Mobile Applications and Services
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- iOS Design

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iOS Human Interface Guidelines (HIG)

Human Interface Principles

- **Aesthetic integrity**
  - How beautiful an app is, custom artwork, attention to details, clear definitions

- **Interface Consistency**
  - Transfer people knowledge from one app to another

- **Direct manipulation**
  - Onscreen manipulation of objects instead of separate control

- **Feedback**
  - Acknowledge people’s actions and confirm that the processing is occurring

- **Metaphors**
  - Virtual objects and actions in an app are metaphors for objects and actions in the real world
    - Tapping Music playback controls or Sliding On/Off switches

- **User control**
  - People, not apps, should initiate and control actions, app can only suggest
App Design Strategies

- List all the features you think users might like
- Determine Who Your Users Are
- Filter the Feature List Through the Audience Definition
- Design the app for the device
- Tailor customization to the task
- Prototype and iterate
The Display Is Paramount, Regardless of Its Size

- 44 x 44 points is the comfortable minimum size of a tappable UI element.
- People are very aware of the quality of app artwork.
- The display encourages people to forget about the device and to focus on their content or task.
Apps responds to Gestures, not Click

- Tap
- Drag
- Flick (scroll)
- Swipe
- Double tap
- Pinch
- Touch and hold
- Shake
People interact with one app at a time

- Only one app is visible at the foreground
  - App switching make a transition of the current app to the background
  - Suspended app are displayed in the multitasking UI
Organize your content

- Keep it simple
- Intuitive
- Focus on your user’s data
- One thing at a time
- Screen full of content
Transition case study

- **Between the desktop and an iOS-based device**
  - Get user quickly to the content they care about, and maintains focus on that content
    - Usage pattern: iOS-based devices often used on the go, and in environments filled with distractions.
  - Following what’s known as the 80-20 rule,
    - the largest percentage of users—typically, at least 80 percent—use a limited number of features in an app,
    - while only a small percentage—seldom more than 20 percent—use all the features. Most iOS apps don’t need to provide all the features that only power users need.

- **Between iOS-based devices**
  - iPhone and iPad
User experience guidelines

- Focus on the primary task
  - Analyze what’s needed in each screen
- Elevate the content that people care about
- Think top-down
- Give People a Logical Path to Follow
- Make usage easy and obvious
  - Be consistent with the usage paradigms of the built-in apps
- Use User-Centric text-based Terminology
- Minimize effort required for user input
- Handle file-related operations seamlessly
User experience guidelines

- Enable Collaboration and Connectedness
- De-emphasize settings
  - Avoid including settings in your app if you can.
- Brand appropriately
  - Visual aspects
  - Avoid taking space
- Make Search Quick and Rewarding
- Provide well-written help information
  - License Agreement or Disclaimer
- Convey information in a headline style
  - The same way as news paper
- Consistent UI style, and stunning graphics
- Consider Adding Physicality and Realism*
- Handle orientation changes
- Be prepared to stop

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iOS UI Element Usage Guidelines

- **Bar**
  - Status Bars, navigation bar, toolbar, tab bar

- **Content View**
  - Activity, collection, table, text, web, map
  - ipad only: popover, split view

- **Alert, action sheets, modal view**

- **Controls**
  - Activity indicator, date/time picker, detail disclosure button, info button, label, page indicator, picker, progress view, refresh control, button, scope bar, search bar, segmented control, slider, stepper, switch, text field,

- **System provided buttons**
Organize your content

iPod: customized with your message or logo.

February 25, 2008 10:04 AM

Gifts that speak volumes.

iPod. A great gift for all your clients and employees.

Call 1-866-364-2167 or visit an Apple Retail Store.
The Apple Corporate Gifting and Rewards Program lets you save on iPod and iPod accessories when you order in volume. You can also personalize your iPods with your company's logo.
**Organization Pattern**

**Navigation bar**

- Groups
- All Contacts
- Search
  
  A
  
  John **Appleseed**
  
  B
  
  Kate **Bell**
  
  H
  
  Anna **Haro**
  
  Daniel **Higgins Jr.**
  
  T
  
  David **Taylor**
  
  Z
  
  Hank M. **Zakroff**

**Tab bar**

- Start
- Reset

<table>
<thead>
<tr>
<th>Lap</th>
<th>Time</th>
</tr>
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<tbody>
<tr>
<td>1</td>
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</tr>
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<td>00:02.5</td>
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<td>4</td>
<td>00:01.4</td>
</tr>
</tbody>
</table>
The navigation Bar

- Hierarchy in the content
- From overview to details
The tab Bar

- Groups Views, usually sharing something.
HOW TO ORGANIZE THE DATA
Model-view-controller revisited

- **Model**
  - Contains the data, normally accessed using delegates

- **View**
  - Represents the interface

- **Controller**
  - Controls the changes of the View when the Model changes and the changes in the Model when the user interacts with the View

- **Model & Controller are often together**
Why MVC

- Object responsibilities are clear
- Easy to maintain
- Avoid having a huge class that does everything
- Makes the code much clean
Why MVC

- Split responsibilities also leads to reusability
- Less dependencies => You can reuse
- So, you write less code

- So, who talks to who?
Model

- Store its data
- Not aware of anything
- Very reusable
- Communicate by
  - Key-Value observing (DB)
  - Notifications & Function calls
View

- Shows the data
- Not aware of controllers, could be aware of some data
- Tends to be reusable
- Communicate by
  - Target-action
  - Delegates
Controller

- Contains the application logic
- Knows about Model and View
- Rarely reusable
INTERFACE STYLE
Interface Style – revisited

- Three basic style for applications:
  - Productivity style
  - Utility style
  - Immersive style
LAB SESSION 1 – FLICKR MAP
Flickr Map

- Productivity Style Application
  - Map with locations of all images
  - Image details

- Navigation Bar
Flickr Map
LAB SESSION 2 : TWEETING APP
Tweeting App

Hello. This is a tweet.

It seems that the iOS app is...
by navid nikaein

Hello. This is an example
by navid nikaein

Hello. This is a tweet.
by navid nikaein

It seems that the iOS app is work...