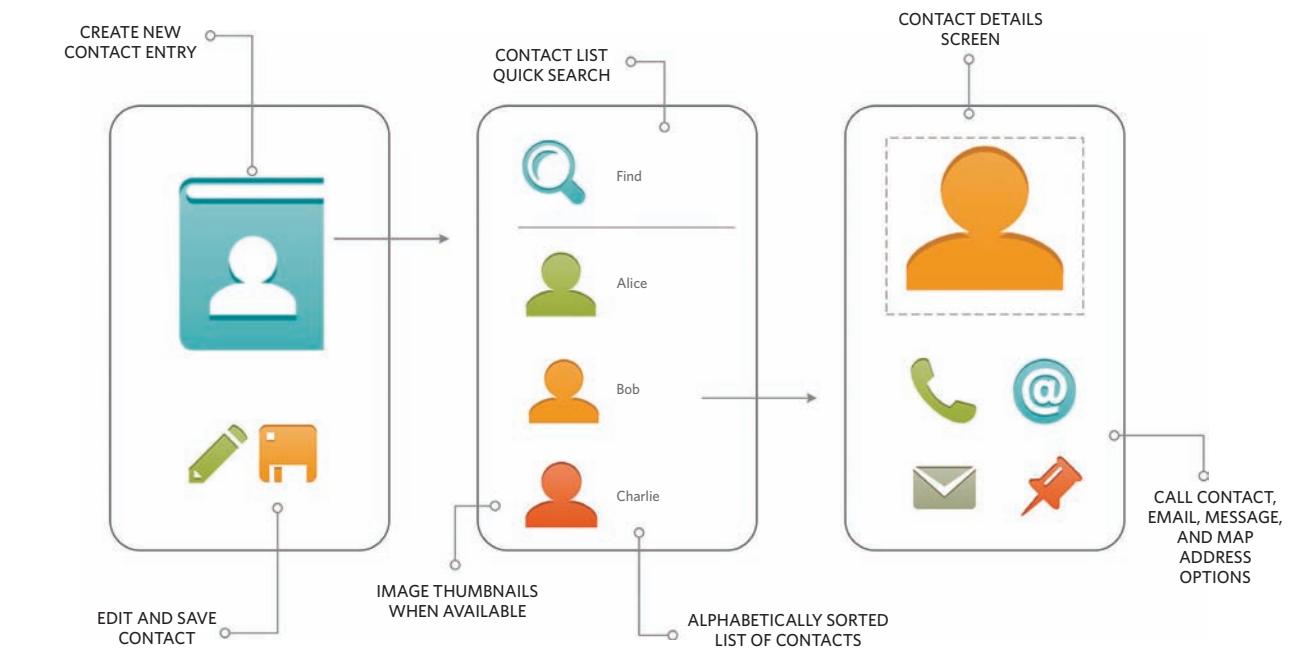
Sun Jun 3, 2:00-4:00PM
Tue Jun 5, 1:30-2:00PM

Share Options:

68 Address Book



A MOBILE APP TO MANAGE YOUR CONTACTS' ADDRESSES



An address book stores a list of contacts sorted by name in alphabetical order. It gives users a utility to quickly find a contact and call, instant message, or email. It typically contains the contact's full name, picture, email address, work and home addresses, personal website URL, phone numbers, and personal notes about that contact.

Best Practices and Design Guidelines

- Allow adding contact with minimal required information
- Have sorted contact list page with photo thumbnails
- Have add new contact, edit, and delete options
- Allow quick access to contacts in address book
- Provide option to search for contacts by name
- Provide detail page with option to call, email, or message contact

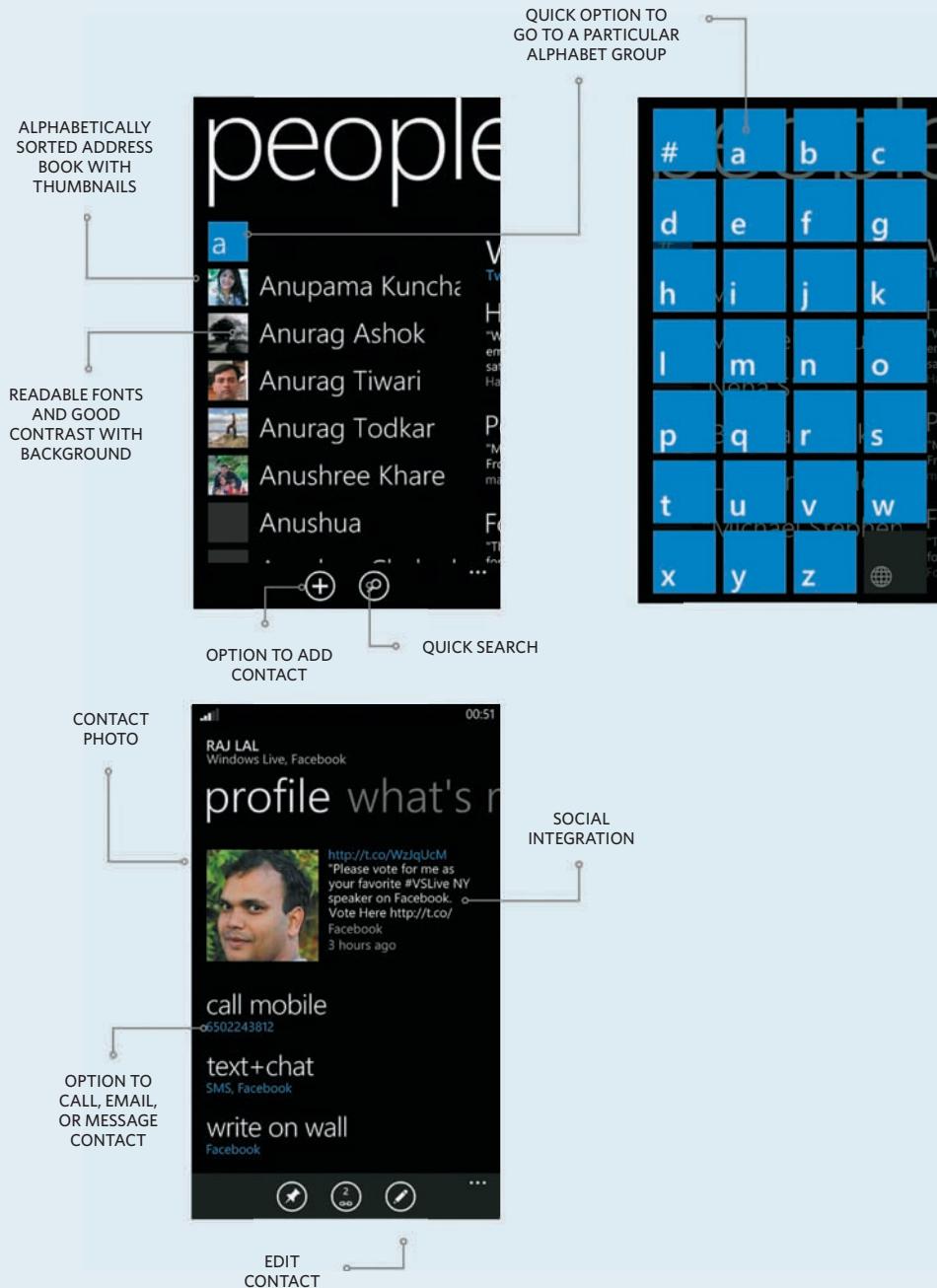
User Experience

- Have easy setup and quick access
- Allow advanced alphabet selection in contact list page for quicker access
- Have name visible with readable font size and good contrast with the background
- Allow import and export of contact list from a standard address book format
- Allow social integration of contacts

(+) See also **Mobile Phone App** on page 128 and **Web Widget** on page 98.

People Application in Windows Phone Lumia

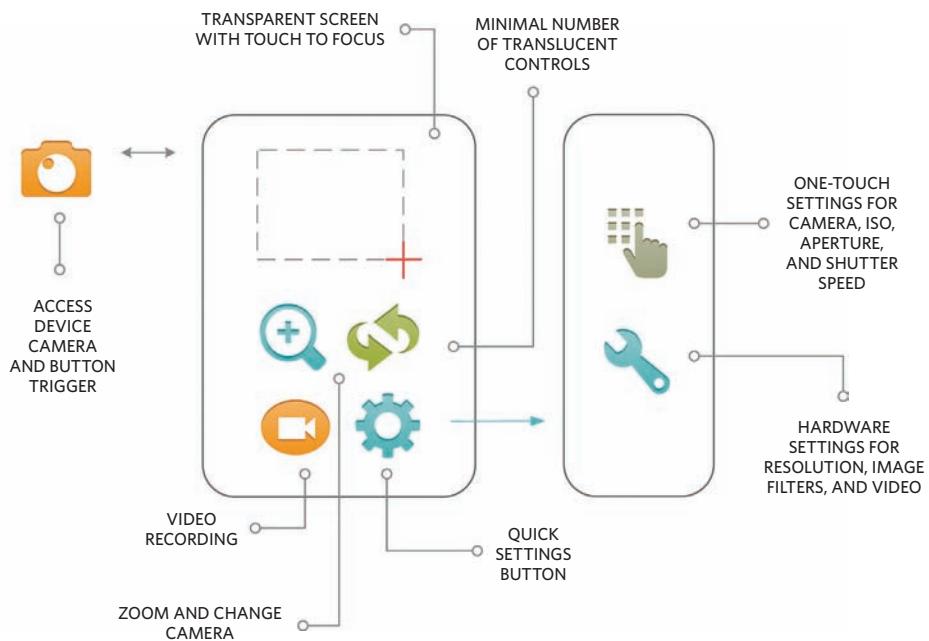
The address book in Windows Phone Lumia is alphabetically sorted with the option to search for contacts and quickly add a new contact. It has a unique feature that lets you go to a particular letter in the alphabet in the list.



69 Camera App



A MOBILE APP FOR USING THE CAMERA



A camera app provides easy access to a mobile phone's camera. The camera app is made as an overlay on the camera view window with translucent controls providing full-screen display for camera view. A camera app is an integrated native app and can have advanced features such as access to contacts, GPS information, photo gallery, and picture sharing.

Best Practices and Design Guidelines

- Allow users to go straight to the camera view
- Use transparent controls with outlines
- Allow quick zoom and switch to video mode option
- Keep all the settings touch/tap friendly
- Have a minimum number of camera settings
- Have settings page with one-touch settings for photo and video

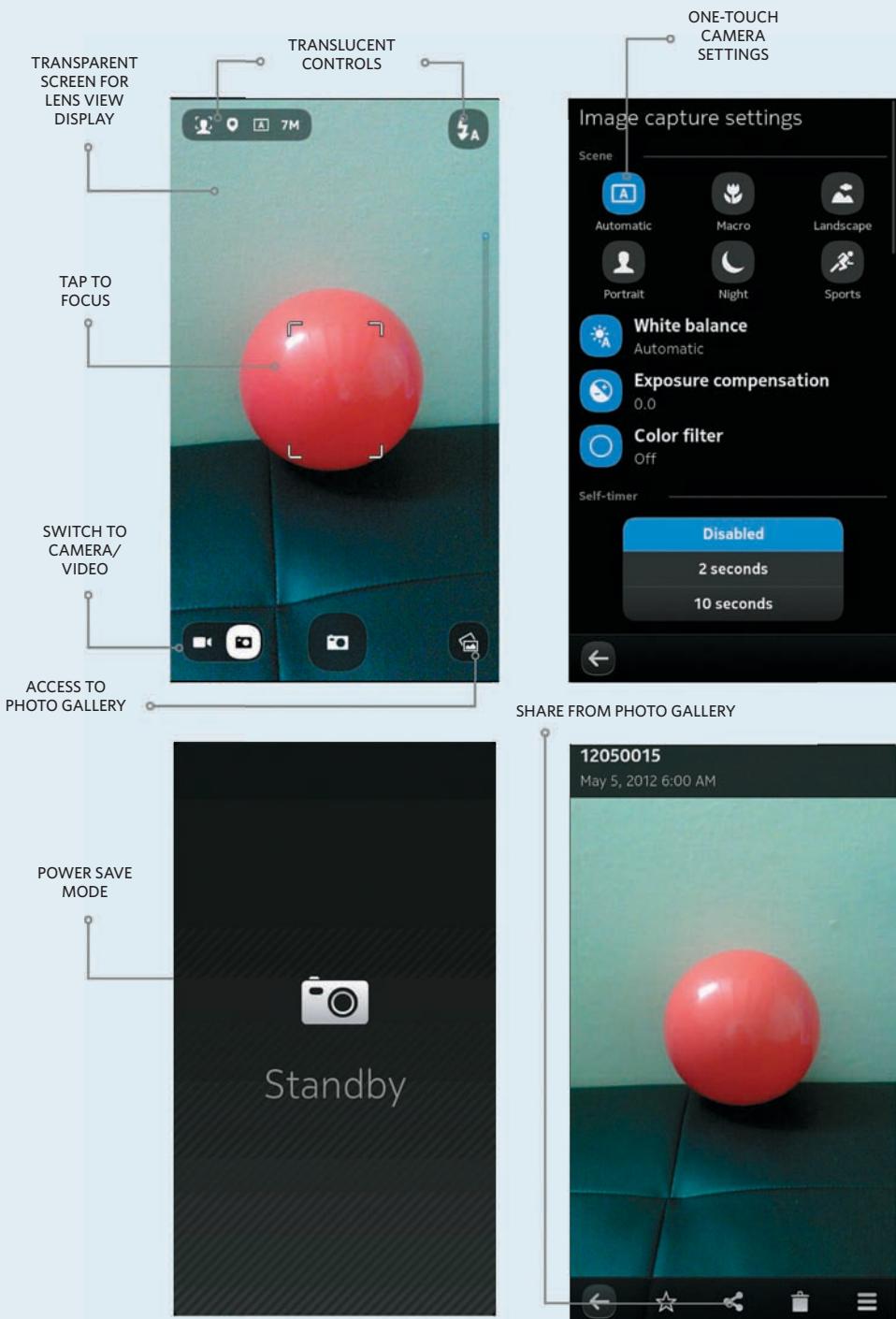
User Experience

- Make it quick to use and easy to share
- Provide fast loading time and quick saving while taking photographs
- Have automatic power-save mode when not using the camera after 1 minute
- Have one-touch camera settings with option to default all
- Provide easy geotagging and sharing of photographs

(+) See also **Mobile Phone App** on page 128, **Photo App** on page 142, and **Near Field Communication (NFC) App** on page 156.

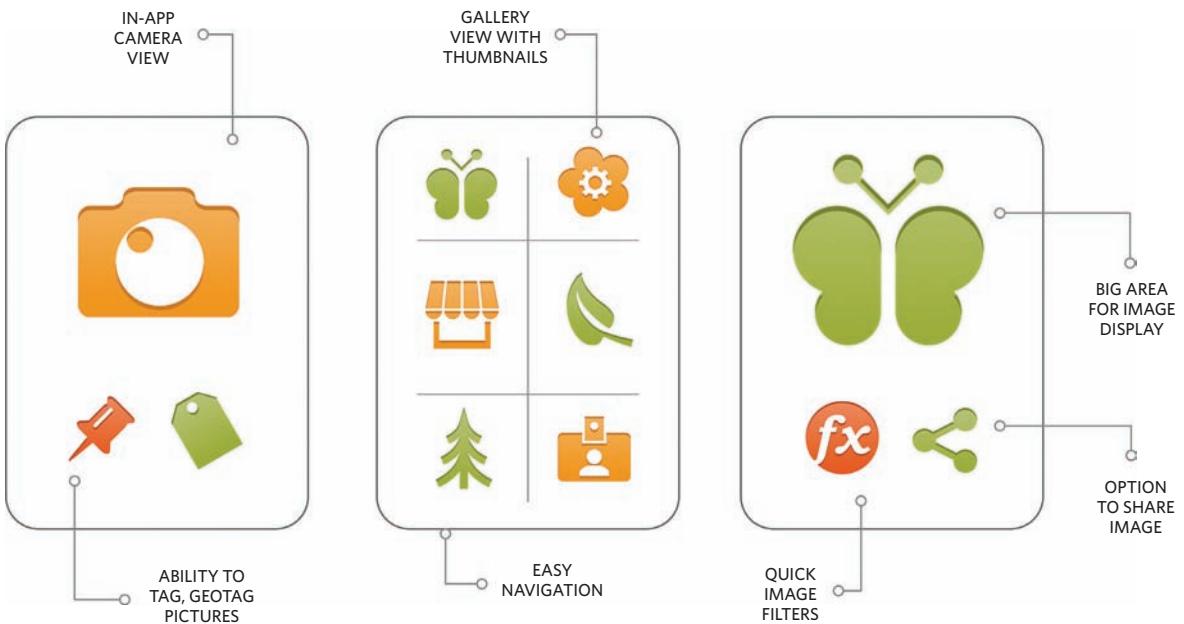
NOKIA N9 Camera App

The N9 camera app has a single full-screen transparent view for lens display with translucent controls. It has a quick shortcut for flash and allows switching from camera to video mode. The app features power-save mode and one-touch settings for all camera options. It also gives you easy access to the photo gallery, which lets you share photos through the Internet, Bluetooth, or NFC.



70 Photo App

A PHOTO-SHARING APP FOR MOBILE PHONES



A photo app uses a camera application to instantly take pictures, tag them, and share them with social networks. The application features basic image filters, such as edit and crop photos, before sharing. It uses the phone's camera to take pictures and a gallery to save them.

Best Practices and Design Guidelines

- Allow access to device gallery for picture storage
- Access device contacts for photo sharing
- Have gallery screen for browsing multiple pictures
- Integrate with camera application
- Have screen for image enhancement
- Provide easy navigation and quick filters for image enhancements
- Ask for geotagging and allow users tags in the photograph

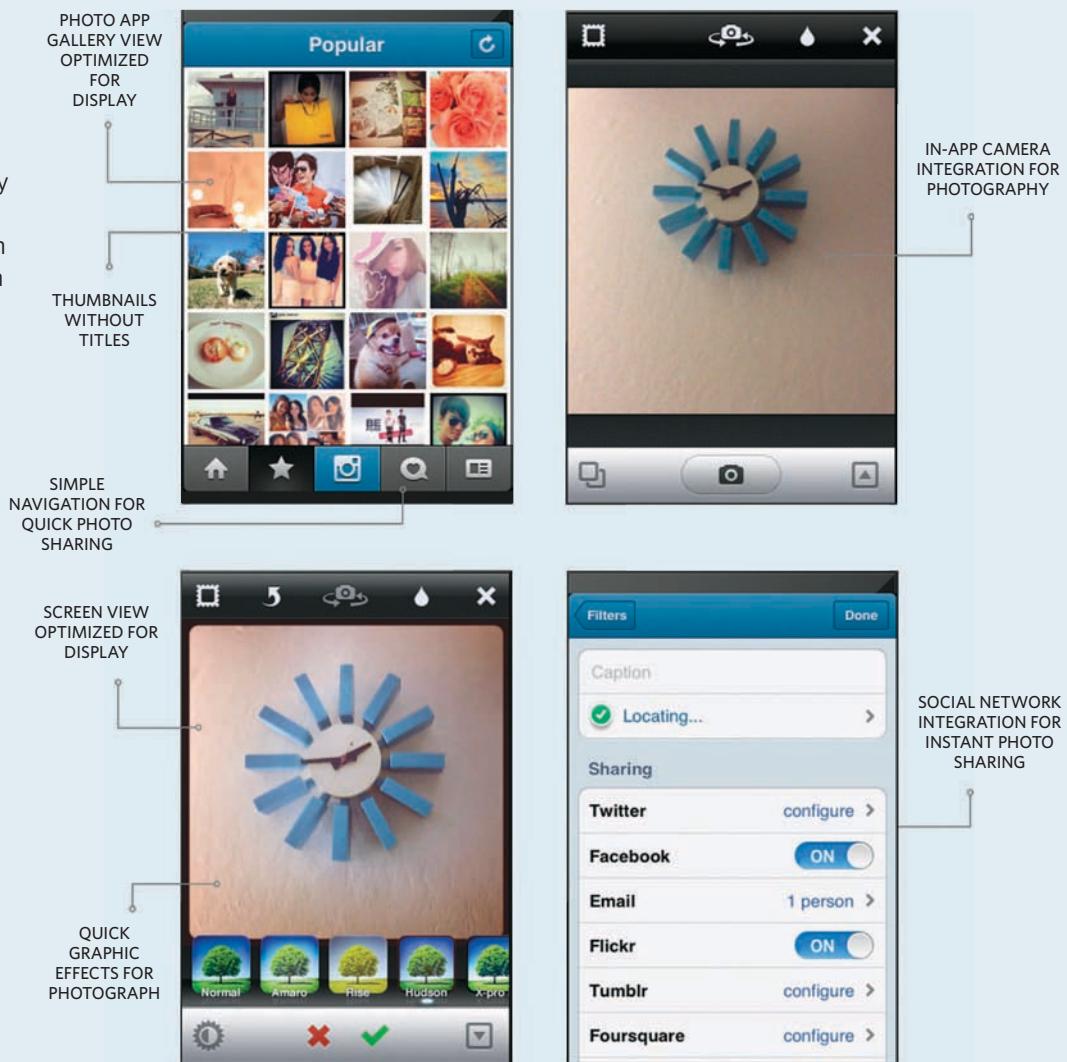
User Experience

- Have quick photo-taking capabilities, easy sharing, and fun
- Have an in-app camera experience
- Give camera UI-transparent elements
- Show previews for image filters and allow undo
- Keep navigation easy
- Make it fun with custom picture effects

(+) See also **Camera App** on page 140 and **Web Widget** on page 98.

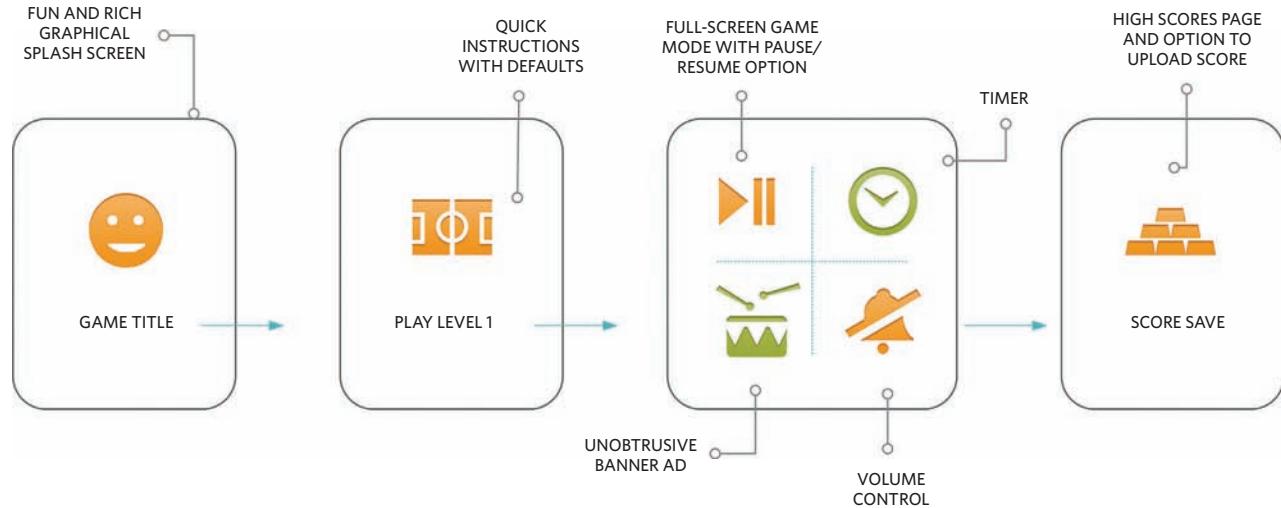
iPhone Instagram App

This app is completely integrated with the iPhone; it uses an in-app camera and saves the photos in the picture gallery. The gallery is available inside the app, which can be then enhanced with custom effects. The app also allows social network integration and even uses contact data to share photos. Overall, the user experience is very seamless and effective.



71 Mobile Game App

AN ELECTRONIC GAME APPLICATION FOR MOBILE DEVICES



A mobile game app is a video game played on mobile devices. It provides quick entertainment on the go. Current smartphone technology allows innovative games with dazzling graphics and animation. It utilizes device sensors such as accelerometers, gyrometer, camera APIs, and geolocation information to give a much more immersive experience.

Best Practices and Design Guidelines

- Have option for quick play/pause
- Have full-screen game mode with no obtrusive UI controls
- Use transparent buttons for Pause and Volume Control
- Utilize device hardware capabilities and APIs for a richer experience
 - Multiplayer games using device's wireless and Bluetooth
 - Location-based games using GPS information
 - Integrated camera and contacts

User Experience

- Have the game load quickly
- Allow quick access to pause and save game
- Have auto save and sleep mode
- Do auto pause when a notification shows up
- Save user preferences and settings information for next game

(+) See also **Games UI** on page 184, **Natural User Interface** on page 194, and **Mobile Ads** on page 154.

Optime Software's Free Tic Tac Toe Game

Tic Tac Toe is a great example of a popular mobile game. Because the mobile user is in a distractive and dynamic environment, and the engagement level is much lower than with a PC game, having quick start and play is important. The game features a quick splash screen with a start screen containing default settings. Users can select a game level and name, and start to play.

SPLASH SCREEN FOR GAME COMPANY



SIMPLE START PAGE



RICH GRAPHICS AND ANIMATIONS



SETTINGS TO START THE GAME WITH DEFAULTS

FULL-SCREEN GAME MODE

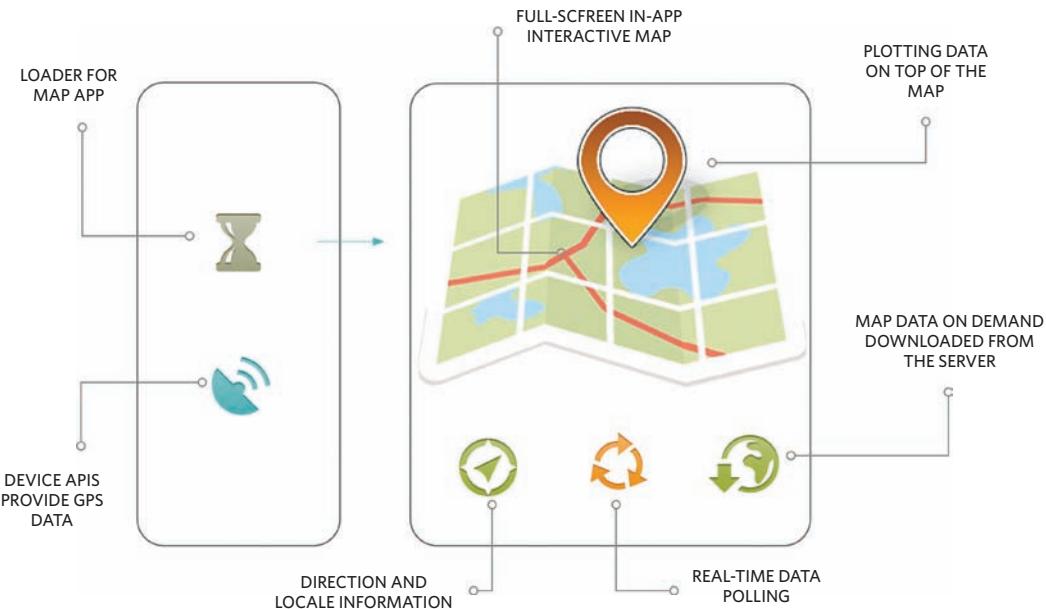


UNOBTRUSIVE TEXT-BASED BANNER ADS

72 Location Aware App



AN APP THAT UTILIZES DEVICE LOCATION TO PROVIDE LOCAL INFORMATION



Location-aware apps use a mobile phone's built-in GPS and Internet services to find the device's current location. Based on the location, the app is able to show nearby points of interest, calculate the route to an address, and even locate close friends and family. These apps use the locale information from the calculated geocoordinates to present interesting information to the user.

Best Practices and Design Guidelines

- Have a map screen showing device's current location
- Have a way to interact with the points of interest
- Have loading screen for latency for map initializing and retrieving GPS
- Ask for permission from the user to access device's GPS data
- Have interactive in-app map application with zoom/drag and drop

User Experience

- Keep the app useful with interesting information
- Keep an option to go back to current device location on the map
- Allow adding user's custom data on the map
- Provide feedback with busy, warning, and error indicators
- Update status when fetching real-time data from the Internet
- Tell user what data is being used and shared

(+) See also **Mashup App** on page 178 and **Web Widget** on page 98.

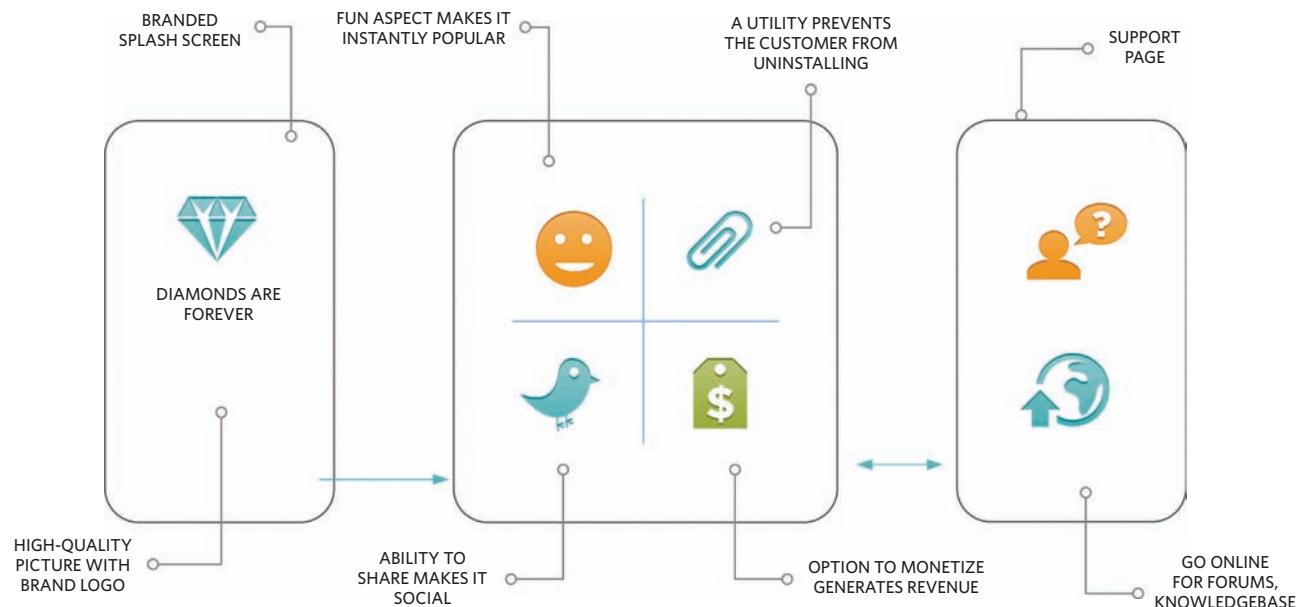
AT&T FamilyMap

This app is a location-based service using a mobile device's location and a map to show the location of family members. The service requires a monthly subscription from AT&T. Information provided is real time and is updated every few minutes.



73 Branded App

A MOBILE APP MEANT TO EXTEND A BRAND'S VALUE PROPOSITION



A mobile branded app is used for extending an existing web application or service on a mobile device. The app experience is much more immersive, providing a richer and more engaging experience. It is meant to provide utility or simple entertainment. It leverages consumers' already existing interest in the value offered by the brand's products or services.

Best Practices and Design Guidelines

- Create branded aesthetic splash screens with stunning high-quality graphics
- Keep the app simple and focused on a single utility or entertainment
- Allow for personalization and make it fun
- Add social sharing and engage user with bookmarking, reviews, and ratings
- Maintain a support screen with contact and feedback option

User Experience

- Maintain quality and usefulness
- Keep the theme and style consistent with the product/service
- Keep the data dynamic and fresh for the user to come back to the app
- Keep the basic app's functionality working in the offline mode
- Avoid marketing and advertisements; instead, sell the related product
- Leverage device's APIs to add unique experiences

(+) See also **Mobile Phone App** on page 128, **Mobile Game App** on page 144, and **Consumer Service App** on page 150.

CASE STUDY
iFood Plus

This is a meal-planning app that has a complete grocery list for every meal with recipes. The app features high-quality pictures of quick meals with recipes and a timer utility. It's one

of the popular branded apps (cost is 99¢) and has great social integration. It allows the user to add ratings and reviews to each recipe.

BRANDED HIGH-QUALITY SPLASH SCREEN

SHOPPING CART INFORMATION

REGULARLY UPDATED CONTENT

DAZZLING PICTURES FOR A GREAT USER EXPERIENCE

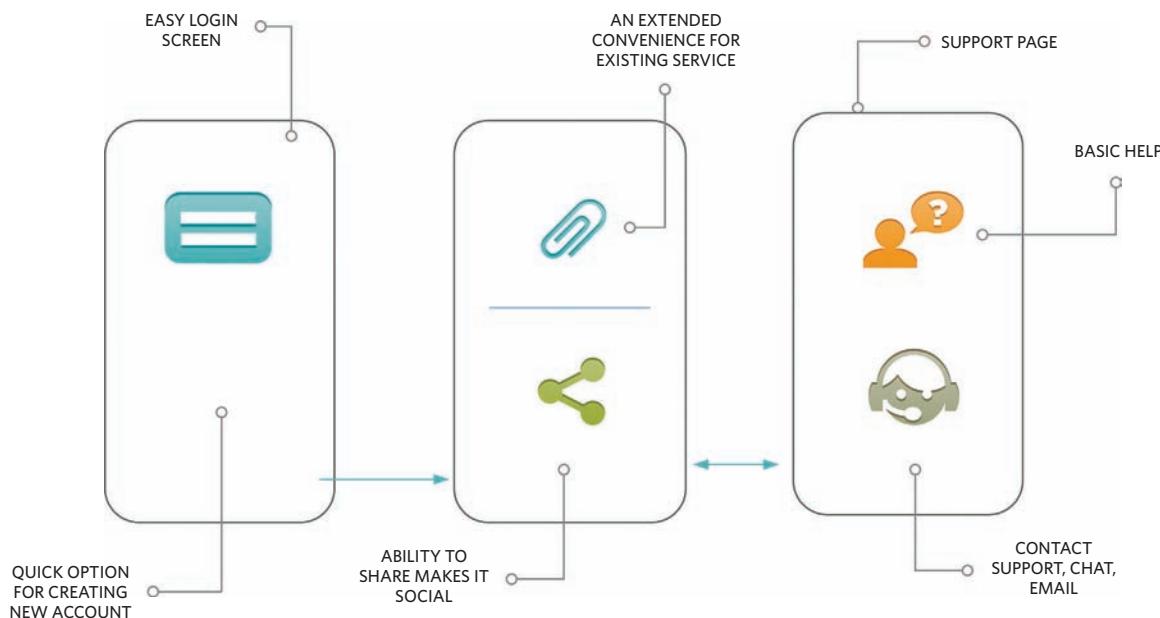
FULL LIST OF ITEMS WITH GREAT USER INTERFACE

OPTION TO SHARE USER REVIEWS

SUPPORT FOR CONTACT AND HELP

74 Consumer Service App

A NATIVE APP TO EXTEND AN ONLINE CONSUMER SERVICE



A consumer service app can be thought of as a branded app that provides extended functionality of an online service. It typically requires login and provides users with the parts of a service that are relevant in the mobile context. It's typically used for online services such as banking, project management, social networks, email, and other services that need user accounts.

Best Practices and Design Guidelines

- Keep the app straightforward for the specific service and functionality
- Make the landing page as login and save user name
- Have minimal help and allow basic functionality without login
- Assure user about security and indicate logout after the session
- Provide a separate contact and support page and allow user feedback

User Experience

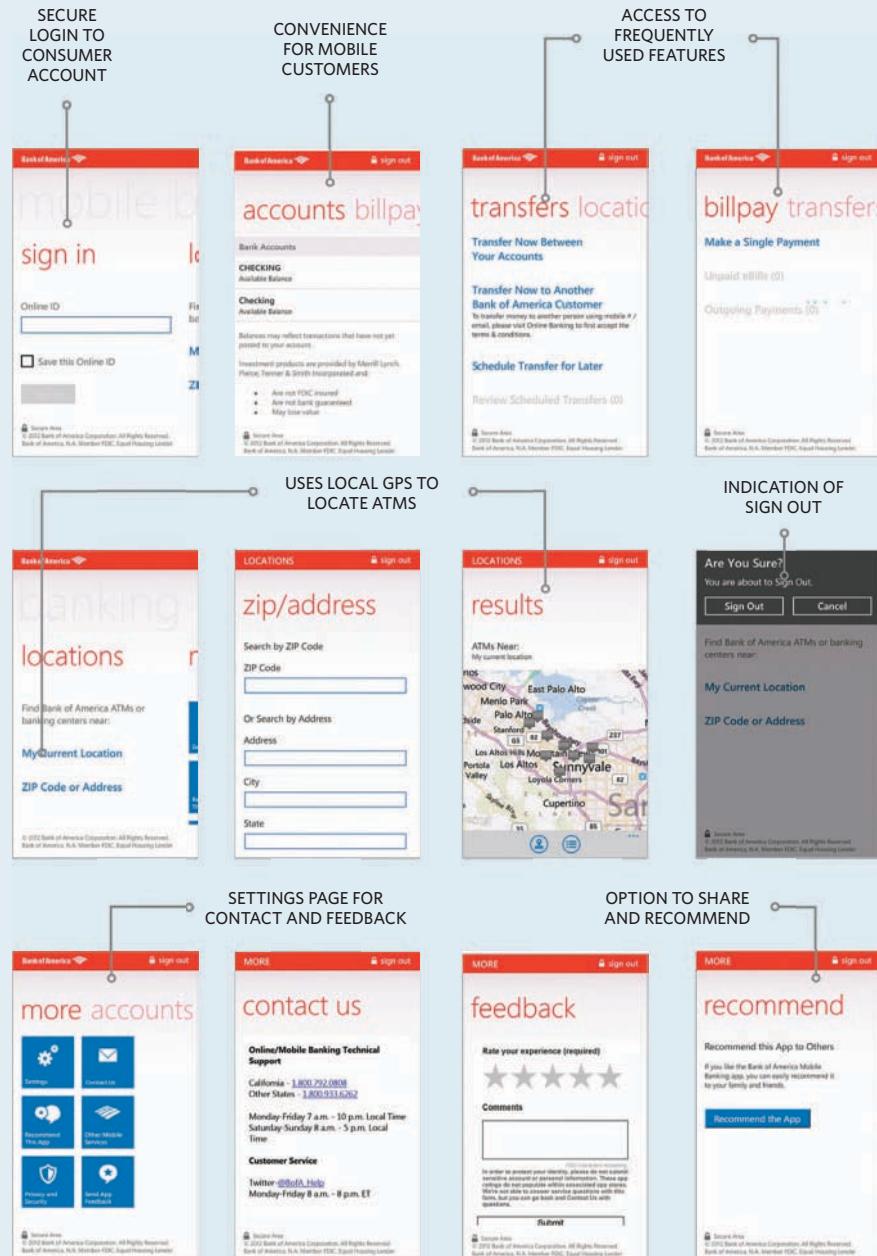
- Keep the app quick and to the point
- Focus on the relevant service for mobile users
- Utilize device APIs such as GPS to minimize user input
- Allow options for auto sign-in and saving login information
- Avoid banner ads, company news, and irrelevant information

(+) See also **Mobile Phone App** on page 128 and **Branded App** on page 148.

Bank of America Mobile App

The Bank of America mobile app enables you to access your account information, transfer funds, and pay your bills (for eligible customers) from a smartphone with Internet access. It's an added convenience for existing customers.

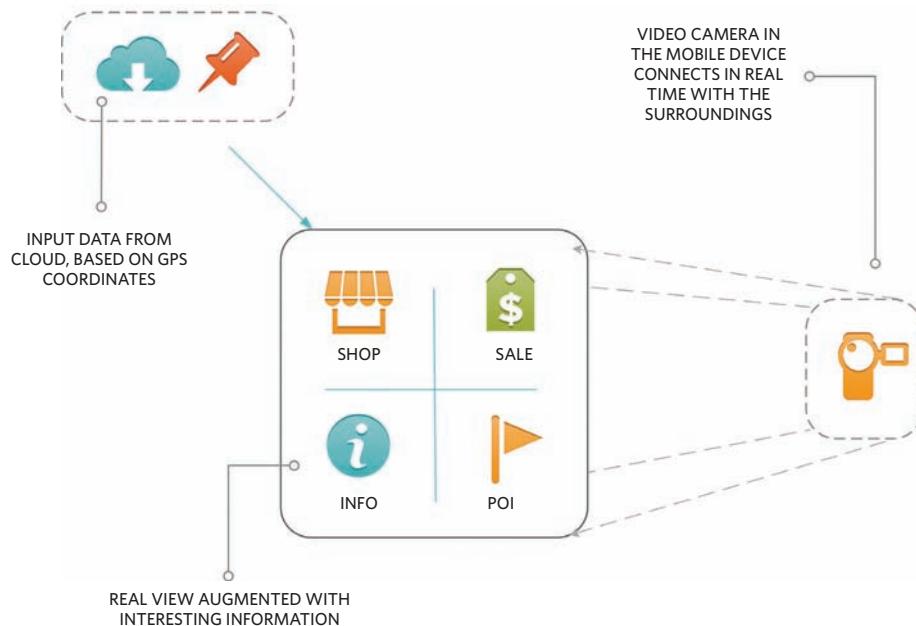
The app asks for user login and provides the most relevant features for the mobile user, such as bank and ATM locations. The app has an extensive contact support page for direct feedback, recommendations, and contact options.



75 Augmented Reality App



AN APP THAT ALLOWS USERS TO INTERACT WITH THE VIRTUAL WORLD THROUGH A CAMERA LENS



An augmented reality app is a camera app that uses real-time image data from the camera view and processes that with information from GPS, maps, contacts, and data from the web to create an alternate virtual reality. This allows the user to navigate augmented reality in unique ways, such as interact in 3-D or find shops, places, friends, and promotions.

Best Practices and Design Guidelines

- Have camera view with transparent layers of information
- Make virtual reality on top of the real-time camera view
- Have map view and details view for using the information
- Allow interaction with the virtual world for people, places, and things
- Put the app on standby when not in use to save power and data consumption

User Experience

- Make the lens view touchable with layers of information
- Include a help function with screenshots
- Allow settings for filtering data
- Show the distance from the current location for places and people
- Allow real-time interaction, such as booking a hotel or messaging a friend

(+) See also **Camera App** on page 140 and **Location Aware App** on page 146.

Wikitude Augmented Reality App

Wikitude uses the camera and location to show interesting information in a live view. The Wikitude shows points of interest on both lens view and map view. The user is able to

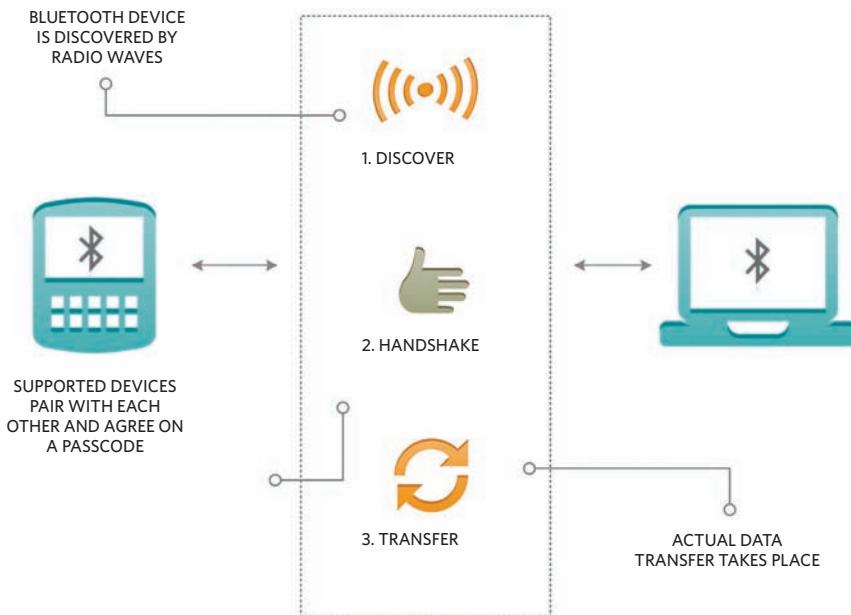
click/touch to get more information. Wikitude uses multiple online data sources, including Wikipedia, Yelp, Twitter, and City Search, to collect local data relevant to the user.



76 Bluetooth App



A MOBILE APP UTILIZING WIRELESS BLUETOOTH TECHNOLOGY FOR COMMUNICATION



A Bluetooth mobile app allows you to communicate with other supported Bluetooth devices. Bluetooth is a simple and secure wireless technology that provides short-range communications and can be leveraged as an innovative mobile app for sharing virtual business cards and contact information, accepting social connections, making file transfers, and utilizing chat and remote control.

Best Practices and Design Guidelines

- Keep the user interface simple and easy to use for nontechnical users
- Use the device's APIs to list all Bluetooth devices in the range
- Allow permission-based pairing where both devices enter/accept the passcode
- Connect only with devices supported with Bluetooth app
- Show the status of data communication

User Experience

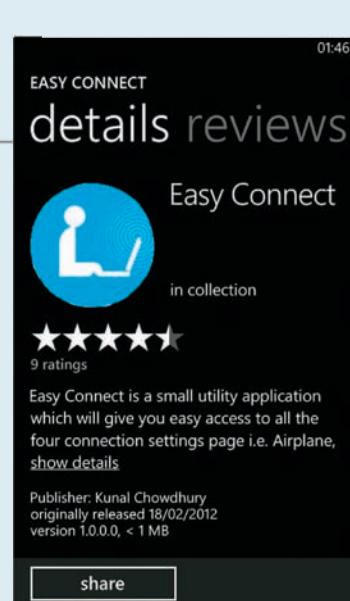
- Make it a quick utility with great user experience
- Do not use a splash screen
- Have quick "Bluetooth On" to list devices
- Show progress bar for large file transfer and allow bulk file transfer
- Allow sharing the Bluetooth app from within the app

(+) See also **Near Field Communication (NFC) App** on page 156 and **Mobile Phone App** on page 129.

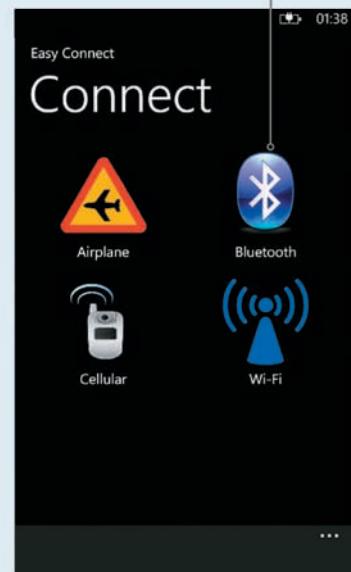
Easy Connect for Windows 7

Easy Connect is a simple Windows Phone 7 app for accessing the Bluetooth setting in the phone quickly. A user can tap the Bluetooth icon to go to the setting to pair with other devices. Although no type of data transfer is done, the simplicity of the app shows the standard practice while developing a Bluetooth app.

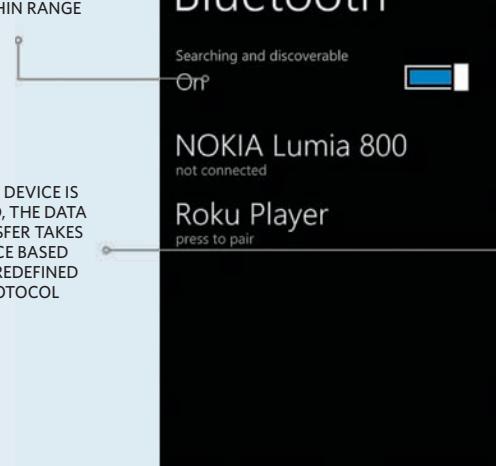
EASY CONNECT APP ALLOWS YOU TO QUICKLY CONNECT TO A BLUETOOTH DEVICE



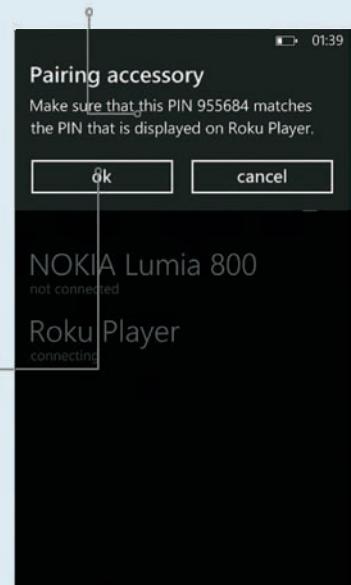
SHORTCUT TO BLUETOOTH SETTINGS



SWITCHING ON BLUETOOTH SETTING LISTS ALL BLUETOOTH DEVICES DISCOVERED WITHIN RANGE



HANDSHAKE HAPPENS BETWEEN THE DEVICE WITH A COMMON PASSCODE

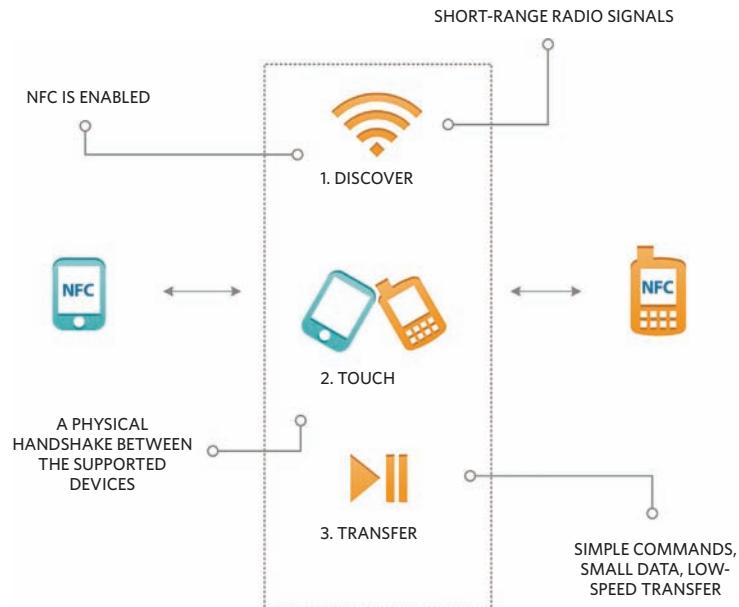


ONCE DEVICE IS PAIRED, THE DATA TRANSFER TAKES PLACE BASED ON PREDEFINED PROTOCOL

77 Near Field Communication (NFC) App



A MOBILE APP THAT USES NFC TECHNOLOGY (RADIO COMMUNICATION IN CLOSE PROXIMITY)



Near field communication (NFC) is a wireless technology that allows two or more devices to connect simply by physically touching them lightly. It enables two-way communication between endpoints. Unlike Bluetooth wireless technology, where the pairing of the two devices is required using a passcode, NFC technology automatically pairs two devices when they are in close proximity to each other. It's a low-speed connection with a simple setup.

Best Practices and Design Guidelines

- Have a setting to confirm sharing and connecting
- Have a simple screen for action progress on device touch
- There are no additional steps, so the app sends/receives commands on touch
- Use a simple on/off setting screen for NFC
- Use standard protocols for both devices
- NFC allows both one-way and two-way communication between the devices

User Experience

- Keep the app quick and to the point
- Have innovative ways of sharing, getting phone numbers on touch, and connecting to social networks
- Show progress when transferring data



See also **Bluetooth App** on page 154 and **Mobile Phone App** on page 128.

Nokia N9 and NFC Speakers

Nokia was one of the first companies to come up with NFC-enabled phones. The latest N9 features a unique music app that allows it to connect NFC-enabled speakers. If you're out listening to a song and come

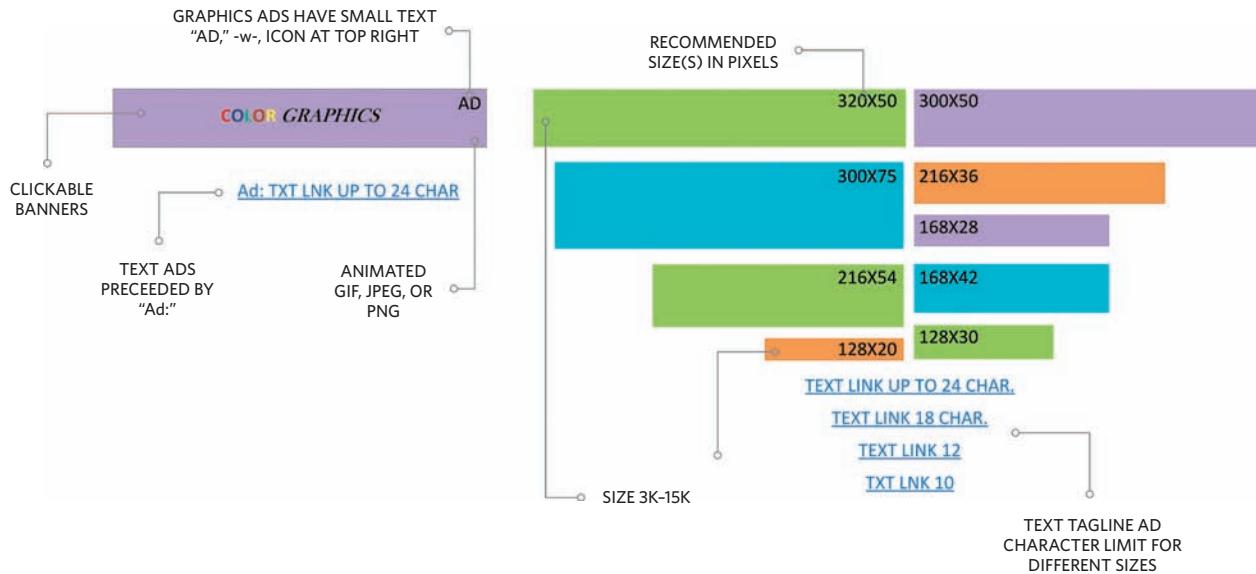
home, you can transfer the music from your phone's speakers to the house speakers simply by touching them. When leaving, use the phone to touch the home speakers again and the song is back playing on the phone.



78 Mobile Ads



A BANNER AD FOR MOBILE PHONE APPS AND WEBSITES



There are three kinds of mobile ads: a graphic banner ad; a text-based ad; and a full-screen, media-rich ad. The banner ads and text ads are more popular and are used on mobile websites as well as mobile apps. A full-screen, media-rich app is generally part of a mobile app or media app that gets triggered either by users clicking on the existing banner or in a video playback.

Best Practices and Design Guidelines

- Keep the ad clearly separated from the content or label it as an ad
- Includes the word “ad” in the top-right or bottom-right corner
- For text ads, use advertising indicators “ad:” or “-w-”
- Use dimensions ranging from 128 × 20 pixels to 320 × 50 pixels
- Use recommended size of 3K up to 15K, with file type JPEG, PNG, or GIF
- Have text banners range from small (10 characters) to large (24 characters)
- For full-screen, media-rich ads, videos should be 30 or fewer seconds

User Experience

- Keep ads relevant and fast loading
- Use optimized images for fast loading
- Keep banner ads to a maximum of two lines of text
- Avoid using rich Internet applications such as Flash or Silverlight
- Leverage device’s geolocation to serve local ads

(+) See also **Web Widget** on page 98, **Banner Ad** on page 102, and **Rich Internet Application (RIA)** on page 96.

m.imdb.com (N9), Quick Scan, and Convert Units

The mobile website m.imdb.com features a graphics banner ad that is clearly separated from the website at the top of the page. The Quick Scan app features a graphically aesthetic ad with 100 percent width, whereas Convert Units shows a text-based ad that rotates text at the top of the app.

GRAPHIC AD IN IMDB WEBSITE CLEARLY SEPARATED FROM THE CONTENT



TEXT AD INSIDE THE CONTENT WITH THE TOP-RIGHT AD MESSAGE

Mobile Websites

Categories:

- Business
- Entertainment
- Information
- News
- Portal
- Search
- Shopping
- Sports
- Technology
- Travel
- Weather

Ads by Google

Your Degree On - Your Terms - mdegrees.nu.edu

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cantoni.mobi

AD THEME MATCHES THE APP BUT CLEARLY SAYS "AdChoices"



IN-APP BANNER AD



79 Mobile Commerce

E-COMMERCE ON A MOBILE DEVICE



Mobile commerce is an essential and simplified version of e-commerce on the web. The first step in mobile commerce is the product detail page. Customers spend most of their time on this page deciding whether to buy the product or pass. The next page is Add to Cart, which allows users to add and remove quantities. The third and final step is the checkout, where users either login and reuse existing information or enter billing and shipping details to buy the product.

User Experience

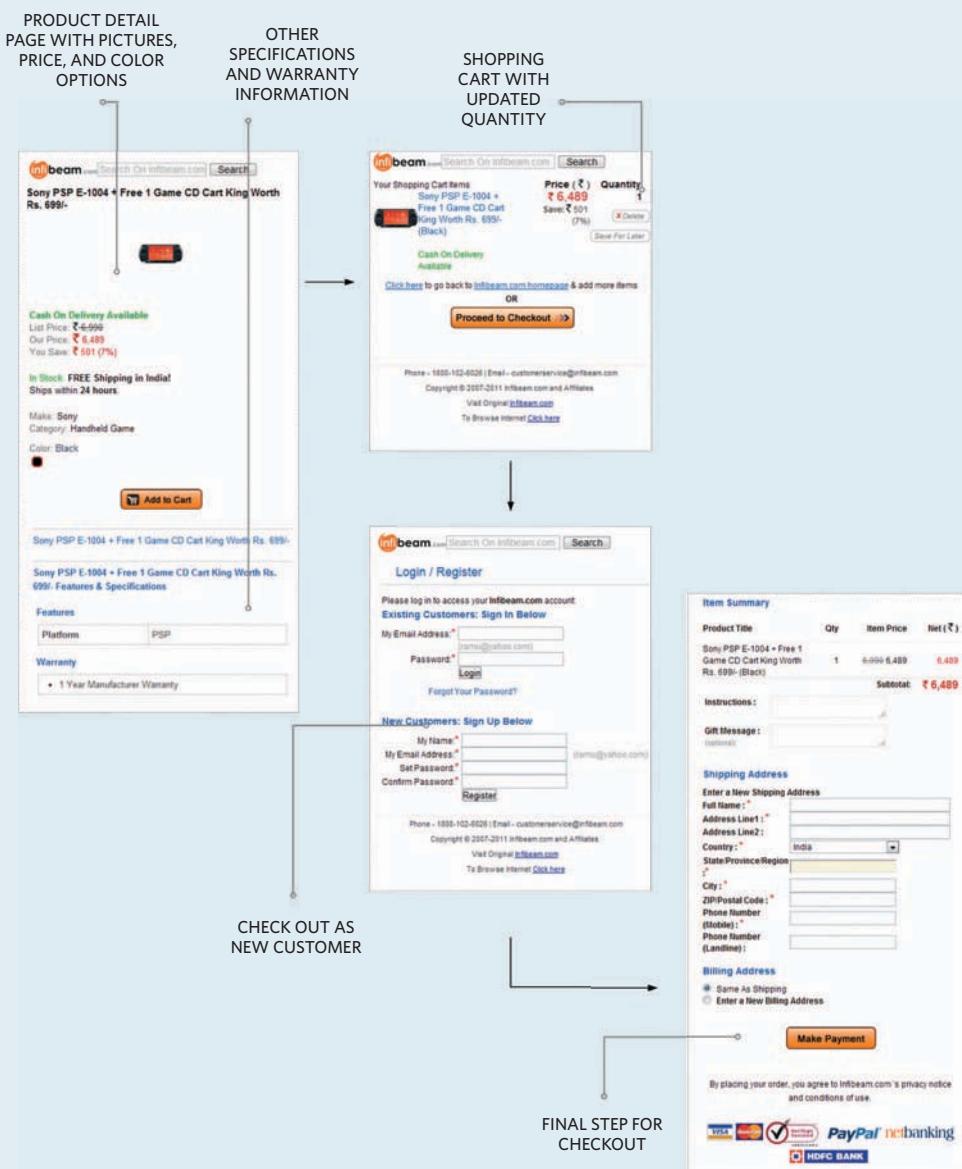
- Avoid banner ads and promotions
- Allow user to simply check out with option to log in
- Assure user of security during checkout
- Keep the pages scrolling vertically on a mobile device
- Have an option to go to the desktop version

+ See also **Shopping Cart** on page 70, **Product Page** on page 68, and **Checkout** on page 72.

Best Practices and Design Guidelines

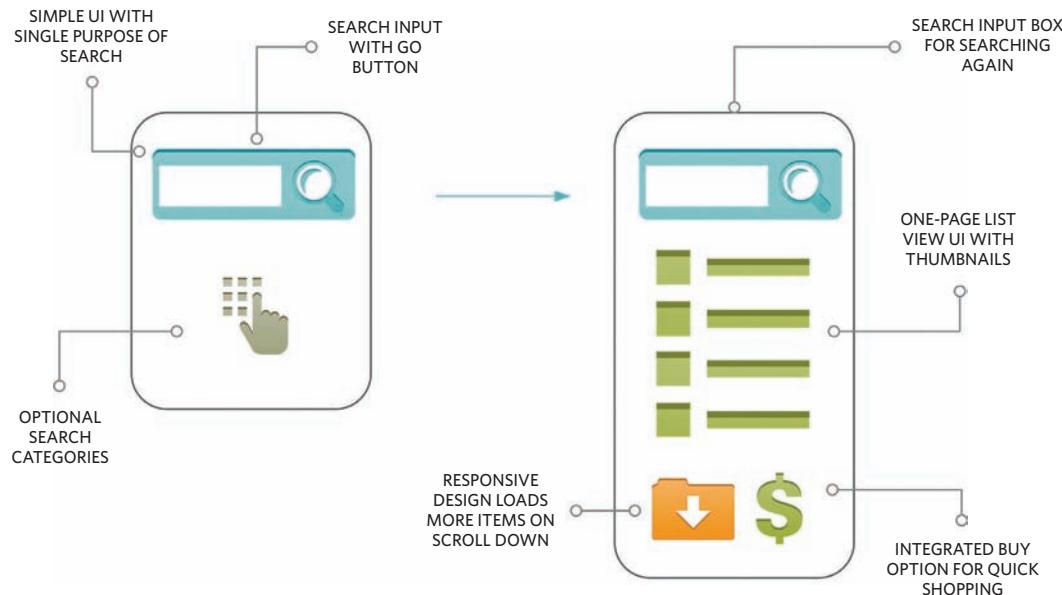
- Have a detailed product page with quality pictures, specifications, and reviews
- Keep good-quality pictures but optimize for size
- Keep minimum number of steps—ideally three for mobile commerce
- Save user preferences, such as items added to cart and login information, for returning customers
- Keep a white background with minimal theme and style

Infibeam is an Indian mobile shopping website featuring a simple and straightforward mobile commerce experience. The product detail page lists all the details of the product with complete specifications and warranty information. The shopping cart allows users to check out as new customers. In the very final step, it asks for bank or credit card information for purchase.



80 Mobile Search

A SEARCH USER INTERFACE FOR MOBILE DEVICES



A mobile search is a great example of a focused mobile app: the user types a keyword, optionally selects a subcategory, presses Go, and a list of relevant items is shown. The user can further search or select one of the items or scroll down, which loads more items. The search result may even have an Add to Cart option for quick e-commerce.

Best Practices and Design Guidelines

- Have search screen with optional categories
- Show thumbnails in the search result list page
- Use white background with clear two- or three-color theme for the search results page
- For online shopping websites, have Buy option in the results page
- Use simple text buttons such as Buy and Go instead of Add to Cart and Search
- Load more items with vertical scroll instead of using multiple pages and navigation

User Experience

- Keep it easy to use with quick results
- Have big, tappable buttons
- Allow readable search input box
- Have precise and accessible content
- Use two or three colors with white background

+ See also **Information App** on page 132 and **Branded App** on page 148.

Apmex Search

Apmex is a gold dealer that has its own mobile website. The website features a simple search along with the categories for browsing. The search results page has a list view with thumbnails and navigation-based paging mechanisms instead of responsive design.

The diagram illustrates the Apmex mobile search interface, comparing the homepage and the search results page.

- SEARCH INTEGRATED IN THE MOBILE HOMEPAGE:** Points to the search bar at the top of the mobile homepage.
- CATEGORIES FOR BROWSING:** Points to the navigation menu on the mobile homepage.
- LIST VIEW WITH THUMBNAILS:** Points to the search results page, which displays a list of products with small thumbnail images.
- PAGE NAVIGATION INSTEAD OF RESPONSIVE DESIGN:** Points to the navigation links at the bottom of the search results page, indicating a lack of responsive design.

Mobile Homepage Screenshot:

Silver, Silver Bar, Silver Bars, Silver Bullio... +
Back Forward ⌂ Reload Stop
APMEX Spot Price | My Account | Cart
gold Go Create Account

Gold > Silver >
Platinum > Palladium >
Clearance > Gift Ideas >
Top 40 > All Products >

Sign Up To Win A FREE 1oz Gold Coin >

Search Results Page Screenshot:

Search For gold | APMEX.com +
Back Forward ⌂ Reload Stop
APMEX Spot Price | My Account | Cart
gold Go Create Account

Search For gold « Back

1 oz Gold American Eagle (Random Year)
As low as \$69.99 per coin over spot!
The 1 oz Gold Eagle was introduced in 1986 and has been produced by the U.S. Mint e...
Just Listed! Hot Item Availability: Now ★★★★☆

1/2 oz Gold American Eagle (Random Year)
Perfect for investors or collectors! The premier Gold Bullion coin of the United States, the Gold American Eagle has become one...
Just Listed! Hot Item Availability: Now ★★★★☆

1/4 oz Gold American Eagle (Random Year)
Perfect for investors or collectors! These 1/4 oz Gold American Eagle coins feature Lady Liberty walking against a background o...
Hot Item Availability: Now ★★★★☆

1/10 oz Gold Canadian Maple Leaf - Random Year
Fractional Maples! Canadian Gold Maple Leaf coins are considered some of the most beautiful Gold coins in the world and appeal ...
Just Listed! Hot Item Availability: Now ★★★★☆

1 oz Gold Austrian Philharmonic - Random Year
As low as \$49.99 per coin over spot!
These attractive Gold pieces contain 1 oz of .9999-fine Gold. The obverse of the Go...
Just Listed! Hot Item Availability: Now ★★★★☆

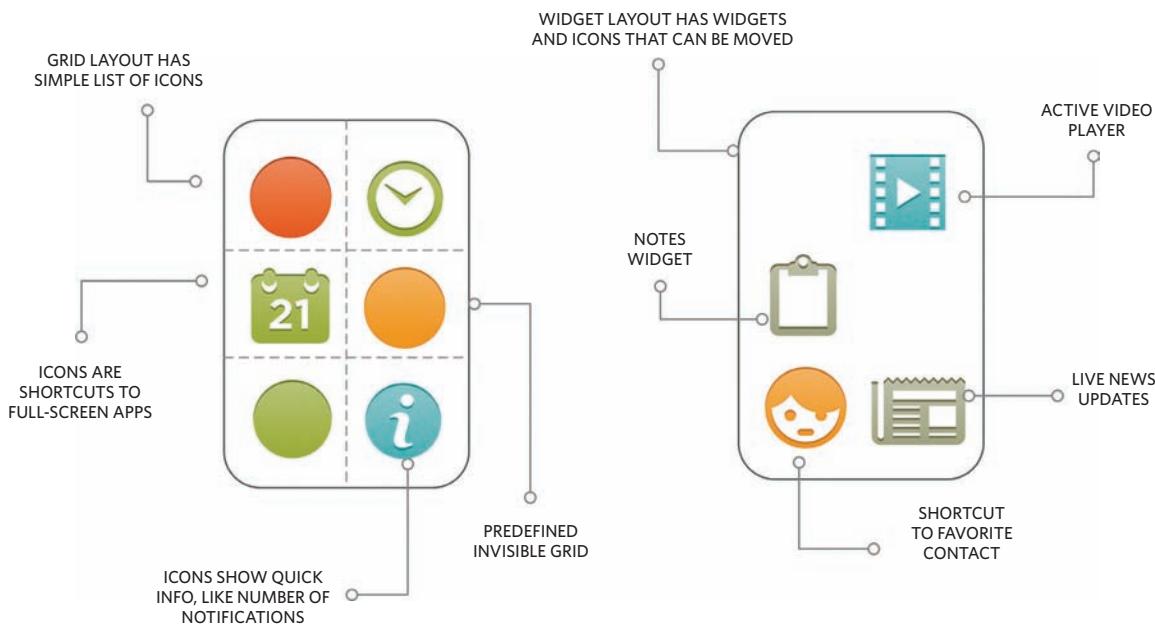
1 oz Australian Gold Kangaroo / Nugget
As low as \$44.99 per coin over spot!
The obverse of these popular Gold coins bears a portrait of Queen Elizabeth II. The...
Just Listed! Hot Item Availability: 10 In Stock ★★★★☆

1 2 3 4 ... 9 10 Next »

81 Mobile Home Screen



LANDING SCREEN FOR A MOBILE DEVICE



A mobile home screen is the first screen users see after unlocking the device. It is meant to help users find their way to apps and settings. There are two popular home screen layouts. One is the icon grid pattern, where you have a number of static and interactive icons. This pattern is popular with iPhone and the Windows phone. The other layout is a customizable widget pattern that allows users to have a live widget on the home screen. This layout is popularly used in Symbian and Android phones.

Best Practices and Design Guidelines

- Allow quick access to frequently used apps
- Allow easy access to all apps and settings in the phone
- Optimize icons for display
- Have simple interaction from home screen to app
- Allow customization of home screen

User Experience

- Have everything easily accessible
- Create big tappable icons and buttons
- Have ability to remove, move around, and change the layout
- Use multiple screens to group icons and widgets

(+) See also **Touch User Interface** on page 166 and **Homepage** on page 54.

Nokia N9 Home Screen

For its N9, Nokia has come up with a different and innovative layout with three screens for the homepage that can be swiped left to right like a carousel. The first screen is a

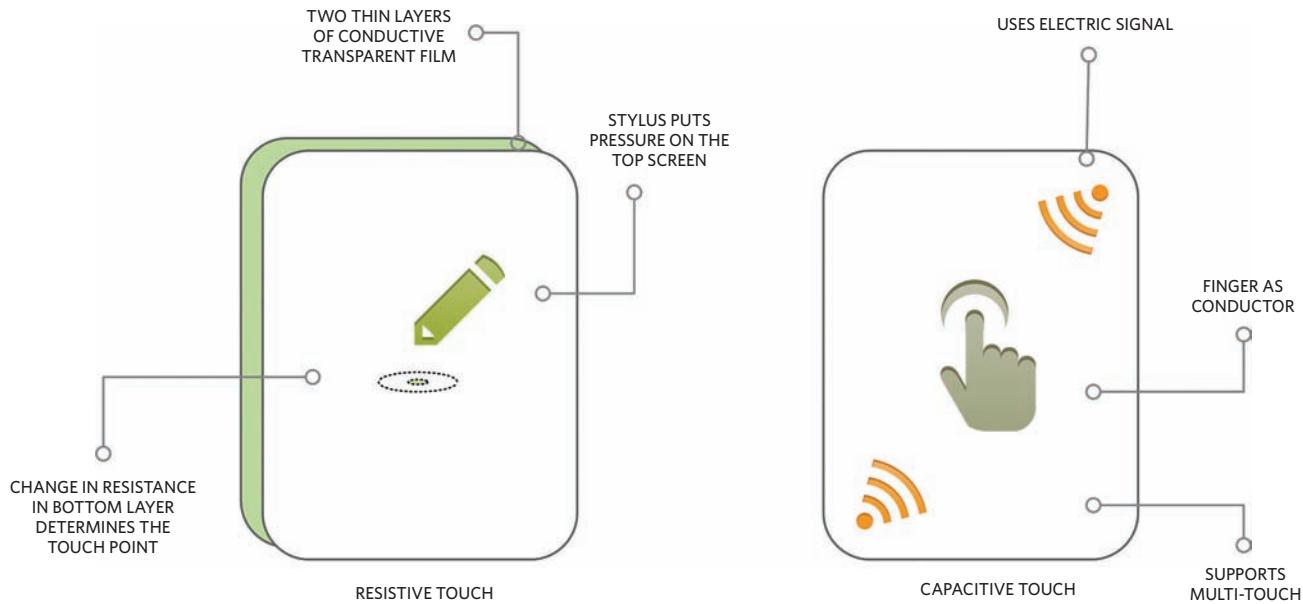
notification screen, the second is an icon grid, and the third is for recently used applications. It's an innovative approach to mobile home screen design.



82 Touch User Interface



A USER INTERFACE TECHNOLOGY BASED ON SENSE OF TOUCH



A touch user interface is created using haptics, a technology that uses tactile feedback on a hardware surface to sense touch. The two implementations are resistive touch and capacitive touch. Resistive touch uses pressure to locate the focus point of the touch. Capacitive touch uses electric signals and is suitable for multi-touch.

Best Practices and Design Guidelines

- For resistive touch
 - Use single-touch interaction with stylus accuracy
 - Don't allow dragging
 - Use paging instead of scrolling
 - Use fixed-sized buttons for interaction
- For capacitive touch
 - Have smooth interaction using finger touch
 - Have smooth scrolling behavior to support dragging
 - Allow interacting with the content
 - Have multi-touch for advanced features

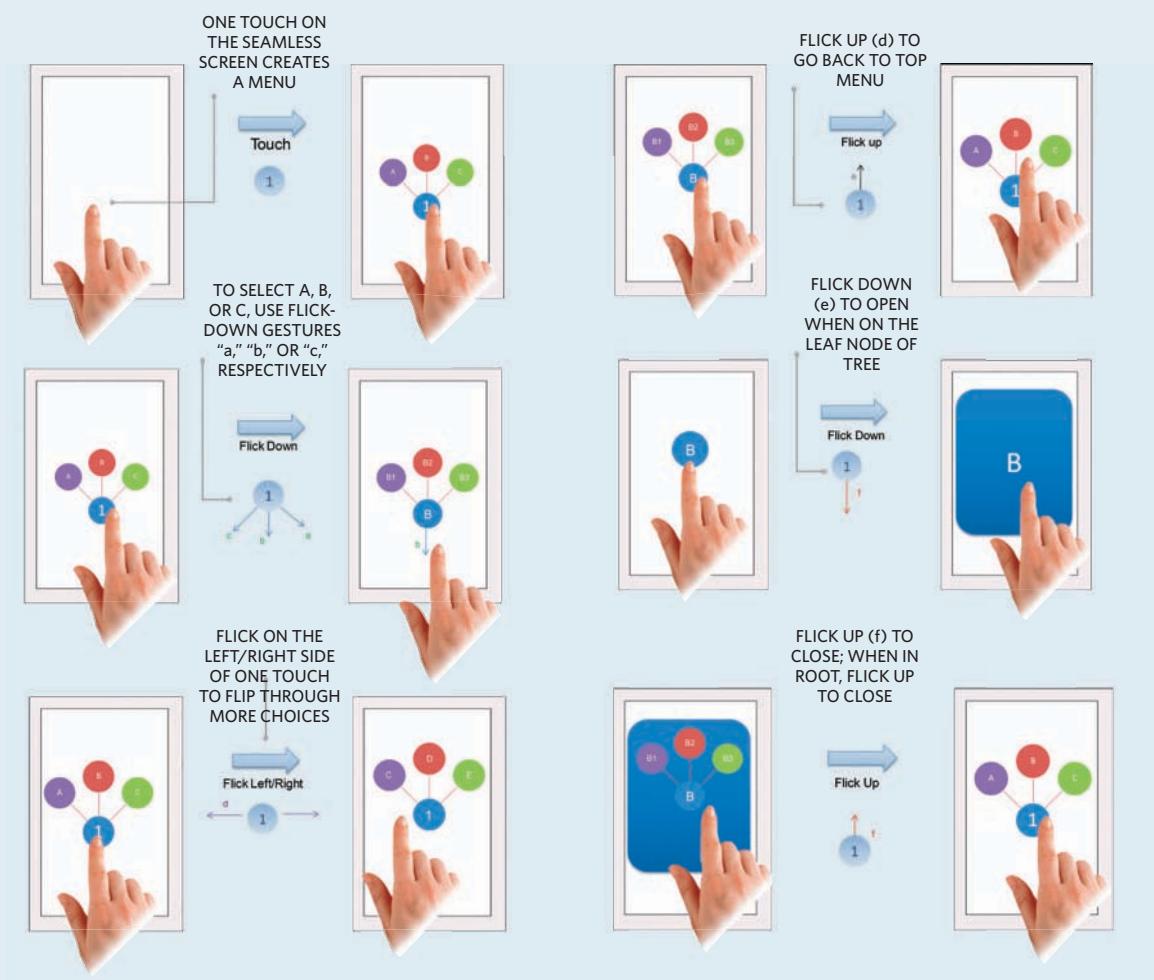
User Experience

- Create a seamless interaction; trade off features for better experience
- Use fluid, smooth scrolling on a capacitive screen
- For resistive screen, use definite interaction—point-and-click-like behavior

(+) See also **Multi-Touch User Interface** on page 168 and **Gesture-Based User Interface** on page 10.

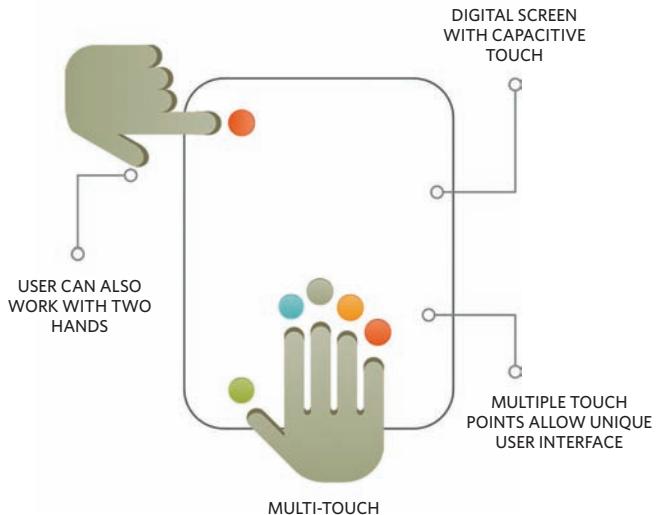
One-Touch User Interface

This concept, built for a capacitive touch screen, uses drag-like flick gestures to move in or out of the application menu. You can interact with a touch screen device with one touch (single point of interaction), and you can flick to interact with the user interface without lifting a finger.



83 Multi-Touch User Interface

A USER INTERFACE THAT ALLOWS FOR MULTIPLE, SIMULTANEOUS TOUCH INPUTS



Multi-touch uses a digital screen that recognizes two or more points of contact on the surface concurrently. It tracks the multiple points, allowing the interface to recognize gestures. This enables advanced functionality, such as flick, pinch-to-zoom, and more. Multi-touch uses capacitive touch screen technology for input.

Best Practices and Design Guidelines

- Innovate on simple user interaction
- Think logical for two-hand interaction
- Use simple flick gestures
 - Drag left, right, top, and down
 - Rotate, pinch in, and pinch out
 - Tap, double tap
- Have input-based interface, where user touches one point to open submenu

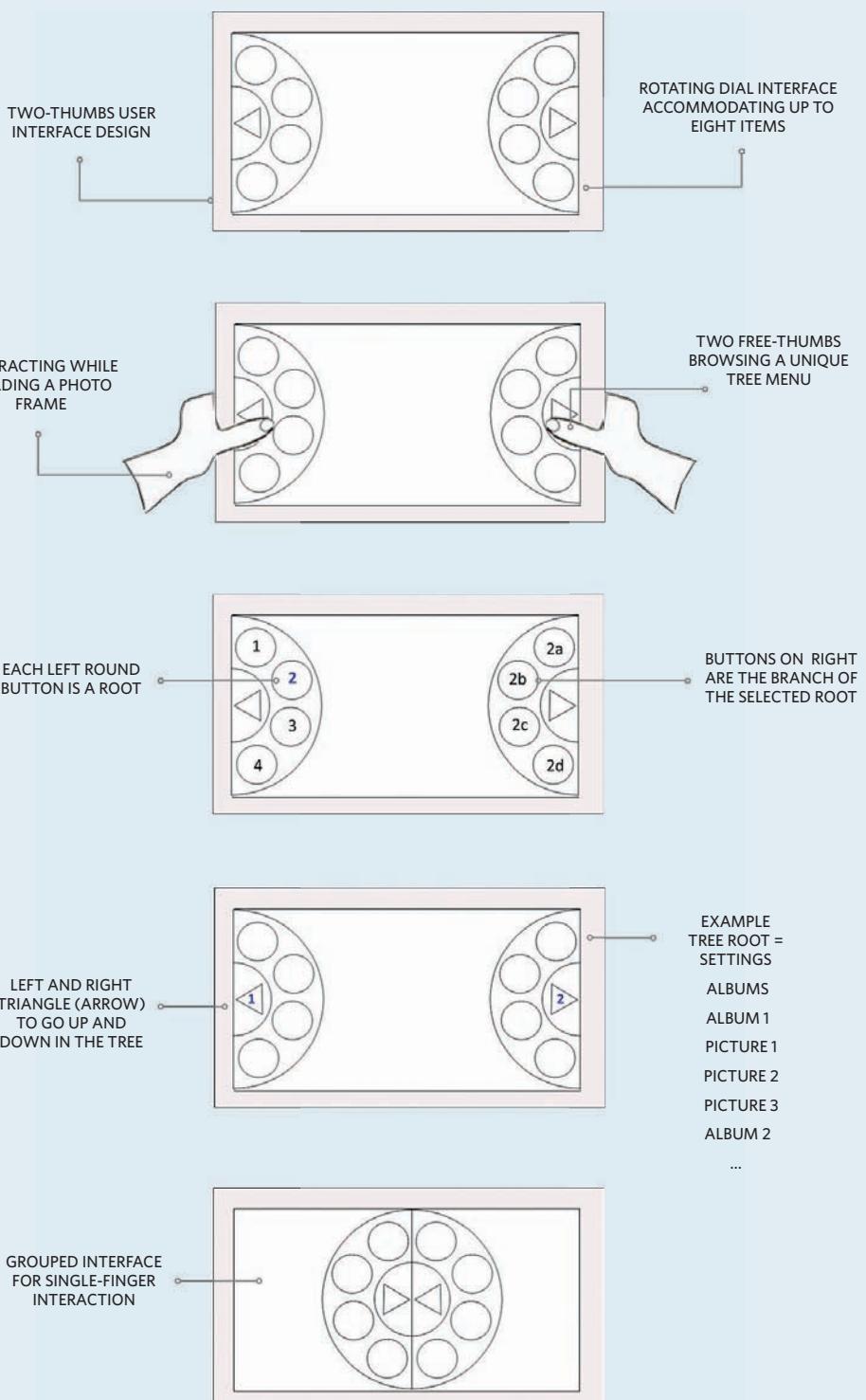
User Experience

- Use the fewest number of touch points (two or three) for interaction
- Avoid awkward interaction with multiple fingers
- Don't allow for ten-finger input just because you can
- Have innovative user experiences, which delights users

(+) See also **Touch User Interface** on page 166 and **Gesture-Based User Interface** on page 171.

Two Thumbs User Interface

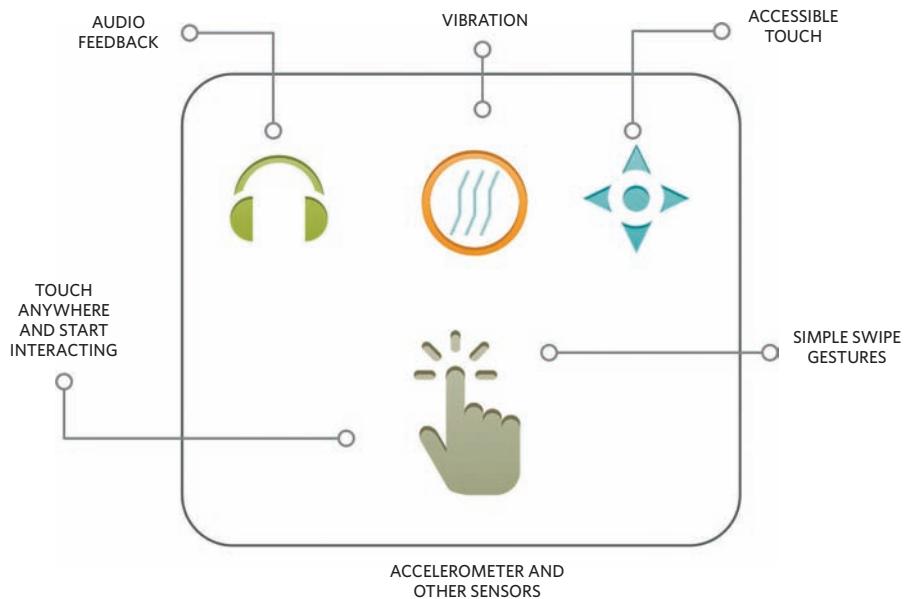
This is a user concept utilizing multiple inputs to interact with a digital photo frame. It allows for an unobtrusive view, and is best suited for two thumbs interaction. It uses a unique tree menu, where each menu item is in a rotating dial interface on the left side with a submenu on the right. The two thumbs interface uses multi-touch in a unique and effective way.



84 Accessible Touch User Interface



AN ACCESSIBLE INTERFACE FOR A TOUCH SCREEN



An accessible interface made for a touch screen device uses simple touch-based interaction, audio, haptic feedback (vibration), accelerometer, and other sensor technologies. Due to the lack of a tactile surface, it's difficult for a touch screen to create a Braille interface for the visually impaired. Other current solutions include screen readers, voice-recognition systems, and voice commands.

Best Practices and Design Guidelines

- Have the interface tailored for accessibility
- Have feedback at each step using audio and vibrations
- Use accelerometer and other sensors to support interaction
- Design the UI with a limited number of easy gestures

User Experience

- Target extreme simplicity and accuracy
- Use basic interaction
- Always announce context
- Use vibrations sparingly
- Use advanced sensors such as accelerometer to help interaction

(+) See also **Touch User Interface** on page 166 and **Gesture-Based User Interface** on page 171, and **Multi-Touch User Interface** on page 168.

Tap Interface

This UI concept for the visually impaired uses an interaction based on Morse code. The user taps on the device to interact. The device interacts back in the form of vibrations

(haptic feedback) and audio. The interface can be easily adapted for simplistic mobile devices, emergency calls in existing phones, MP3 players, radios, and remote controls.

TAP INTERFACE WITH AUDIO AND HAPTIC FEEDBACK

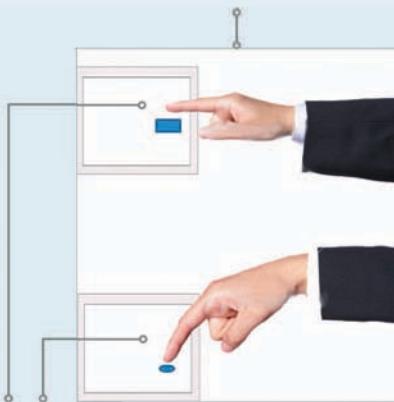


TAP HAS A LARGER SURFACE AREA; TIP IS SINGLE TOUCH

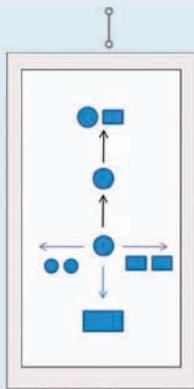
	Device Interaction	Morse code	Equivalent Morse	Proposed Command
1	Tip	●	E	Enter
2	Tap	—	T	Out
3	Tap Tap	— —	M	Move Next
4	Tip Tip	● —	I	Move Back
5	Tip Tap	● — —	A	Start/Yes
6	Tap Tip	— ●	N	Stop/No

SIX SIMPLE INTERACTIONS

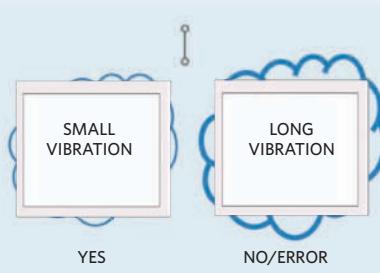
TWO INPUTS TAP AND TIP



COMBINATION OF TAP-TIP TO TRAVERSE MENU TREE

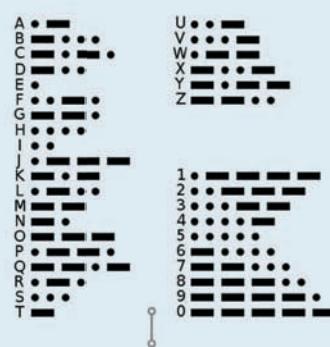


AT EVERY JUNCTION THERE IS AN AUDIO FEEDBACK



"Current Selection in Home"

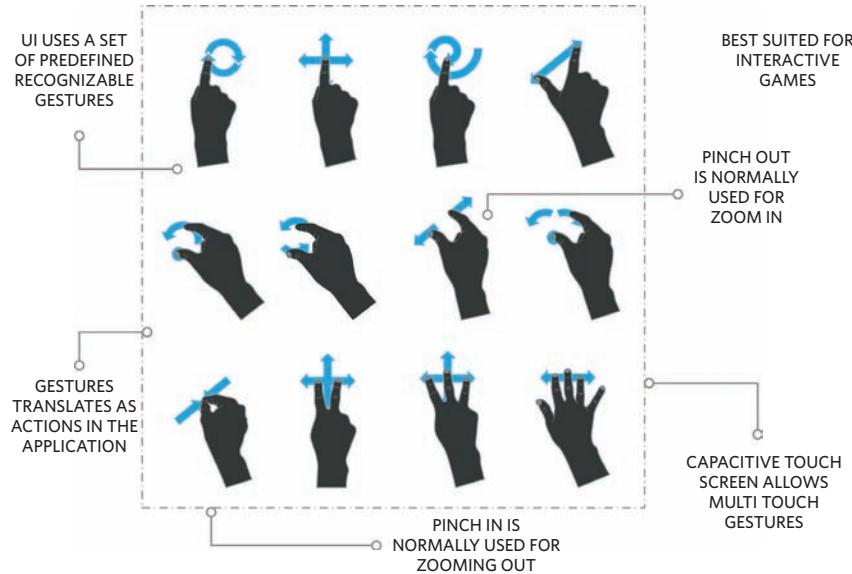
SAMPLE MENU FOR MOBILE DEVICE



CAN BE FURTHER EXTENDED USING MORSE CODE

85 Gesture-Based User Interface

AN INTERFACE UTILIZING TOUCH GESTURES TO INTERACT



This type of interface is made up of simple, recognizable gestures using one, two, or more fingers, where the user drags and creates symbols on the touch screen and the interface translates them into a standard command for the application. For example, a cross sign made by a finger can be translated as a delete action inside an application. Gesture-based user interfaces are very popular among interactive teaching apps and games.

Best Practices and Design Guidelines

- Have a set of predefined gestures for commands
- Give feedback on the command translation
- Help user interact with the app
- Specify a particular block of screen for gestures
- Have quick help on interactions like a control panel for games

User expectation from a gesture-based UI is interactivity.

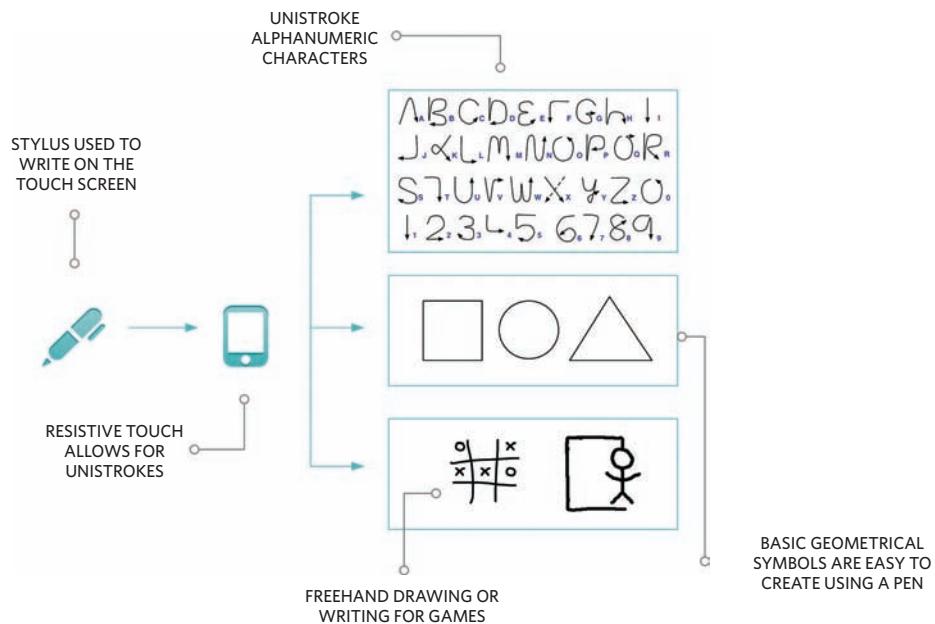
User Experience

- Keep it simple and fun
- Allow user to learn while interacting
- Use standard and familiar gestures, such as pinch out for zoom
- Use simple, recognizable gestures

(+) See also **Touch User Interface** on page 166 and **Multi-Touch User Interface** on page 168, and **Pen-Based Interface** on page 173

86 Pen-Based Interface

AN INTERFACE USING STYLUS-BASED INPUT



A pen-based interface uses a virtual pen to interact. Pen-based interfaces have been around since the earliest handheld devices and used stylus strokes on resistive touch screens to write. Modern capacitive touch screens can also simulate stylus-like behavior using conductor pens or finger touches. They are used for three types of applications: inputting text using handwriting recognition, also known as graffiti input; creating basic shapes and symbols; and drawing on the screen.

Best Practices and Design Guidelines

- Have auto-suggest feature for text input
- Teach users while they draw
- Show suggestions and possible output characters
- For games, map simple strokes to commands
- Allow a particular area in the interface for input

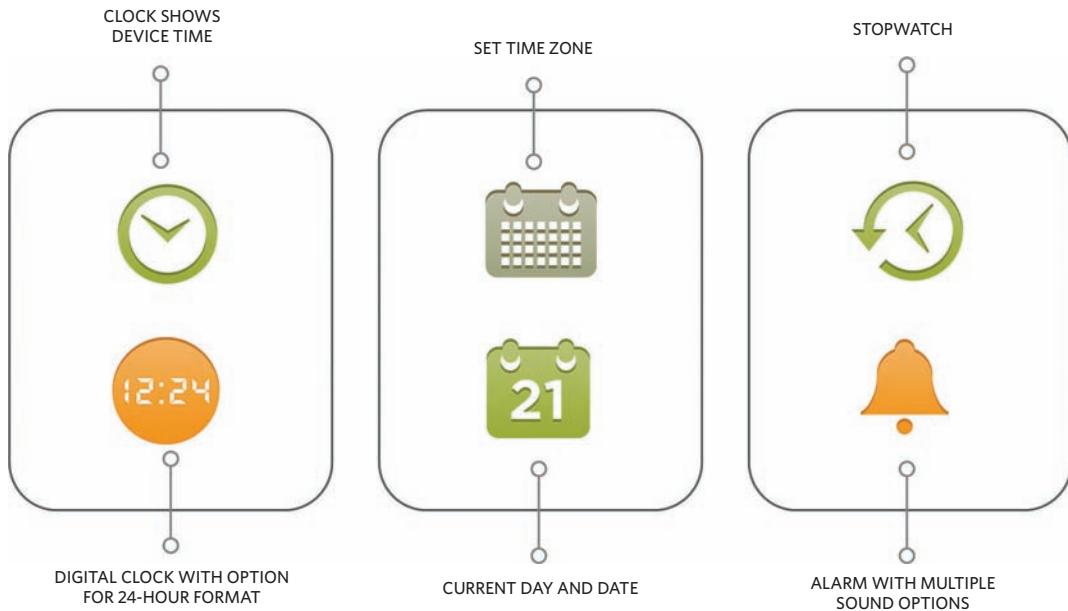
User Experience

- Use for quick utility such as note taking and fun drawing
- Use fuzzy logic to approximate shape
- Allow application to learn user input
- Have a forgiving interface with undo option
- Have auto-correction feature

(+) See also **Gesture-Based User Interface** on page 172 and **Touch User Interface** on page 166.

87 Mobile Clock App

A CLOCK UTILITY FOR MOBILE APPLICATIONS



A mobile clock is an application that mimics a traditional clock. It takes time data from the device and shows it in either digital format or as an analog clock. It features a number of related functionalities, including multiple time zones for different cities around the world, a stopwatch, and an alarm.

Best Practices and Design Guidelines

- Keep the design unique, useful, and aesthetic
- Allow for easy settings of time zone, alarms, etc
- Have settings for alarms and multiple sound types
- Format clock according to the target user
 - Sports clock may need milliseconds display
 - Artists may prefer analog clock with no numbers
 - Utility-based clock for stopwatch, world clock, etc

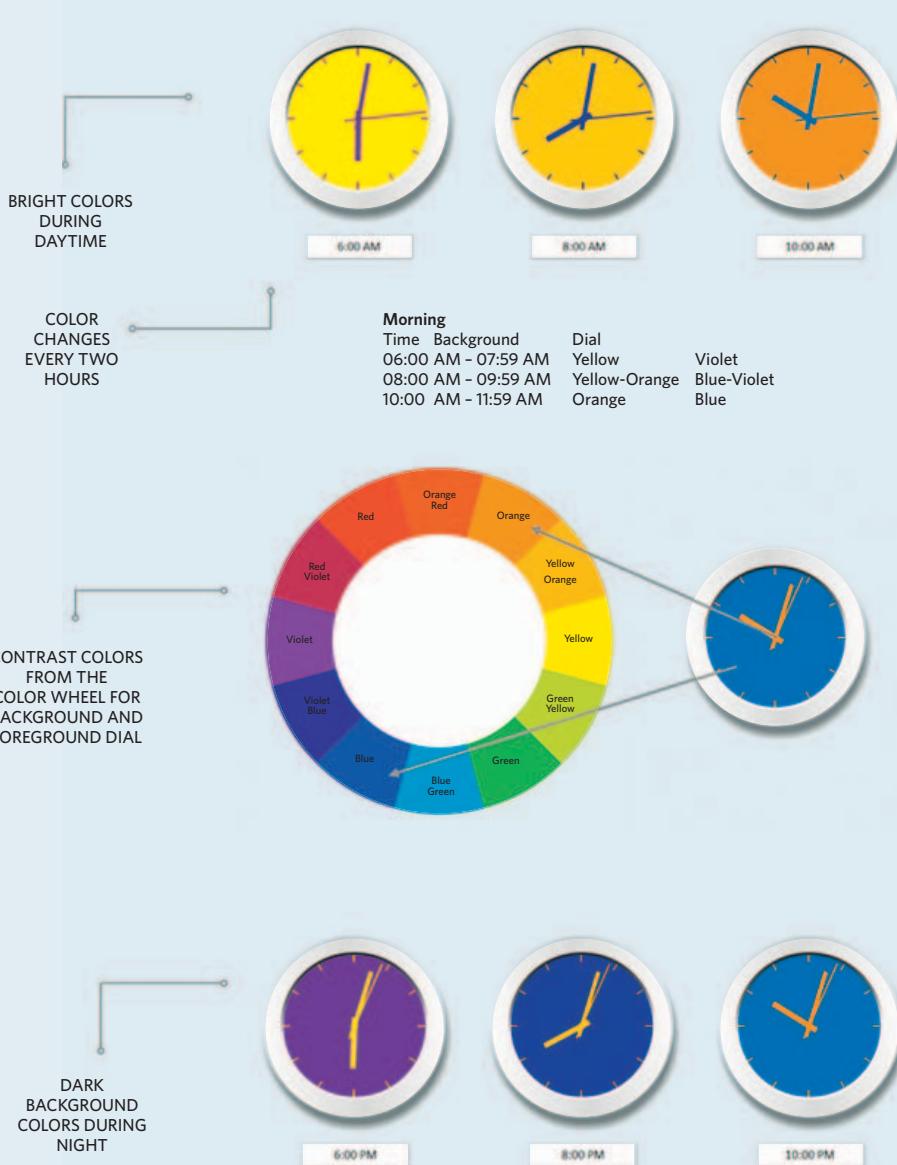
User Experience

- Create a clock that is easy to use and great to look at
- Provide large size for time display
- Keep the clock display simple and clear
- Have proper contrast between hour/minute hands and the background

(+) See also **World Clock App** on page 176 and **Information App** on page 132.

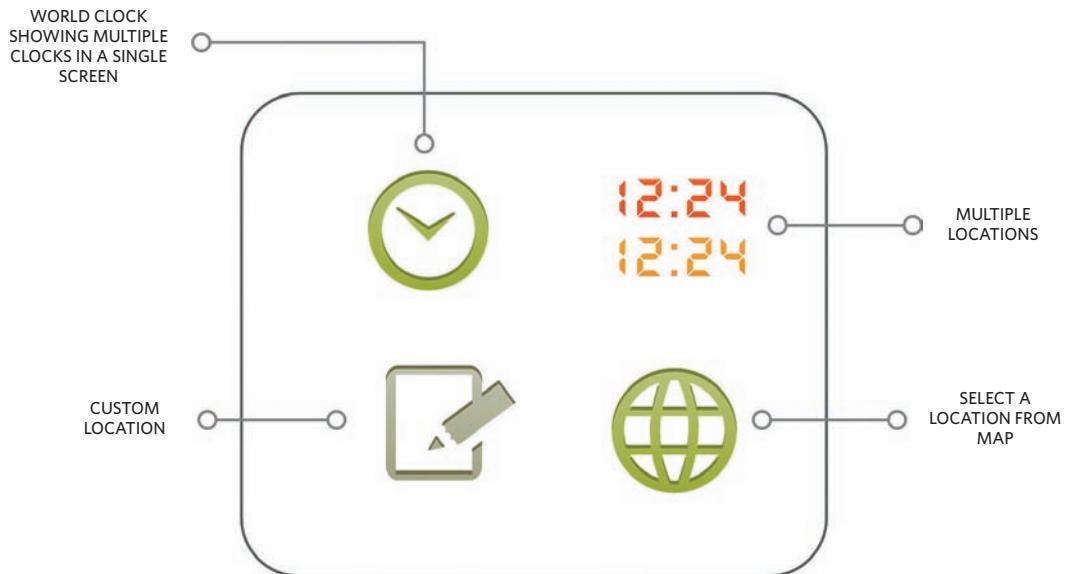
Colour Clock Concept

The Colour Clock is an aesthetic clock concept that changes color and sets the ambience based on the time of day. It provides a visual cue for the time and, because of the distinct color, a user can tell the time within a two-hour range just by looking at the color. The clock uses a twelve-color wheel to create a unique aesthetic experience for the viewer. It uses contrasting colors for the background and the dial at any particular instance.



88 World Clock App

A CLOCK APP THAT SHOWS THE TIME FOR MULTIPLE CITIES



A world clock is a special kind of clock that shows time zones for multiple cities at the same time. It is a handy tool for travelers and global teams. Instead of using multiple clock apps for multiple locations, a world clock app shows multiple time units in a single screen.

Best Practices and Design Guidelines

- Have a single screen display multiple times and cities
- Allow user to select a time zone from a list or a location from a map
- Save user preferences of cities
- Allow for daylight savings time change

User Experience

- Have simple and clear display of city and time
- Allow for customization

(+) See also **Information App** on page 132 and **Mobile Clock App** on page 174.

Mobile World Clock and New World Clock Concepts

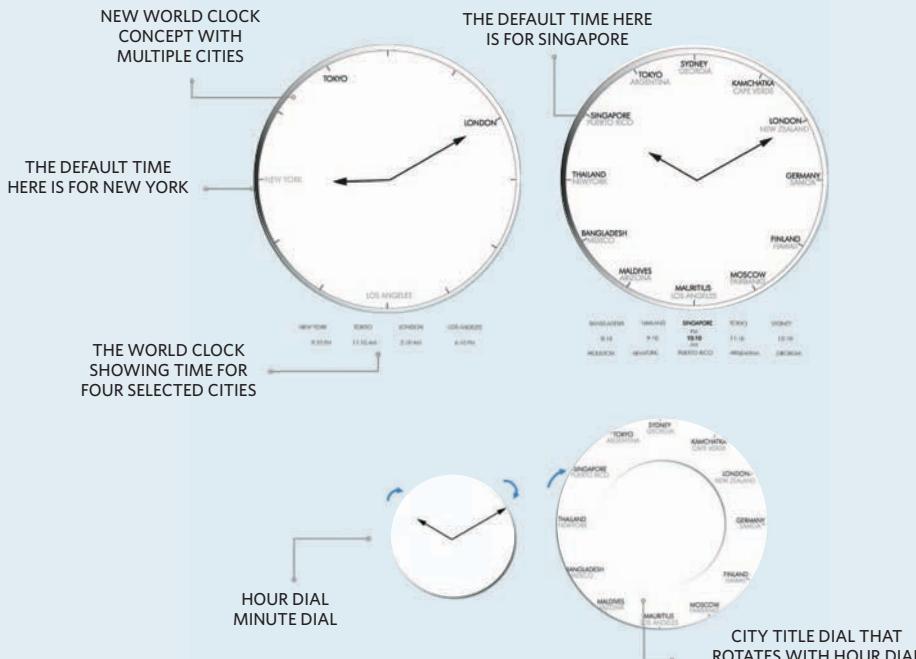
Mobile World Clock has a single screen display time for a list of cities. New World Clock shows the time for twenty-four cities around the world. The location of the city in the clock shows the time in hours for that city. The minute is shown on the minute dial. World Clock groups and plots two cities that are on a twelve-hour time difference at the same place, one above the other. Nighttime city title is dark and daytime is light. The hour dial points to the default city. The city dial moves every hour, moving all cities to their respective time.



SINGLE SCREEN
SHOWING
MULTIPLE
CLOCKS IN
DIGITAL
FORMAT

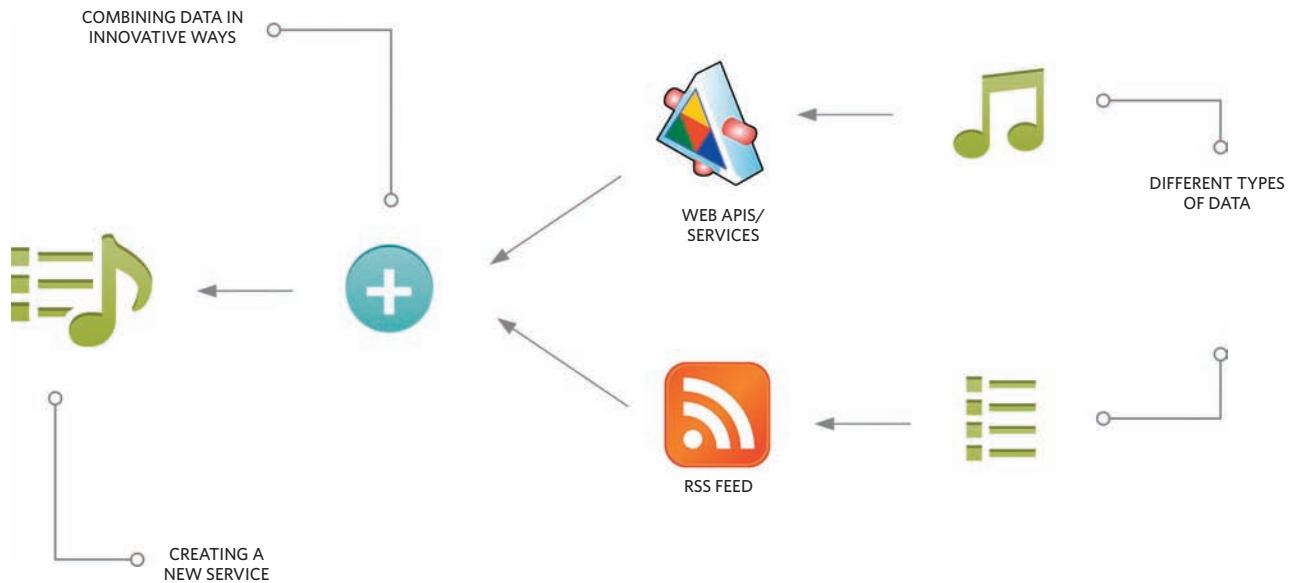
S.	Location A	TimeZone A	Time	PM/AM	Time	TimeZone B	Location B
1	London	UTC	12:00	PM/AM	00:00	UTC+12	New Zealand
2	Cape Verde	UTC-1	11:00	AM/PM	23:00	UTC+11	Kamchatka
3	Georgia	UTC-2	10:00	AM/PM	22:00	UTC+10	Sydney
4	Argentina	UTC-3	9:00	AM/PM	21:00	UTC+9	Tokyo
5	Puerto Rico	UTC-4	8:00	AM/PM	20:00	UTC+8	Singapore
6	New York	UTC-5	7:00	AM/PM	19:00	UTC+7	Thailand
7	Mexico	UTC-6	6:00	AM/PM	18:00	UTC+6	Bangladesh
8	Arizona	UTC-7	5:00	AM/PM	17:00	UTC+5	Maldives
9	Los Angeles	UTC-8	4:00	AM/PM	16:00	UTC+4	Mauritius
10	Fairbanks	UTC-9	3:00	AM/PM	15:00	UTC+3	Moscow
11	Hawaii	UTC-10	2:00	AM/PM	14:00	UTC+2	Finland
12	Samoa	UTC-11	1:00	AM/PM	13:00	UTC+1	Germany

COORDINATED UNIVERSAL TIME (UTC) FOR 24 CITIES AROUND THE CLOCK



89 Mashup App

A WEB APP THAT COMBINES DATA FROM MORE THAN ONE WEBSITE



A mashup app uses web APIs of online services to mix data and functionality in a unique and innovative way to create new services. A number of mashups use a map for plotting remote data, for example, pricing data on gasoline on top of a map service to find the lowest gas prices near you.

Best Practices and Design Guidelines

- Have a single-purpose, focused application
- Allow gathering of real-time data from disparate sources
- Have option to personalize data for the user
- Have customization option based on user preferences
- Use a common UI to showcase the combined data

User Experience

- Create a new and personal experience
- Associate data with the user
- Show something dynamic and interesting
- Keep the app responsive

(+) See also **Ajax Web Application** on page 114 and **Service-Oriented Architecture (SOA) Design** on page 122.

Tastebuds.fm

A music, dating, and social network for music lovers, Tastebuds.fm is a simple mashup app with the unique idea that people with similar music choices could “connect” with each other. It uses web APIs from Last.fm to search for artists, albums, songs, etc, and matches people with similar interests. It also uses Facebook login API to integrate with the social network.

A DATING MASHUP APP
BASED ON LAST.FM APIS
AND FACEBOOK APIS

USES
FACEBOOK
LOGIN APIS

TASTEBUD.FM GIVES SOCIAL
NETWORK EXPERIENCE AMONG ALL
YOUR POTENTIAL DATES

TASTEBUD.FM
MATCHES YOUR
INTERESTS WITH
PEOPLE

Favourite artists: Aerosmith, Audioslave, Britney Spears, My Chemical Romance, Tokio Hotel, and Tom Jones

[View her profile](#)

[View her profile](#)

[View her profile](#)

ADD YOUR MUSIC INTEREST TO
CONNECT WITH LIKE-MINDED PEOPLE

Add Your Music

Type in some of your favourites bands or artists, separated with commas.

The Doors, Beatles

[View your matches](#)

Your Profile

Edit Profile

Logout

Contact

[tastebuds.fm/welcome/mu...](#)

...

PandaSaysDontPanic updated her profile song
8 days ago



PandaSaysDontPanic signed up to Tastebuds
8 days ago

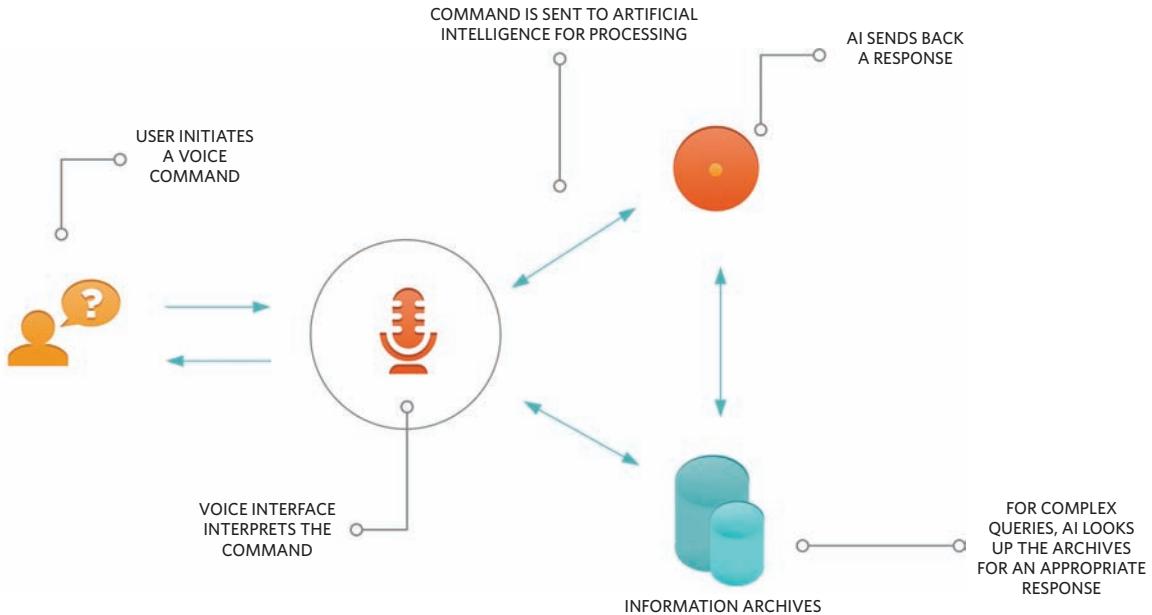
She is 25 years old, Filipino, 5' 4" (163cm), from Santa Cruz, United States



[tastebuds.fm/home](#)

90 Voice User Interface

AN INTERFACE TO A SPEECH-BASED APPLICATION



A voice user interface allows users to interact with a speech application in an efficient way. The speech application is made of multiple components, including voice-to-text conversion, artificial intelligence, and archives of information. These all work together to formulate an easy-to-understand response for the user. Voice user interface is commonly used in computer games, mobile commands, and search functions.

Best Practices and Design Guidelines

- Have a simple, clutter-free user interface for voice input
- Perfect most commonly used commands
- Use the context for the voice commands
- Show the user voice-to-text conversion
- Give visual feedback on listening mode
- Have a two-way dialogue with user to refine the result

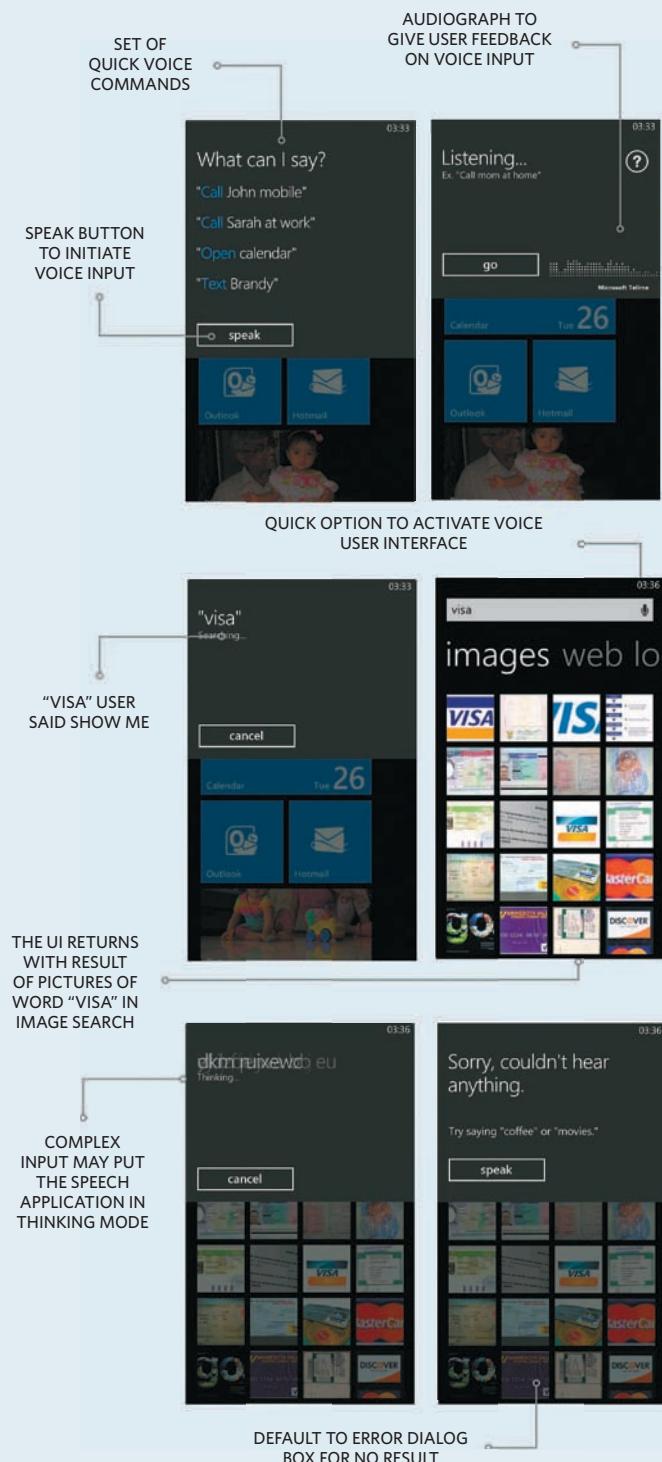
User Experience

- Target for assisting users with the most-accurate interpretation
- Make it easy to use with simple and concise commands
- Allow refining of result
- Try for a hands-free experience

+ See also **Interactive Voice Response (IVR) System** on page 38 and **Mobile Phone App** on page 128.

Voice User Interface in Lumia 900

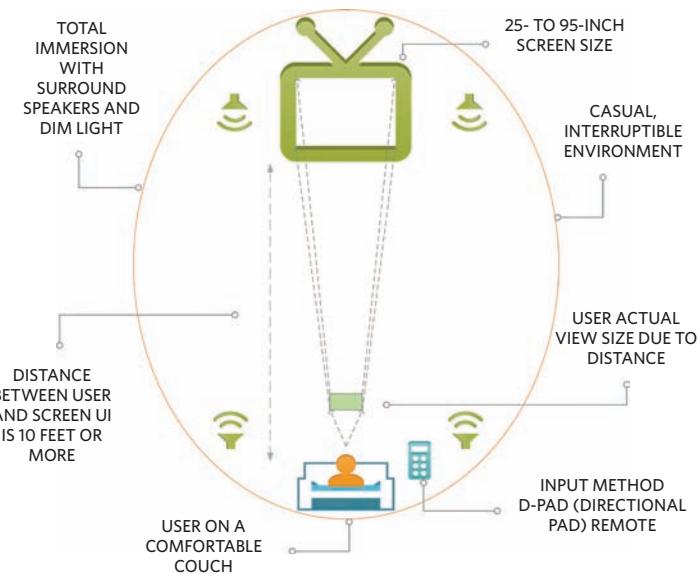
The Lumia 900 phone comes with a voice user interface that allows users to speak to the phone for quick commands and search functions. A long press on the Windows button activates the voice user interface, which shows some basic examples of voice commands and initiates the voice input when the user clicks on the Speak button. The voice is then converted into text and the appropriate command is activated.



91 10-Foot User Interface



A USER INTERFACE FOR LARGE-SCREEN TELEVISIONS



A 10-foot user interface helps you interact with a television using a remote input. The large distance between the television and the user requires a careful design, unlike computers or mobile devices, where the distance is 1 to 2 feet.

Best Practices and Design Guidelines

- Use full-screen UI for total immersion with horizontal page scrolling
- Use high-quality scalable vector graphics
- Utilize aspect ratio 4:3 or 16:9 and use high-definition 720P/1080P
- Avoid paragraphs of text—use single-line headings for titles and captions
- Use large anti-aliased sans serif fonts with minimum size of 18 points on 720P and 24 points on 1080P
- Use dark colors for fonts, which are more readable on the television, and avoid bright colors
- Have lines with a minimum of 2 points thickness and a 1-inch margin between text, images, etc

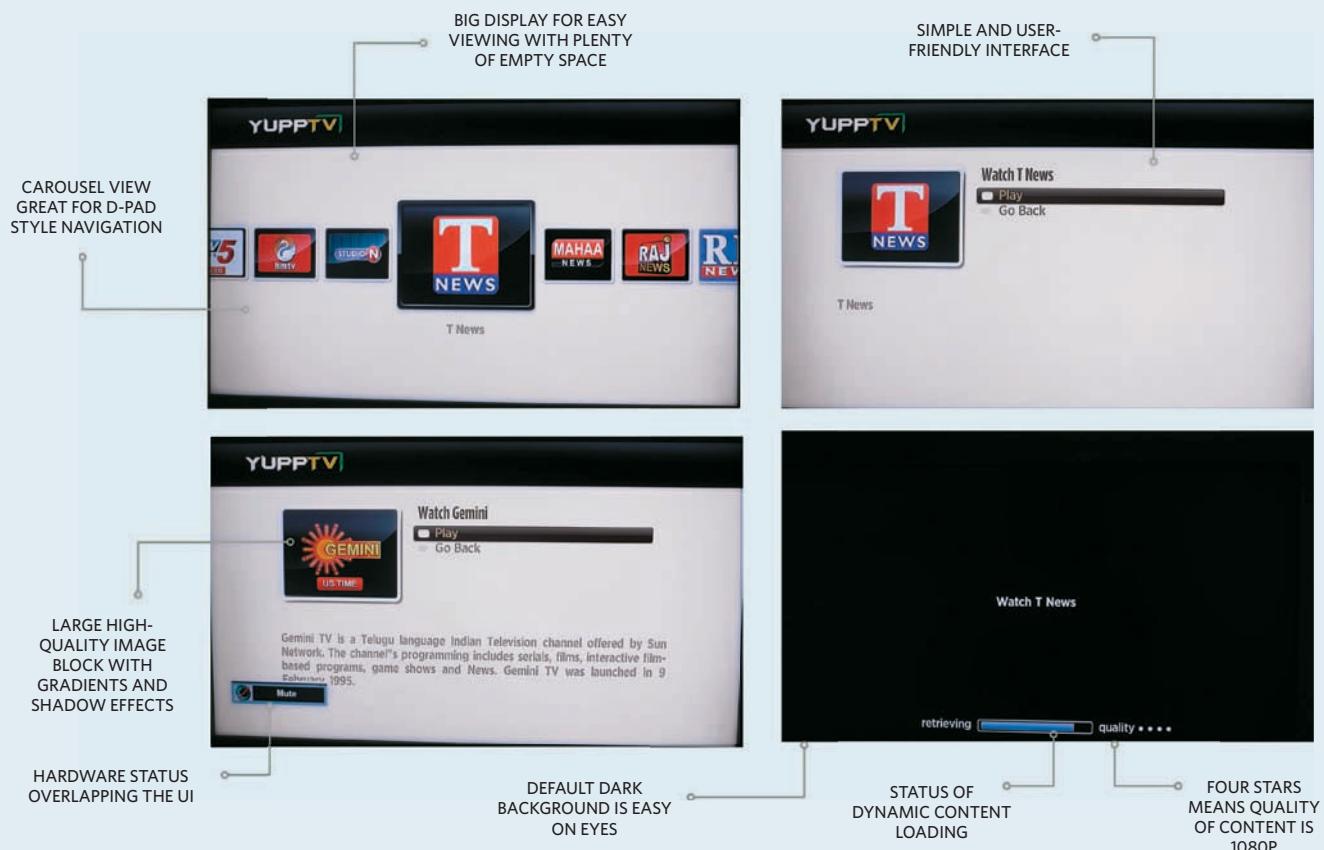
User Experience

- Use multimedia-type controls on television, such as rewind, forward, fast forward, and pause
- For total immersion, use darker background, which emits less light and is easy on the eyes
- Avoid complex interactions, touch screens, mouse, or keyboard-based entry
- Use visual cues and update user when loading dynamic content

(+) See also **Dashboard/Scorecards** on page 32 and **Rich Internet Application (RIA)** on page 96.

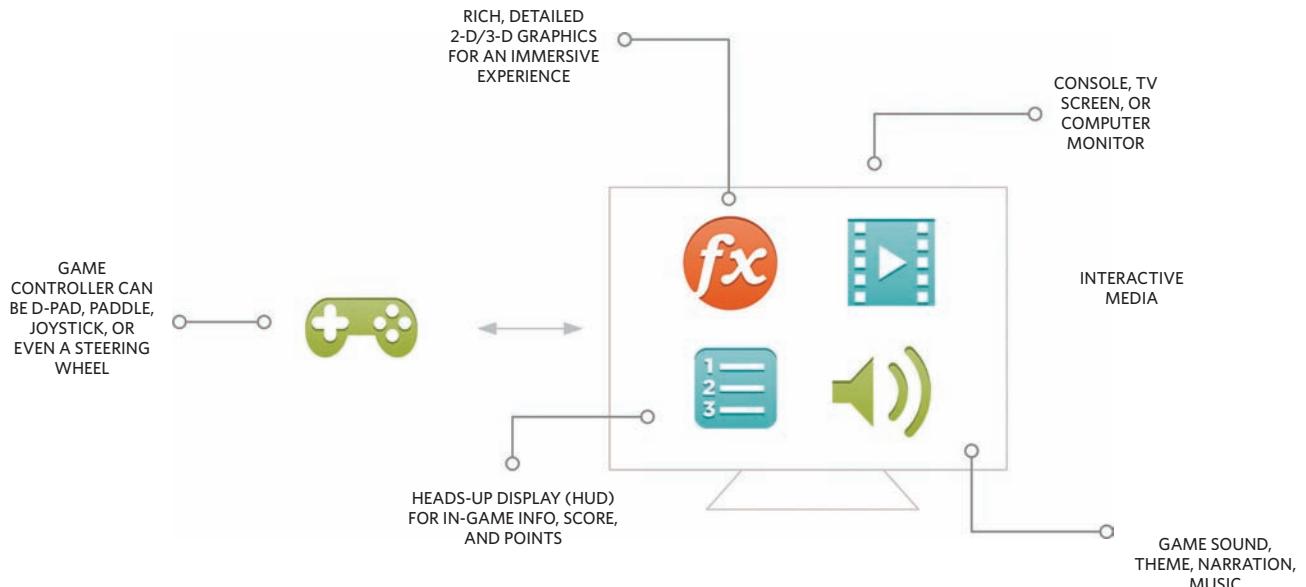
CASE STUDY
YuppTV Channel

YuppTV in Roku player is an Internet television channel. The user interface has a simple and user-friendly 10-foot interface for playing content.



92 Games UI

A USER INTERFACE FOR CONSOLE GAMES



A console game is an interactive, multimedia-rich, video game application, normally played on high-definition televisions with large screens. It strives for a cinema quality with detailed graphics and features refined storytelling techniques for an immersive experience, which draws a player into a rich and complex game world. The user plays on the screen using a joystick or a wireless controller.

Best Practices and Design Guidelines

- Have action interface mapped with the controller buttons and sensors
- Use heads up display (HUD) for in-game information
- Have multiple feedback systems using graphics, audio, and vibrations
- Have third-person interface to create an illusion of peripheral vision and movielike experience
- Create controller-based actions and prefer D-pad navigation
- Use advanced sound effects for narration, game theme, sound, and music

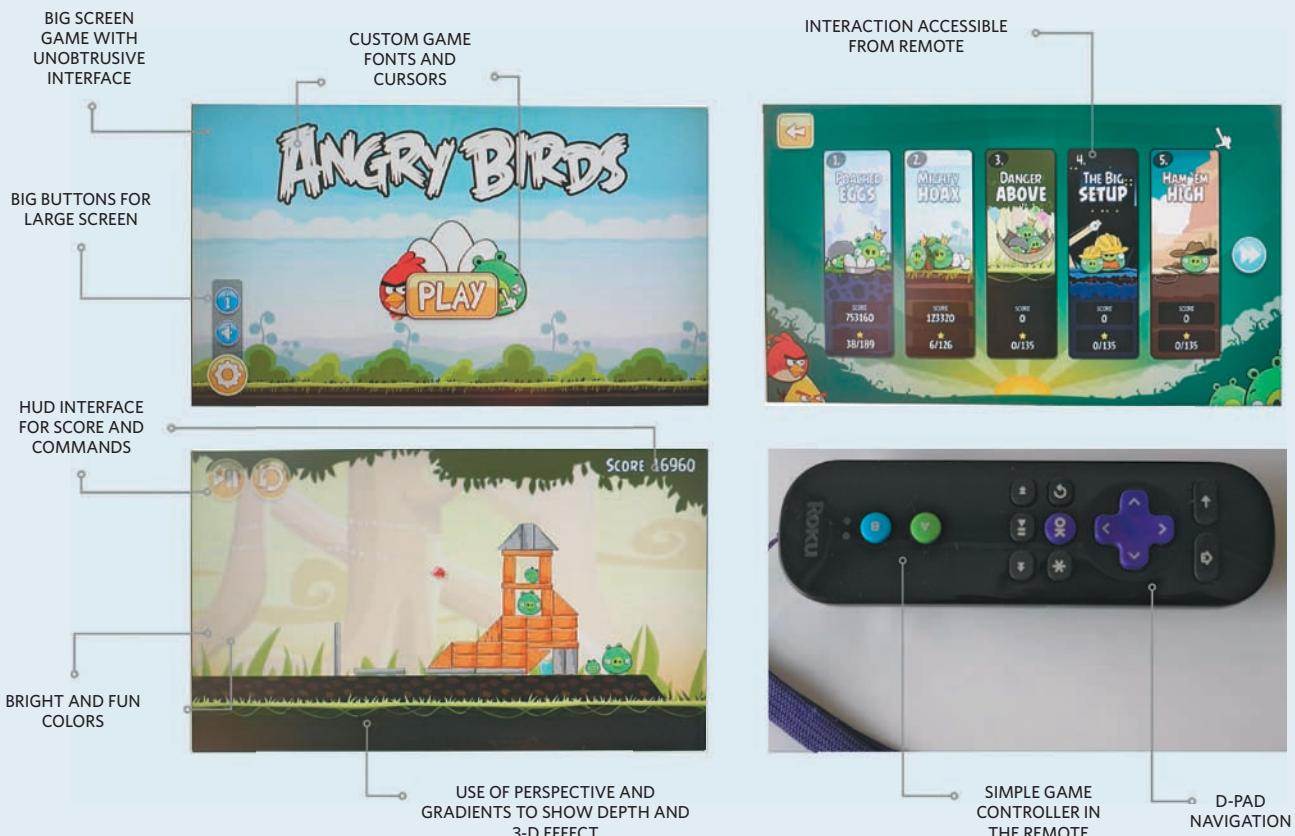
User Experience

- Use minimum textual information and use standard visual icons
- Use high-quality graphics and fast 3-D rendering
- Have typography match the game theme
- Use bright colors and responsive UI elements
- Have multiple views for the game: God view, camera view, and player view

(+) See also **10-Foot User Interface** on page 182 and **Mobile Game App** on page 144.

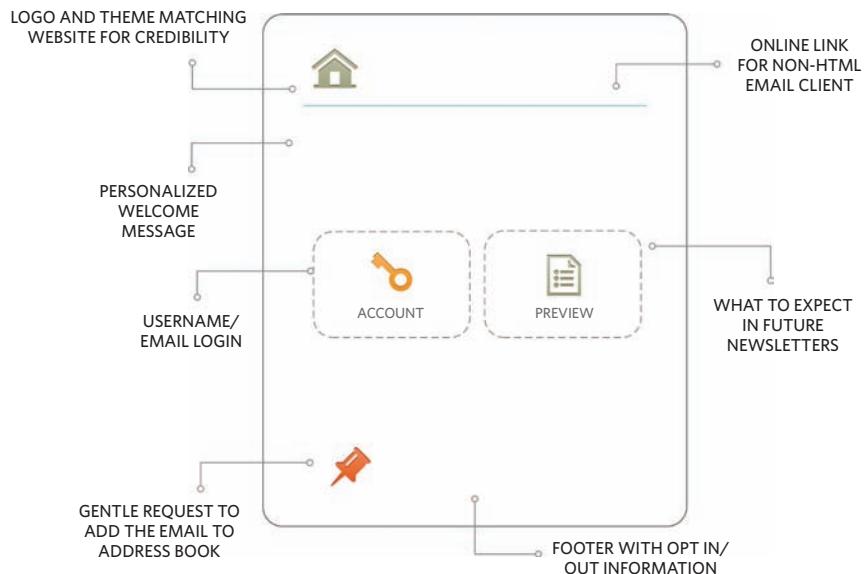
An Angry Birds Roku TV Version

Angry Birds is a popular console game with rich graphics and a great interactive experience. It uses the Roku player's customized remote as a controller and other game commands.



93 Welcome Email

THE FIRST EMAIL SENT TO A SUBSCRIBER



A welcome email confirms a subscriber to an online service. The service can be a free subscription to discounts, coupons, articles, or paid services such as website hosting or e-zines. The welcome email is the starting point of an opted-in communication and gives a preview of coming newsletters.

Best Practices and Design Guidelines

- Welcome the subscriber with login information
- Use HTML-rich formatting for good design with a minimum of images
- Keep it CAN-SPAM compliant
 - Clearly identified sender with name
 - Relevant subject line (check for spam words)
 - A method for opting out (unsubscribe option)
 - Clear intention and content
 - Valid physical address
- Have link to account information, support, and privacy policy

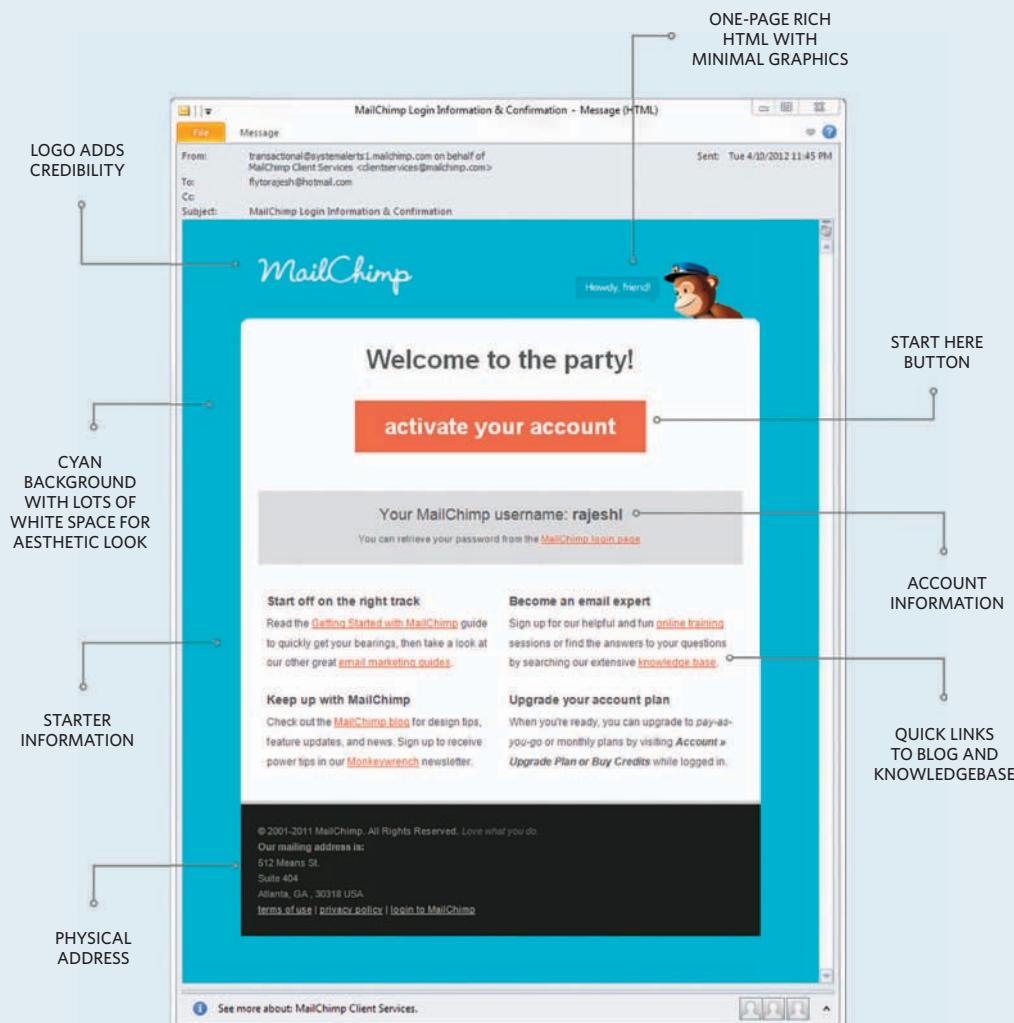
User Experience

- Keep the welcome email one page long, preferably in one column
- Help users/first-time subscribers get started with the service
- Request to add email address to safe sender list
- Avoid banner ads and special promotions
- Use color and font formatting to create distinguishable blocks of information

(+) See also **Email Marketing Campaign** on page 188 and **Email Newsletter** on page 190.

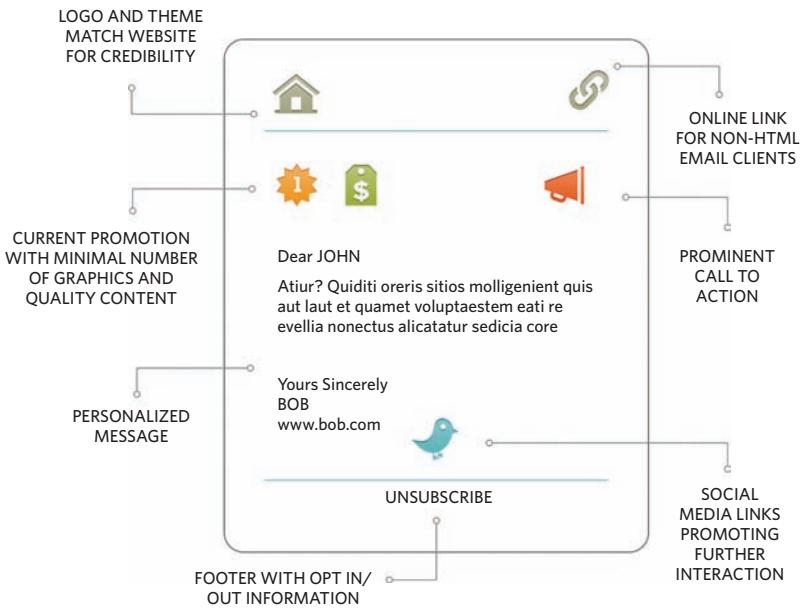
MailChimp.com Welcome Email

MailChimp.com provides an online service for email marketing. It uses a single-column layout for content, with rounded corners. The design uses rich HTML with only two graphical images for the logo and the mascot, which adds credibility to the email.



94 Email Marketing Campaign

AN EMAIL PROMOTING A PRODUCT, A SERVICE, OR AN EVENT



An email marketing campaign is the process of sending emails to a large group of people with promotional ads to sell products or services. It is an individual marketing message sent for a specific purpose and contains an electronic flyer of the current promotion. The email is targeted to subscribers/existing customers as well as potentially new customers who have opted in for the promotion.

Best Practices and Design Guidelines

- Use an HTML table with little inline CSS for the layout
- Use one-column fluid layout, for fixed width, with no more than 600 pixels
- Use a strong subject line with something definitive—avoid selling
- Provide a link for non-HTML email clients and include an unsubscribe option

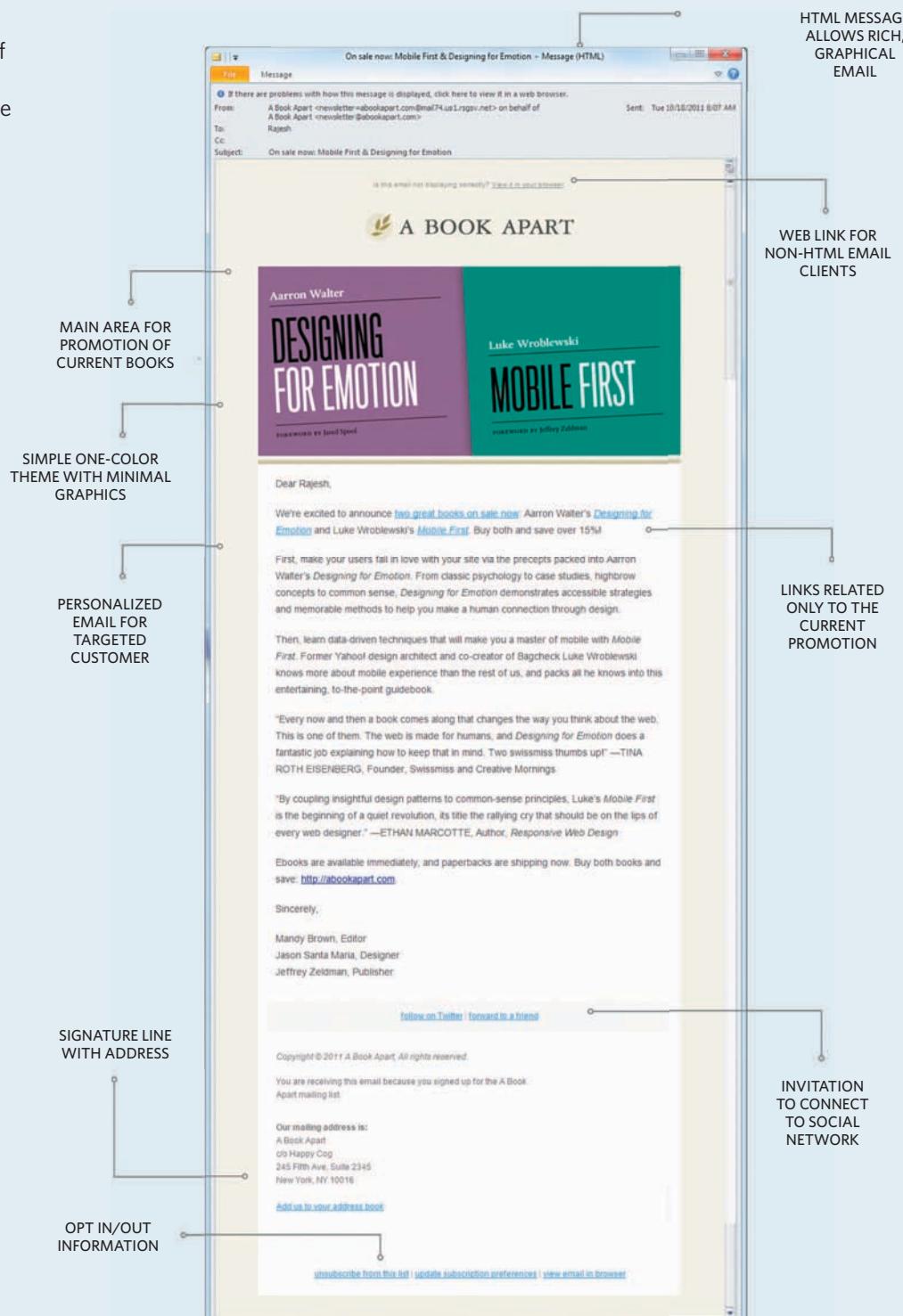
User Experience

- Keep the email low on images with short paragraphs
- Make your message clear and easy to read
- Use font formatting and table background colors to add richness to the content
- Keep important message at the top for preview pane of email client to 500 pixels
- Avoid video, Flash, and animated GIFs

(+) See also **Homepage** on page 54 and **Email Newsletter** on page 190.

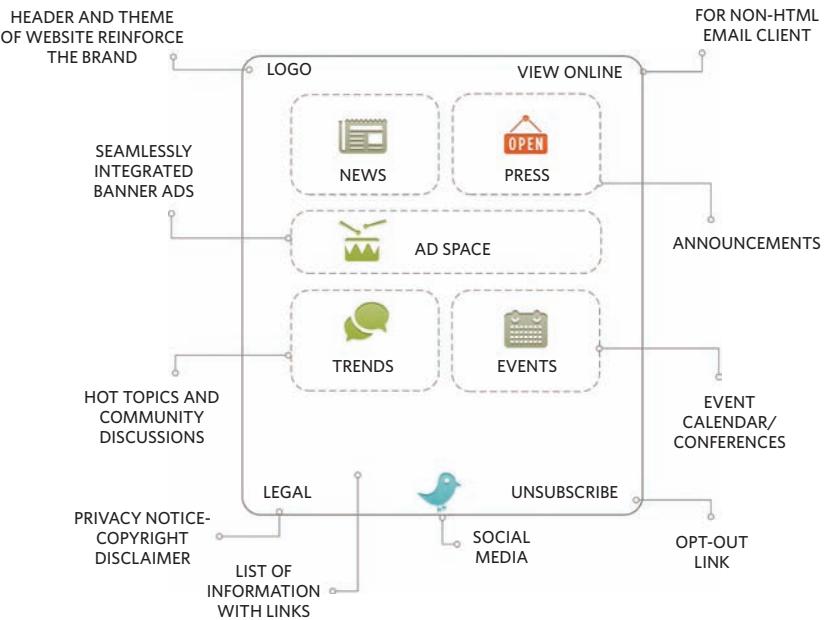
A Book Apart Email Campaign

The email campaign of A Book Apart is aesthetic and focused. The campaign is targeted to designers with two current promotional books. It includes a clear website URL, a physical address, and an unsubscribe option at the bottom of the toolbar.



95 Email Newsletter

A PERIODIC EMAIL SENT TO SUBSCRIBERS WITH INTERESTING AND NEWSWORTHY CONTENT



An email newsletter allows online entities to send announcements, press releases, news of events, product launches, and other promotions to customers on a continual basis using email. It helps maintain a relationship with existing subscribers, focuses on brand awareness, and drives website traffic.

Best Practices and Design Guidelines

- Emphasize company brand and use consistent colors from website
- Have one-page, rich email with blocks of information
- Keep it visually engaging with minimal number of optimized images
- For a long newsletter, use a table of contents with anchors
- Keep space for banner ads and affiliate marketing
- Have links to view online, unsubscribe, and see privacy policy and copyright information

User Experience

- Keep the e-newsletter under 100K in size
- Use an HTML table for layout with white space on both sides
- Use headers and titles for easy skimming
- Minimize use of special characters that may not display properly
- Include full URL; if possible, shorten the URL
- Avoid background color, images, and advanced CSS styles

(+) See also **Email Marketing Campaign** on page 188 and **Welcome Email** on page 186.

American College of Radiology Newsletter

The American College of Radiology newsletter theme is simple with a white background. It uses multiple blocks of formatted content with few images, and uses font formatting and color to separate blocks of data.

WHITE SPACE WITH WIDE BORDER GIVES DEFINITE STRUCTURE TO THE NEWSLETTER

COLORED FONTS FOR HEADER AND EASILY DISTINGUISHABLE BLOCKS

GOOD CONTRAST WITH WHITE BACKGROUND AND ACCESSIBLE TEXT

VIEW ONLINE OPTION

LOGO AND DESIGN FOR BRAND BUILDING

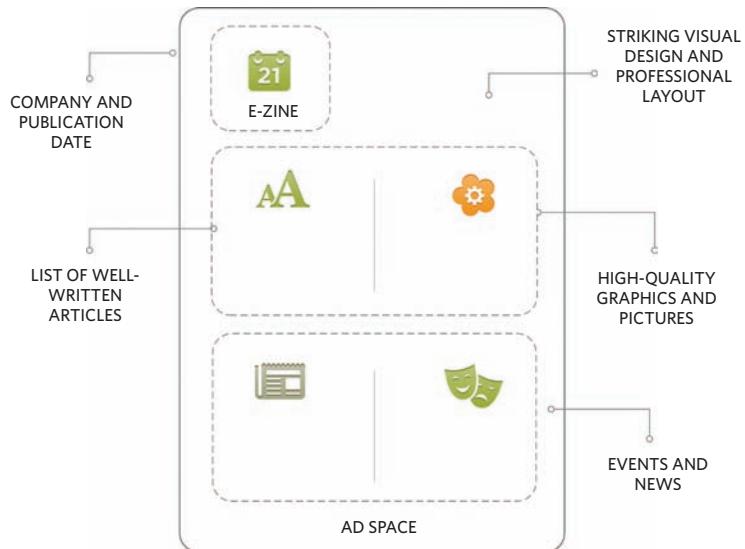
BLOCKS OF FORMATTED INFORMATION WITH MINIMAL GRAPHICS

PHYSICAL ADDRESS PER CAN-SPAM REGULATIONS

SOCIAL SHARING OPTION

96 E-zine

A MINI ELECTRONIC MAGAZINE WITH INFORMATIVE ARTICLES SENT TO SUBSCRIBERS ON A REGULAR BASIS



An e-zine (electronic fanzine) contains well-written articles, helpful information, news, and current trends on a specific topic. It is professionally laid out and edited as an electronic magazine and contains rich graphics and images. E-zines focus on quality original content on a specific topic.

Best Practices and Design Guidelines

- Use clean design and include a table of contents for date of publication
- Use professional graphics for rich look and feel
- Use professional layout for articles with author names and contact information
- Have clear banner ads or space for affiliate marketing
- Keep the email CAN-SPAM compliant and include a privacy statement
- Have a section for upcoming news and events

User Experience

- Focus on quality of the editorial content along with the layout
- Include complete articles
- Keep it a reliable source and publish at the same interval
- Allow the user to print and read offline
- An e-zine is a mini magazine, so keep it between five to ten pages

(+) See also **Email Marketing Campaign** on page 188 and **Email Newsletter** on page 190.

Bellwood Chamber E-zine

This example shows how the Chamber of Commerce of Bellwood Chamber University uses a monthly e-zine to reach out to its subscribers. It has a set of small original articles on current trends and news at the Chamber of Commerce. The layout is very professional with high-quality images.

STRIKING VISUAL DESIGN WITH LOTS OF GRAPHICS

MONTHLY PUBLICATION

PREMIUM WELL-WRITTEN AND EDITED CONTENT

RICH LAYOUT WITH HIGH-QUALITY PICTURES

SET OF SMALL ARTICLES TARGETED TO SUBSCRIBERS

NEWS ABOUT UPCOMING EVENTS

MAGAZINE-STYLE THREE-COLUMN LAYOUT

ADVERTISEMENT SPACE

BELLWOOD CHAMBER E-ZINE

April 2012

Bellwood Chamber E-zine

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Message from the President

Planning the next alternative vacation

Hard work, big payoff

Grants and Awards Showcase

Career Services Presents Quarterly Career Fair

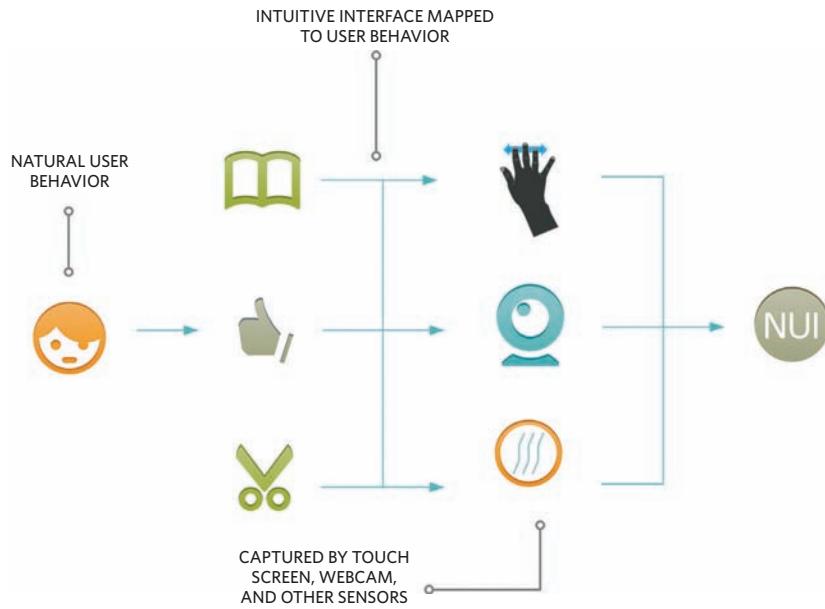
EVENT DETAILS

ADVERTISING

97 Natural User Interface



AN INTERFACE THAT CREATES INTERACTION BASED ON EVERYDAY BEHAVIOR OF USERS



A natural user interface (NUI) is an evolution of the graphical user interface to a more seamless interaction between users and computers. NUI uses natural gestures to interact with applications, as a user would do with a physical object. For example, a gesture to turn a page of a book feels natural on a capacitive screen using multi-touch. NUI can be implemented using touch, gestures, speech, and motion sensors.

Best Practices and Design Guidelines

- Create interface using the natural behavior around the compared physical activity
- Use advanced hardware to map the natural gesture to the interaction
- Allow for learning and self-discovery
- Allow interaction with the content directly
- Keep the interface real time and reactive

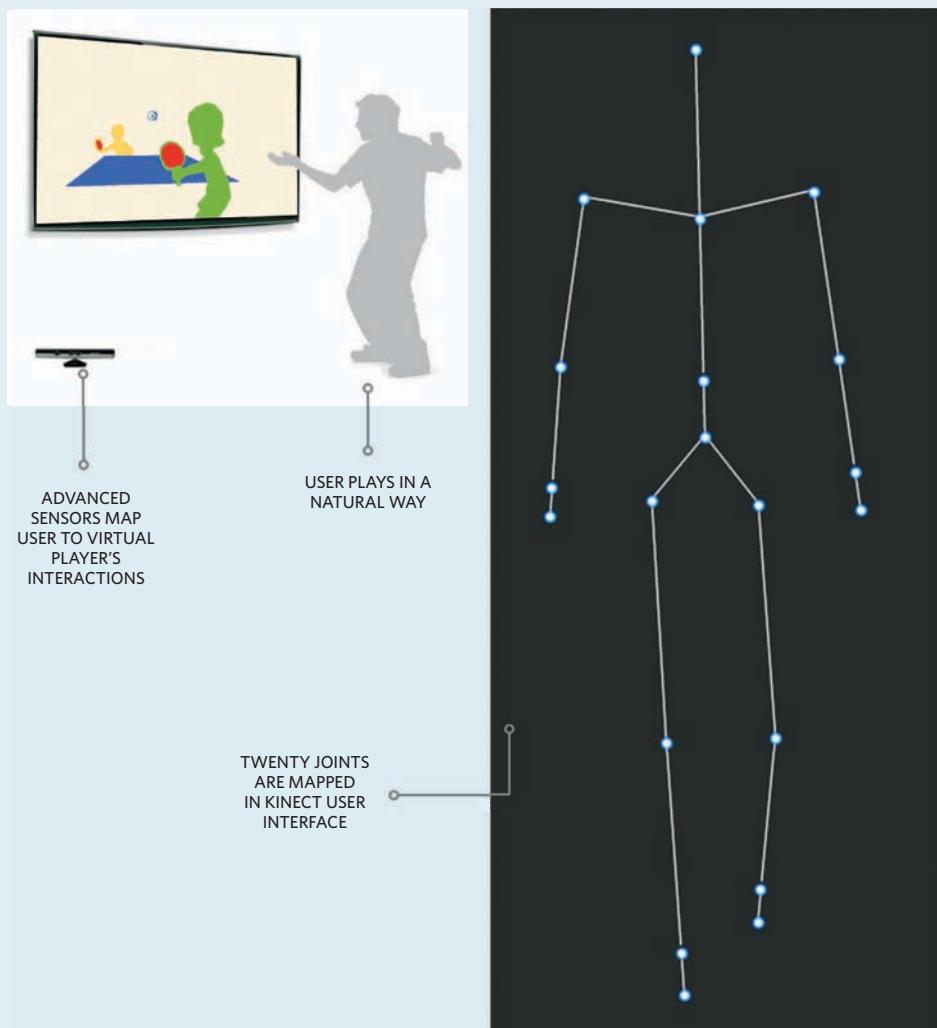
User Experience

- Translate key gestures from everyday usage as an interaction
- Have specialized interface based on individual application
- Keep simple and memorable interaction for frequently used items
- Delight user with a seamless and natural interface
- Keep it intuitive and simple

(+) See also **Natural Language Interface** on page 196.

Microsoft Xbox Kinect Sports Game

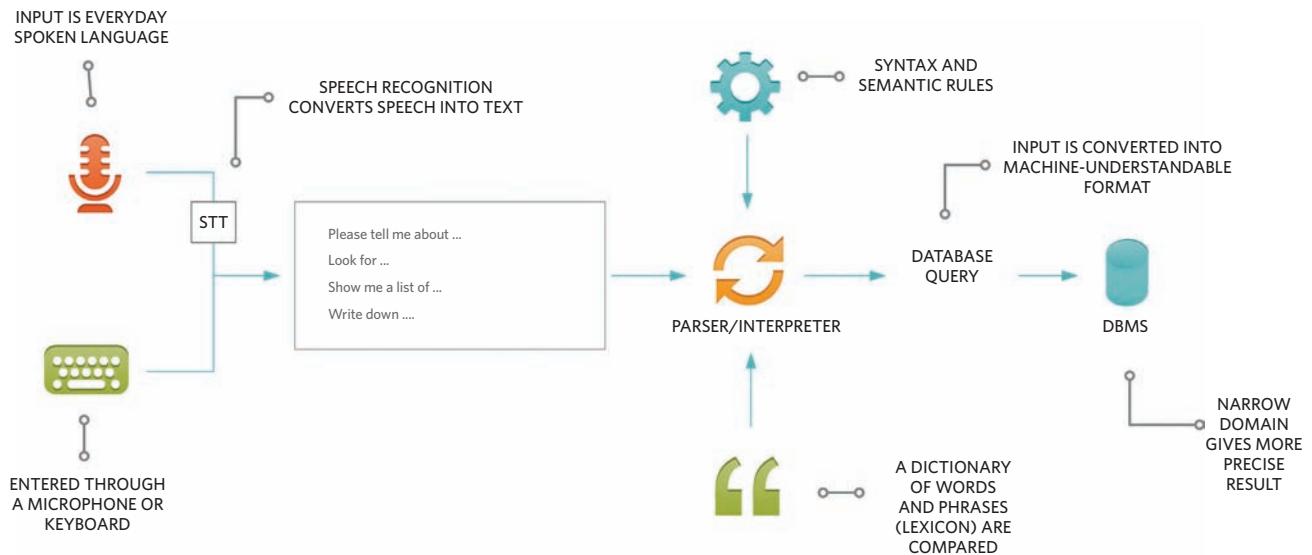
The Microsoft Xbox Kinect Sports Game console uses a unique remote control to play the game: the user himself. The user stands in front of the console and maps his body to the software. For a table tennis game, the user assumes he has a virtual paddle and plays in front of the console as if he were playing with an opponent. Microsoft Xbox Kinect uses range cameras and voice-processing technologies to track complex movements and gestures that make this possible.



98 Natural Language Interface



AN INTERFACE THAT USES SPOKEN LANGUAGE TO INTERACT



A natural language interface (NLI) allows a user to interact with a system utilizing a written or spoken language such as English. Everyday phrases, questions, and requests become the commands for the application to query the database. The natural user interface is used in automatic speech recognition (ASR) systems, search applications, dictations, and note-taking applications. NLI works very well when implemented within a specific knowledge domain.

Best Practices and Design Guidelines

- Keep the interface input driven
- Create specialized commands for the application
- Keep ability to teach phonetics, language, and individual style
- Give feedback and show intermediate results
- Give suggested results when no result is retrieved
- Have help screen for most commonly needed phrases and usage

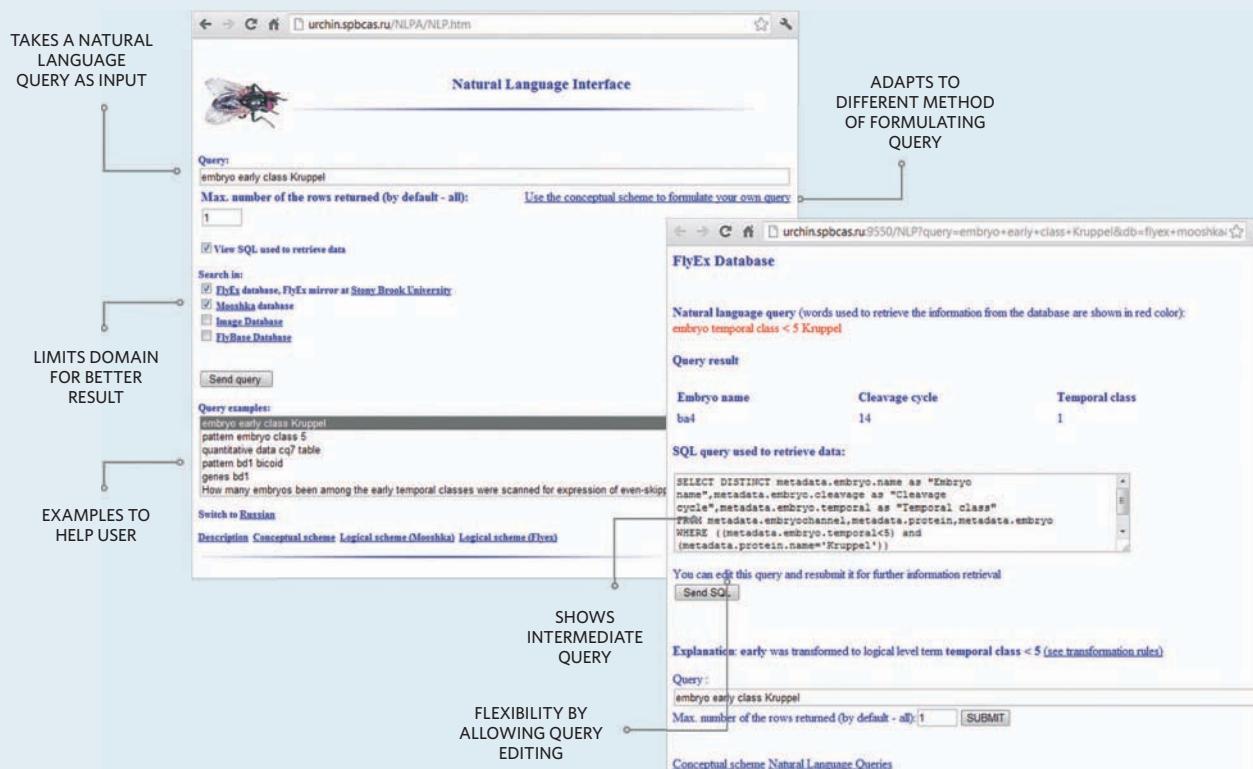
User Experience

- Use vocabulary of that particular knowledge domain
- Filter choices per the context of the application
- Keep an open dialogue interaction between user and computer
- Allow ability to correct a result
- Show progress when processing user query

(+) See also **Voice User Interface** on page 180 and **Natural User Interface** on page 194.

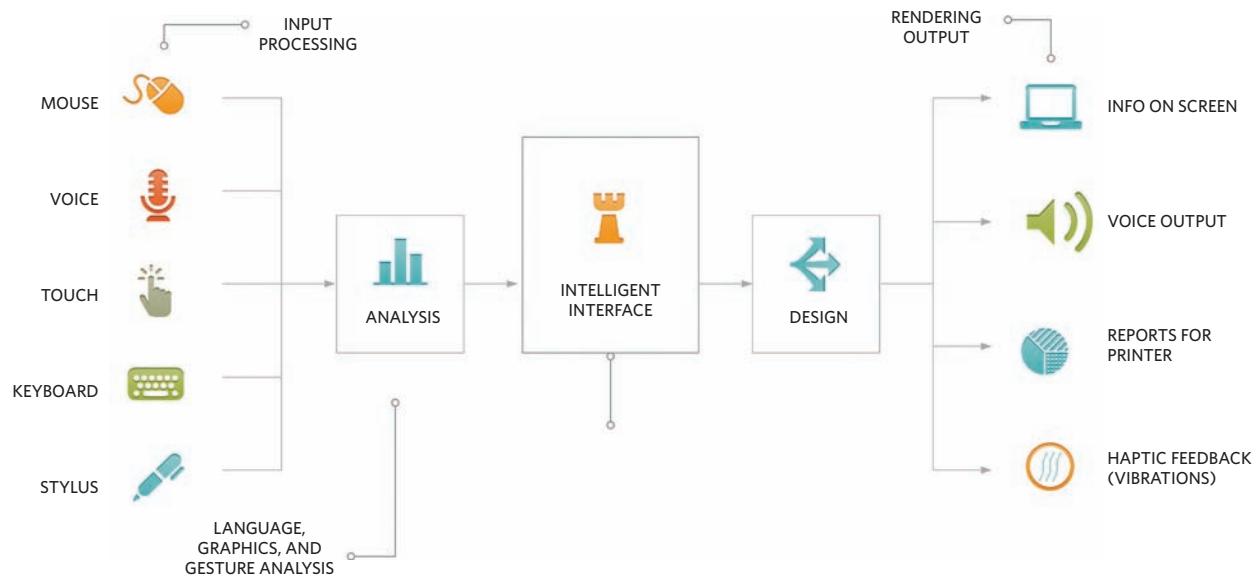
Natural Language Interface to FlyEx Database

St. Petersburg State Polytechnical University has created a natural language interface to query its database on fruit flies. The interface allows a user to enter natural language phrases to search for information. It features a quick list of examples to help users formulate their queries.



99 Intelligent User Interface

AN INTERFACE THAT LEARNS AND ADAPTS TO USER INTERACTIONS AND COMMUNICATES IN A FRIENDLY, HUMAN WAY



An intelligent user interface allows for a dialogue between the user and the computer. The interface adapts to the user interaction based on the context, maintains knowledge about a user, and interprets and generates natural language utterances, in text or in speech. It maintains a natural language dialogue with the user in combination with other interactions and is also able to explain its results to a user. For example, the famous Boris Electronic Chess Computer saying, "I expected that."

Best Practices and Design Guidelines

- Allow interface to adapt to the interaction for different users and context
- Have integrated user modeling to maintain knowledge about the user
- Integrate natural interface and natural language interface whenever possible
- Allow system to maintain a natural language dialogue with a user
- Keep the design of output rendering intuitive
- Have ability to transparently explain its results to a user

User expectations from an intelligent user interface are a natural feel and an unexpected experience.

User Experience

- Allow for intelligent response if no direct result is found
- Show the intermediate logic for explaining the result
- Have a start screen or quick wizard to help user through the task
- Have a GUI application with access to all items from a keyboard
- Design the interface to help user finish the task

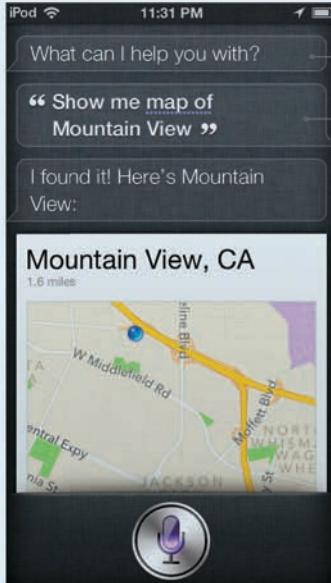
(+) See also **Natural User Interface** on page 194, **Voice User Interface** on page 180, and **Natural Language Interface** on page 196.

Apple iPhone Siri

Apple iPhone's Siri is a virtual assistant that allows for a natural dialogue between the user and the device. Voice input is processed and converted into text and the response is rendered or spoken back by Siri.

SIMPLE UNOBTRUSIVE USER INTERFACE WHICH ACTIVATES ON LONG PRESS OF HOME BUTTON

NATURAL INTERACTION INPUT, VOICE



NATURAL TWO WAY DIALOG WITH THE USER

INTERMEDIATE FEEDBACK TO USER WHILE PROCESSING

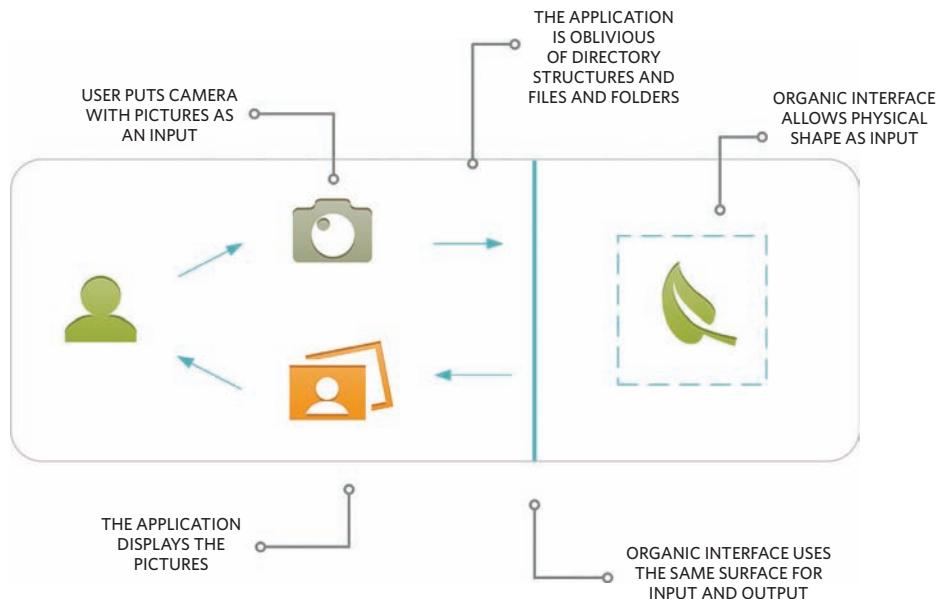
QUICK HELP ON INTELLIGENT UI USAGE



RESTRICT RESULTS BASED ON DOMAIN 'MOVIES'

100 Organic User Interface

AN INTERFACE THAT ACCEPTS PHYSICAL OBJECTS AND SHAPES AS INPUT



An organic interface takes any object as input and uses the same surface for input as well as output. It utilizes direct manipulations and allows unique interaction techniques with everyday physical objects.

Best Practices and Design Guidelines

- Allow for physical interaction to give a seamless experience with tactile output—for example, an electronic newspaper bending like a real newspaper
- Allow for seamless communication and have multiple interaction points
- Keep a continuous state instead of discrete on and off
- Keep the form of the organic interface fluid and interactive and allow it to change based on the context—unlike GUI, where the screen size and dimensions are fixed

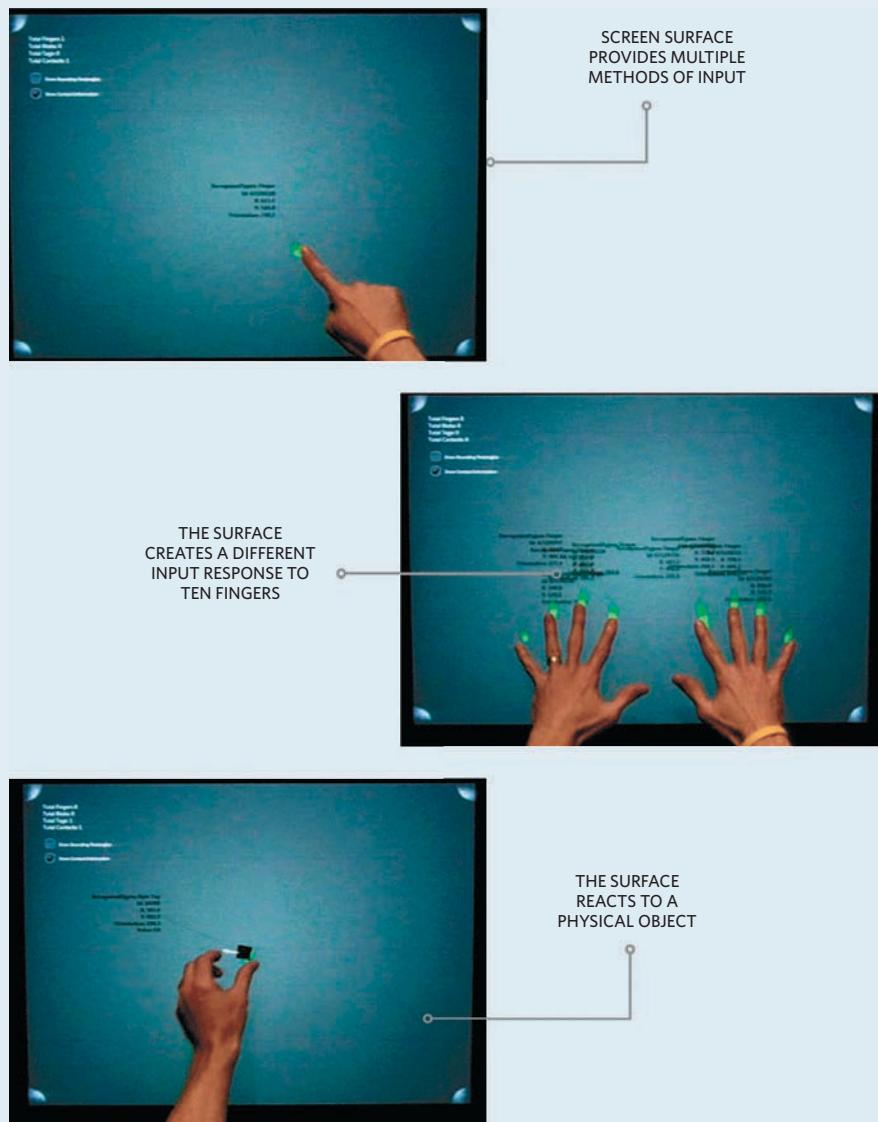
User Experience

- Keep it simple and natural
- Bypass steps to get results
- Avoid computer-like hierarchical structures of menus, folders, and file systems
- Make input of camera object, for example, trigger a photo-importing application and, consequently, photo gallery functionality for displaying the photographs

(+) See also **Natural User Interface** on page 194 and **Natural Language Interface** on page 196.

Microsoft PixelSense App (formerly Microsoft Surface)

Microsoft PixelSense is a unique and interactive surface-computing platform that allows a user to put an object on the surface and interact with it. The table-size screen unifies the input and output on a single surface. It allows for seamless communication with objects and allows recognition of fingers, hands, and objects that are placed on the screen, providing vision-based interaction without the use of cameras.



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The first thanks goes to William Lidwell, whose book *Universal Principles of Design* (Rockport Publishers 2003) gave me the first inspiration for this book. The book opened my eyes to many exciting design principles that I had never heard of before. I was inspired by his book to the point that I came up with the idea for this book, which takes the same methodology of universal design and applies it on a practical level. It's another book about design principles applied to real digital products: hundreds of email exchanges, tons of designs, and two years of effort later, this book is taking its final shape. Thanks, William.

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Raj Lal is an internationally recognized digital product leader who has designed and developed software used by millions of people. He has spent more than a decade designing UIs and has worked on more than fifty desktop, web, and mobile applications. He has also written books on desktop and mobile devices and given presentations on web technologies worldwide. He works at Nokia, in Silicon Valley, as a technologist and lives in Mountain View, California. For more information, please visit <http://iRajLal.com>. More information on the book can be found at <http://dsgnmthd.com>. He tweets at @iRajLal

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Digital Design Essentials

Digital Design Essentials is a comprehensive, cross-disciplinary encyclopedia of user interface (UI) design. Richly illustrated and easy to navigate, it includes architectural views of the application, best practices and design guidelines, tips for creating a great user experience along with live examples. From command line to "WIMP" interface to metro UI to Skeuomorphic design, from accessible web interface to E-commerce, from Zooming UI to infographic designs to adaptive interface, every major user interface concept is defined and illustrated for readers.

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Digital Design Essentials is an invaluable resource for graphic artists, UI designers, user-experience (UX) guru's, web designers, rich Internet application (RIA) and mobile device developers, and more.

About the Author

Raj Lal is an internationally recognized digital product leader who has designed and developed software used by millions of people. He has spent more than a decade designing UIs and had contributed to more than 50 desktop, web, and mobile applications. He is also popular for his books, on desktop, web and mobile devices. More information on him can be found at <http://iRajLal.com>. Other resources for the book can be found at <http://dsgnmthd.com/DigitalDesign>. He tweets at @iRajLal

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