

Web & Mobile: Common components

Buttons:

Standard button, Elevated button, Flat button, Outlined button, Icon button, Floating action button (FAB), Toggle button, Dropdown button, Split button, Checkbox button, Radio button.

Inputs & Forms:

Text fields (single-line, multi-line), Password fields, Email input, Number input, Phone input, Date picker, Time picker, Color picker, Search box, File upload, Combo box, Auto-complete input, Rich text editor.

Selection Controls:

Checkbox, Radio button, Switch (on/off toggle), Multi-select dropdown, Range slider, Segmented control.

Navigational Components:

Tabs (top, bottom), Navigation drawer, Side panel, Breadcrumbs, Pagination controls, Dropdown menu, Context menu, Hamburger menu.

Lists:

Basic list, Expandable/collapsible list, Grouped list, Filterable list, Virtualized list (infinite scroll), Drag-and-drop list.

Tables:

Basic table, Editable table, Sortable table, Filterable table, Paginated table, Dynamic column table, Data grid (interactive table).

Sliders & Progress Indicators:

Horizontal slider, Vertical slider, Range slider, Progress bar (linear, circular), Spinner/loader, Stepper progress indicator.

Dialogs & Pop-ups:

Alert dialog, Confirmation dialog, Modal dialog, Full-screen modal, Tooltip, Snackbar, Toast, Slide-over panel, Drawer overlay, Pop-up menu.

Images & Media:

Static image, Carousel/slider (image gallery), Video player, Audio player, Image with lazy loading, Lightbox (image viewer).

Cards & Containers:

Basic card, Expandable card, Collapsible card, Image card, Card with actions, Widget container, Grid container.

Charts & Graphs:

Line chart, Bar chart, Pie chart, Doughnut chart, Area chart, Scatter plot, Heatmap, Tree map, Radar chart, Gauge chart.

Interactive Widgets:

Accordion, Drag-and-drop widget, Resizable widget, Resizable panels, Sortable panels, Toggle sections.

Text Elements:

Headers (H1-H6), Paragraphs, Labels, Tooltips, Links (clickable), Dynamic text content.

Menus & Navigation:

Dropdown menu, Cascading menu, Context menu, Breadcrumbs, Menu bar, Side navigation.

File Handling & Downloads:

File picker, Drag-and-drop file upload, Download button, File explorer.

Grid & Layouts:

Grid layout, Masonry layout, Responsive layout, Staggered grid layout, Absolute positioning, Sticky/fixed headers.

Real-time Features:

Live chat window, Notifications (push, in-app), Activity feed, Typing indicator, Real-time updates (e.g., stock ticker).

Authentication & Security:

Login form, Registration form, Forgot password form, Captcha, Two-factor authentication UI, Social login buttons.

Advanced Components:

Sortable Kanban board, Calendar (month, week, day view), Gantt chart, Map viewer, Timeline, Signature pad.

Accessibility Features:

Screen reader hints, Keyboard navigation, Focus indicators, High-contrast mode toggle.

Specialized UI Components:

Tag input, Badge, Avatar, Chip, Rating stars, Progress circle, Countdown timer, Floating labels for inputs.

Miscellaneous:

Breadcrumbs, Flip cards, Dynamic accordions, Collapse animations, Expandable sections, Voting widgets (upvote/downvote).

Mobile specific components

Gestures:

Swipe gestures (left, right, up, down), Pinch-to-zoom, Double-tap, Long-press, Drag-and-drop gestures, Tap-and-hold, Flick gesture, Shake detection.

Mobile-Specific Navigations:

Bottom navigation bar, Floating navigation button, Gesture-based navigation (swipe to go back), Navigation rail, App bar with collapsing toolbar (slivers).

Inputs & Forms (Mobile-Enhanced):

Numeric keypad, Phone keypad, Dial pad, Fingerprint scanner input, Face recognition, Voice input.

Mobile Notifications:

Push notifications, In-app notifications, Toast messages, Persistent notifications (e.g., ongoing download progress).

Media & Sensors:

Camera access (image/video capture), QR code/barcode scanner, Microphone access (audio recording), Location/map integrations, Compass widget, Gyroscope/accelerometer-based interactions.

Mobile-Specific Dialogs:

Bottom sheet (modal and persistent), Action sheets, Snackbars (mobile-friendly), Full-screen dialogs.

Hardware Interaction:

Volume control sliders, Brightness control, Hardware button event handling (e.g., back button, home button override).

Mobile Widgets:

Floating action buttons (FAB with multiple options), Swipeable cards (Tinder-style cards), Interactive checkboxes with gestures, Mobile-optimized sliders.

Mobile-Specific Lists & Grids:

Horizontal scroll lists, Vertical carousels, Sticky headers in lists, Pull-to-refresh, Infinite scrolling.

Mobile Animations:

Page transition animations (slide, fade, zoom), Gesture-based animations, Hero animations, Ripple effect on buttons.

Mobile Real-Time Features:

Live notifications with vibration feedback, Voice chat integration, Real-time location tracking on maps.

Accessibility (Mobile-Specific):

Screen reader focus enhancements, Haptic feedback (vibration), Adaptive text sizing, High-contrast mode.

Specialized Mobile Components:

- Floating chat bubbles (like Messenger).
- Split-screen view for foldable devices.
- PIP (Picture-in-Picture) mode for videos.
- Interactive app widgets (e.g., calendar widget, weather widget on the home screen).

Behavioral Scenarios (Web)

1. Alerts and Dialogs

- **Basic Alerts:** Show a standard alert box with a message.
- **Timed Alerts:** Display an alert after a delay (e.g., 5 seconds after a button click).
- **Confirmation Boxes:** Show a confirm box with "OK" and "Cancel" options.
 - Example: On clicking "Cancel," display "You selected Cancel."
- **Prompt Boxes:** Open a prompt box to accept input and display the result.
- **Auto-Close Alerts:** Alert that disappears automatically after a set time.
- **Custom Dialogs:** Modal windows with customized buttons and content.

2. Button Behaviors

- **Hover Effects:** Change button color, text, or size on hover.
- **Click Effects:** Trigger animations, color changes, or text changes on click.
- **Debounce Actions:** Prevent multiple clicks within a short duration.
- **Disabled State:** Buttons are disabled until a specific condition is met.

3. Drag and Drop

- **Basic Drag and Drop:** Drag an item and drop it into a target area.
- **Sortable List:** Reorder a list of items by dragging.
- **Restricted Drag:** Drag items only within a specific container.
- **Dynamic Drag:** Dynamically create new draggable items on action.
- **Drag to Delete:** Drop items into a "trash" area to delete.

4. Mouse and Keyboard Interactions

- **Mouse Hover:** Show a tooltip or highlight an element on hover.
- **Right-Click Context Menu:** Open a custom context menu on right-click.
- **Keyboard Shortcuts:** Trigger actions (e.g., Ctrl + S to save).
- **Focus and Blur Events:** Highlight fields when focused; validate on blur.

5. Text Inputs

- **Dynamic Placeholder Text:** Change placeholder text dynamically on focus.
- **Character Limit Alerts:** Show a warning when input exceeds the limit.
- **Live Validation:** Validate input while the user types (e.g., email format).
- **Auto-Suggestion Dropdown:** Show suggestions as the user types.
- **Masked Input Fields:** Predefined formats (e.g., phone numbers, dates).

6. Lists and Tables

- **Dynamic Row Addition:** Add rows to a table via a button.
- **Sortable Columns:** Sort data in a table by clicking column headers.

- **Searchable List/Table:** Filter items dynamically as the user types.
- **Expandable Rows:** Click to expand/collapse additional details in a table row.
- **Paginated Table:** Navigate large datasets using pagination controls.

7. Sliders and Progress Indicators

- **Range Selection:** Drag sliders to select a range (e.g., price range).
- **Animated Progress Bars:** Show progress that updates dynamically.
- **Loading Spinners:** Display while loading data.

8. Navigation and Menus

- **Dropdown Navigation:** Expand/collapse nested menu options.
- **Tab Switching:** Switch between tabs with animations.
- **Sticky Menu:** A menu that stays at the top while scrolling.
- **Dynamic Breadcrumbs:** Update breadcrumbs as the user navigates.

9. File Handling

- **File Upload:** Upload a single or multiple files.
- **Drag-and-Drop Upload:** Drag files into a designated area to upload.
- **File Type Validation:** Accept only specific file types (e.g., PDFs, images).
- **Download Button:** Trigger file downloads on button click.

10. Advanced Behaviors

- **Expandable Panels:** Show/hide content with smooth transitions.
- **Accordion Behavior:** Expand one section at a time.
- **Scroll-to-Element:** Smoothly scroll to a specific element on button click.
- **Sticky Headers:** Keep headers visible while scrolling.
- **Infinite Scrolling:** Load more data as the user scrolls down.
- **Tooltips:** Show small info boxes on hover or click.

11. Charts and Data Visualizations

- **Interactive Charts:** Hover to see data points.
- **Zoomable Charts:** Allow zooming in on chart details.
- **Dynamic Data Updates:** Update chart data dynamically.
- **Draggable Points:** Drag data points to update values.

12. Authentication Scenarios

- **Login Validation:** Validate credentials and show success or error messages.
- **Captcha Handling:** Implement and validate CAPTCHA.
- **Multi-Step Forms:** Guide the user through multiple form steps.

13. Animation and Transitions

- **Fade In/Out:** Smoothly show or hide elements.
- **Slide Animations:** Slide elements into view from various directions.
- **Bounce Effects:** Add bounce effects on click or action.
- **Hover Animations:** Add subtle animations when hovering over elements.

14. Multi-Device Specific

- **Responsive Design Testing:** Ensure elements behave differently on small vs. large screens.
- **Touch Events:** Implement swipe actions for mobile users.
- **Orientation Changes:** Adjust layout when switching between portrait and landscape.

Use Case Examples from Reference Websites

- **DemoQA Examples:**
 - Alerts: Basic, timed, confirmation, and prompt alerts.
 - Widgets: Accordions, sliders, progress bars.
 - Interactions: Drag and drop, resizable elements.
- **The Internet Heroku Examples:**
 - Dynamic content: Add/remove elements dynamically.
 - Forms: Authentication forms, file upload, and download.
 - Alerts: JavaScript confirmation and prompt boxes.
- **Sauce Demo:**
 - Product lists: Sorting and filtering.
 - Cart functionality: Add/remove items and validate totals.

Mobile-Specific Behaviors

1. Touch and Gesture Interactions

- **Tap:** Single and double-tap behaviors to trigger actions.
 - **Swipe:**
 - Horizontal swipe for carousels or tab navigation.
 - Vertical swipe for pull-to-refresh or scrolling.
 - Swipe to delete (e.g., list items).
 - **Pinch and Zoom:**
 - Pinch-in to zoom out and pinch-out to zoom in on images or maps.
 - **Drag-and-Drop Gestures:**
 - Rearrange list items or move items between containers.
 - **Long Press:**
 - Trigger a contextual menu or highlight an item for further action.
 - **Flick Gesture:**
 - Fast scrolling with momentum.
 - **Shake Detection:**
 - Trigger specific actions (e.g., refresh data) when the device is shaken.
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2. Hardware and Sensor Features

- **Device Orientation Changes:**
 - Adjust UI for portrait and landscape modes.
 - Handle locked orientation scenarios.
 - **GPS and Location Tracking:**
 - Simulate or validate behaviors based on geolocation.
 - Detect and respond to location permission changes.
 - **Camera and Microphone Access:**
 - Capture images or record audio within the app.
 - Handle permissions and fallback scenarios.
 - **Fingerprint or Face ID:**
 - Simulate biometric authentication and fallback to password if unavailable.
 - **Proximity Sensor:**
 - Trigger actions when the user moves the device closer (e.g., darken the screen for calls).
 - **Gyroscope/Accelerometer:**
 - Tilt-based controls for gaming or navigation features.
 - Detect shakes or rotations for specific behaviors.
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3. Notifications and Alerts

- **Push Notifications:**
 - Handle notification clicks to open specific app pages.
 - Display interactive notification actions (e.g., “Reply” or “Mark as Read”).
 - **In-App Notifications:**
 - Banner notifications for updates or alerts.
 - Modal notifications that require user acknowledgment.
 - **Persistent Notifications:**
 - Notifications that remain in the status bar (e.g., ongoing downloads).
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4. Input and Forms

- **Keypad Switching:**
 - Automatically display numeric, email, or text keypad based on the input field type.
 - **Auto-Focus Input:**
 - Focus on the next input field after completing the current one.
 - **Voice Input:**
 - Allow speech-to-text conversion.
 - **Autocomplete Suggestions:**
 - Provide word suggestions or saved entries while typing.
 - **Vibration Feedback:**
 - Trigger haptic feedback on incorrect input or certain actions.
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5. Animations and Transitions

- **Page Transitions:**
 - Slide, fade, or flip animations between pages.
 - **Pull-to-Refresh:**
 - Show an animated refresh spinner when pulling down on a scrollable list.
 - **Floating Action Button (FAB) Behavior:**
 - Expand to reveal additional options on tap or hold.
 - **Ripple Effects:**
 - Show ripple animations when tapping on buttons or list items.
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6. Lists and Dynamic Content

- **Endless Scrolling (Infinite Scroll):**
 - Load new content dynamically as the user scrolls.
- **Pull-to-Load More:**
 - Trigger content loading by pulling the list to the bottom.

- **Sticky Headers:**
 - Keep section headers visible while scrolling through lists.
 - **Dynamic Content Loading:**
 - Populate list items or images as the user scrolls (lazy loading).
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7. Navigation and Menus

- **Gesture Navigation:**
 - Swipe gestures for navigating back or switching tabs.
 - **Bottom Navigation Bar:**
 - Sticky navigation at the bottom with animations on selection.
 - **Floating Menu:**
 - Expandable menu that floats on the screen for easy access.
 - **Hamburger Menu:**
 - Slide-in menu for additional options or settings.
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8. Real-Time Features

- **Live Location Updates:**
 - Display or update a map view based on the user's real-time location.
 - **Live Typing Indicator:**
 - Show typing indicators in chat apps.
 - **Real-Time Notifications:**
 - Push updates from the server directly into the app.
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9. Accessibility Features

- **Haptic Feedback:**
 - Provide vibration feedback for certain interactions, such as errors or confirmations.
 - **Screen Reader Compatibility:**
 - Ensure all elements are accessible with voice guidance.
 - **Font Scaling:**
 - Adjust text size dynamically based on user preferences.
 - **Dark Mode:**
 - Support dark mode themes that toggle dynamically.
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10. Specialized Scenarios

- **Picture-in-Picture (PIP):**
 - Display a mini-player (e.g., video) while navigating other parts of the app.
- **Floating Chat Bubbles:**
 - Implement interactive bubbles similar to Messenger.
- **Swipeable Cards:**
 - Cards that can be swiped left or right for actions (e.g., Tinder-style UI).
- **Interactive App Widgets:**
 - Home screen widgets for shortcuts or live data (e.g., weather, calendar events).