Diagrams and Illustrations for Designing Mobile Interfaces

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for the O'Reilly book Designing Mobile Interfaces by Steven Hoober & Eric Berkman

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Introduction

This file contains editable copies of all the illustrations (and a few of the screenshots and photos) included in the book *Designing Mobile Interfaces*.

If you didn’t notice the Creative Commons thing in the bottom of each page, look now. The whole point of the book is to share knowledge, so to that end you are free to re-use any of these diagrams when designing or specifying anything yourself.

These are derived from one type of drawing in the *Mobile Design Elements* document I have shared since 2007. You can find it, and every other design template, stencil or guideline at:

http://4ourth.com/wiki/Drawing%20Tools%20%26%20Templates
Examples & Illustrations

We deliberately chose not to include a lot of screenshots. In fact, we include hardly any. We did not arrive at this decision lightly; we gathered and extensively annotated screen-shots for the first several patterns.

To solve the problems with screenshots, we used illustrations almost exclusively throughout the book. These are all of the same basic style, but vary widely in the detail level used, sometimes in adjacent drawings in the same pattern.

In each case, only the required amount of detail is used. Sometimes that detail is just boxes and lines, and the words and images are implied. Sometimes words and so on have to be in there to communicate the point. Sometimes actual raster icons or websites, drop shadows, and other effects are used.

As a general rule, large blank areas on a page do not mean there’s nothing there. It just means we’re not discussing that component, so we removed placeholder information for clarity. The Annunciator Row is almost always assumed, so space is provided, but is not displayed—again, for clarity and to reduce clutter.

Color, especially when clearly not naturalistic, generally has a meaning:

- **Yellow** usually refers to the displayed, interactive elements.
- **Blue** is for images, and graphical displays such as information visualizations. A different color is used so that it is clear that it’s not just a box.
- **Grays** represent nonselectable items, like the parent when a child has popped up over it.
- **Orange** is used when the item is in focus, as when scrolling in a list, or to indicate the primary button that is going to be selected for a process. This includes hardware buttons, and the arrows or other indicators of gesture and directional control.
- **Fuchsia** squares are visible in this document, but not the book. They are just spacers to keep grouped frames a consistent visual distance apart. Ignore or delete them.
The page is the area that you will spend your time designing for any application or website. A part of it is visible in the viewport of the mobile screen during its current state.

There are states and modes and versions to be considered, as well as addressing what is fixed to the page, what can float, and what is locked to the viewport.

Based on cultural norms of reading conventions and how people process information, you have to design elements for the page, and place items on it in ways your users will understand. You also want to create information that is easy to access and easy to locate. Your users are not stationary, nor are they focused entirely on the screen. They’re everywhere, and they want information quickly and to be able to manipulate it easily.
Components

Components, as described here, are a section or subsection of a designed interactive space.

They take up a significant portion of the screen and may be as large as the viewport (or larger) or, when smaller, may appear to be in front of other displayed information.

Components must display a range of information types—images, ordered data, expandable lists, and notifications. They also allow the user to interact with the system in some significant, primary manner. Combining them with small, reusable, interactive, or display widgets gives the designer an almost unlimited number of options.
3 Display of Information

Vertical List:

Infinite List:

Thumbnail List:

Fisheye List:

Carousel:

Grid:

Film Strip:
4 Control & Confirmation
5 Revealing More Information

- Windowshade
- Pop-Up
- Hierarchical List
- Returned Results
Widgets

The word widget can mean a number of things, even within related Internet technologies. Even the savvy user may be confused by the lack of common terminology and the lack of any inherent meaning.

The term may apply to bits of code, applets, engines, and GUI elements.

However, the scope of this book, and of this part of the book, is solely concerned with mobile GUI widgets. These widgets are display elements such as buttons, links, icons, indicators, tabs, and tooltips. Numerous additional elements (sometimes called GUI widgets), such as scroll bars, are discussed as components and functions in Part I.
6 Lateral Access

Tabs

Peel Away

Simulated 3D Effects

Pagination

Location Within

Organic display of pagination can imply position by showing the current page as the top of a stack of pages (or the currently open pair of leaves in a book). To give more space, this may be reduced or eliminated after a brief timeout. When a complete spread is shown, both the left and right sides should present this implied position. Otherwise, the viewport should display only the “right side” of the notional physical book.
Drilldown

- **Link**: Represents a connection to another location or content.
- **Button**: Typically used for actions like saving or changing settings.
- **Indicator**: Provides feedback on the state of an action or component.
- **Icon**: Symbolizes an action or status.
- **Stack of Items**: Displays multiple options or content items.
- **Annotations**: Highlights or provides additional information on selected content.

**Design Elements, Stencils and Components**

- **Drivers**: Depicted as arrows pointing to different parts of the page, indicating movement or direction.
- **Documentation**: Represented as book icons, symbolizing manuals or guides.
- **Email**: Illustrated with envelope icons, signifying correspondence or messaging.
- **WiFi**: Shown with wireless symbols, indicating connectivity or network status.

**Interaction Details**

- Links can be selected by tapping or clicking on the link text for selecting devices (or tapping while in focus for scroll-and-pressing the OK/Enter key).
- Other text which must change in color and underline non-linked content, with a different border for linked content.
- There are no true variations of the same symbol or label found anywhere on the page.

**Form is not yet complete.**

- **Enter your password**
- **Pick a user name**

**Contact Information**

- **913 722 2828 (H)**
- **210 618 0567 (O)**
- **314 987 0456 (M)**
- **785 985 0345 (M)**
- **816 210 0123 (M)**

**Address**

- **1218 W Rte YY Galena, KS**
- **10 miles, 108°**

**Directions**

- **Get directions**
- **Add a point**

**Additional Resources**

- **Download the IX325 tablet quickstart card**
- **Download an overview of Microsoft XP Tablet Edition 2005 from Microsoft**
- **Download the Microsoft HID Guidelines (PDF)**
- **Download the product manual (236 kb PDF)**

**Footer Information**

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- **http://creativecommons.org/licenses/by-sa/3.0/
### 8 Labels and Indicators

#### Ordered Data

<table>
<thead>
<tr>
<th>Date</th>
<th>Condition</th>
<th>Temperature</th>
<th>Precipitation</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 23</td>
<td>Wintry Mix to Rain/Wind</td>
<td>37°F</td>
<td>2%</td>
<td>23mph</td>
</tr>
<tr>
<td>Dec 24</td>
<td>AM Snow Showers</td>
<td>25°F</td>
<td>7%</td>
<td>15mph</td>
</tr>
<tr>
<td>Dec 25</td>
<td>Few Showers</td>
<td>38°F</td>
<td>5%</td>
<td>15mph</td>
</tr>
<tr>
<td>Dec 26</td>
<td>Few Showers</td>
<td>58°F</td>
<td>6%</td>
<td>19mph</td>
</tr>
<tr>
<td>Dec 27</td>
<td>Partly Cloudy</td>
<td>37°F</td>
<td>6%</td>
<td>16mph</td>
</tr>
<tr>
<td>Dec 28</td>
<td>Sunny</td>
<td>45°F</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Dec 29</td>
<td>Sunny</td>
<td>46°F</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>

1) **Remove descriptors:**
   - As in the wind direction, when there is no extra space, remove the “from the” portion to save space.

2) **Abbreviate:**
   - Wind direction, common terms, even dates, can all be abbreviated to save space.

3) **Remove information:**
   - Value-added features – like this percentage of precipitation – can be removed when space becomes scarce.

4) **Reduce information:**
   - When ranges, or other multiple datapoints are offered, consider if a single value can serve as a summary. Here, only the high is shown for the day.

5) **Combine fields:**
   - Items which are already closely coupled (like wind direction and speed) can be displayed concatenated to save on table formatting space.

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#### Avatar

- **Wait Indicator**
- **Reload, Synch, Stop**

#### Tooltips

#### Avatar

- **View Modes...**
- **Synch Now**
- **Synch Schedule...**
- **Time Zone...**
- **Blocking & Filtering...**
- **Settings**
9 Information Controls

Zoom & Scale

Location Jump

Search Within

Sort & Filter
Part IV

Input & Output

The varying ways in which people prefer to interact with their devices highly depend upon their natural tendencies, their comfort levels, and the context of use.

As designers and developers, we need to understand these influences and offer user interfaces that appeal to these needs.

User preferences may range from inputting data using physical keys, natural handwriting, or other gestural behaviors. Some users may prefer to receive information with an eyes-off-screen approach, and instead relying on haptics or audible notifications.

This part of the book will discuss in detail the different mobile methods and controls users can interact with to access and receive information.
10 Text & Character Input

Keyboards & Keypads

Pen Input

Mode Switches

Input Method Indicator

ABC (ALL CAPS)
Abc (Initial cap)
abc (lower case)
123 (numeric)
@# (symbol)
T9 Word predictive lower case
T9 Word Predictive initial cap

Autocomplete and prediction

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General Interactive Controls - Chapter Introduction

Visual target

Touch area

Effective overflow touch area

Area touched

Effective overflow touch area

Area touched

Effective overflow touch area

Area touched

Effective overflow touch area

Area touched

Effective overflow touch area

Area touched

Effective overflow touch area

Area touched
11 General Interactive Controls

Directional Entry

Press & Hold

Focus & Cursors

Other Hardware Keys

Accesskeys

Dialer
11 General Interactive Controls

**On-screen Gestures**
- **Tap**
- **Press & hold**
- **One-axis drag**
- **Two-axis drag**
- **Free movement drag**
- **Both move, drag**
- **Both move, pinch**
- **Axis and movement**

**Kinesthetic Gestures**
- **Roll handset (face up to face down)**
- **Shake handset**
- **Gesture towards handset (non-handset hand moves)**
- **Tap two handsets together**
- **Handset towards non-phone NFC/RFID detector**

**Remote Gestures**
- **RemoteGesture-Touch.png**
- **RemoteGesture-Scroll.png**

Recent Applications
- Netflix
- Hulu Plus
- Amazon
- YouTube
- Slacker Media
Input Areas

Form Selections

Spinners & Tapes

Clear Entry
13 Audio & Vibration

- **Tones**
- **Voice Input**
- **Voice Readback**
- **Voice Notification**
- **Haptic Output**

- "Click" (0.15 s)
- "Beep" (0.5 s)
- "Buzz" (0.15 s)

Text Messages
- 3 Voicemail
- 2 Text Message
- 5 Updates

**To Unlock:**
- Press END and *

**Pause**
- "Turn coming up... Turn right onto Missouri Highway Y... Y is 300 yards... Y turns to road Y..."

**New alert received at 3:45 pm**
- Loading...
- "Take 1 500mg Abelcet with water."
- Blue and yellow capsule.
- Prescribed by Dr. Rainer.

**Turn**
- Right onto Rte YY
- Go 6 miles

"Turn coming up... Turn right onto Missouri Highway Y... Y is 300 yards... Y turns to road Y..."
14 Screens, Lights & Sensors

Display Brightness Controls

Orientation

Location
Appendixes

To keep the patterns focused on design and implementation, we have pulled all kinds of supporting information out of them. However, a lot of it is still very interesting.

And there’s no good way for a designer or developer to get a summary of this sort of information.

So we have included it here in the form of appendixes, ordered so that you can just pretty much read it from one end to the other.

You’ll find that a few of the appendixes are actually just lists of resources. And in this day and age, resources are links to websites—which, of course, will go out of date soon. Luckily, we keep this up to date on the 4ourth Mobile Design wiki.

Visit anytime to get the latest updates, or just to avoid typing in long links from a piece of paper. And please add your own information, or update old or changed links.
Introduction to mobile typography

Designing with words

Many of these issues become worse on mobiles, with small column widths. Greeked text will wrap in ways unlike real content. This is even worse if the real text is in a particular technical language as there are no compound words, and phrasing is not organized in this manner.
Designing Mobile Interfaces

Join the mobile community

Visit 4ourth.com/wiki to view and add to patterns and other mobile design resources

4ourth mobile design for every screen

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