References

Beginning iPhone 3 Development: Exploring the iPhone SDK by Jeff LaMarche, and David Mark,

Table View Programming Guide for iOS
Convert
float fahrenheitValue = centigrade *(9/5)+32;

centigrade = 100;

then

fahrenheitValue = 132???
Fear
I have been working for two weeks on this project and fear making changes
Snapshots

Save project state
Restore part or all of project to saved state

Multi-file undo/redo

Files stored locally

For individual use only
List of Snapshots

Make Snapshot
Snapshots
Print...

Main Menu 10/12/10 8:41:57 AM
Main Menu 10/12/10 8:42:31 AM
Main Menu 10/12/10 8:42:36 AM
SnapshotWindow 10/12/10 8:43:05 AM
SnapshotWindow 10/12/10 8:43:08 AM
**Diff**

<table>
<thead>
<tr>
<th>Filename</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>whitney.pbxuser</td>
<td>AppSettings.xcodeproj/whitney.pbxuser</td>
</tr>
<tr>
<td>MainViewController.m</td>
<td>Classes/MainViewController.m</td>
</tr>
<tr>
<td>whitney.model1v3</td>
<td>AppSettings.xcodeproj/whitney.model1v3</td>
</tr>
</tbody>
</table>

```objective-c
- (void) flipsideViewControllerDidFinish:
  (FlipsideViewController */)controller {
    [self refreshFields];
    [self dismissModalViewControllerAnimated:
      YES];
  }

- (IBAction) showInfo:(id)sender {
  FlipsideViewController *
  controller = [[FlipsideViewController
    alloc] initWithNibName:
    @"FlipsideView" bundle:nil];
  controller.delegate = self;
  controller.modalTransitionStyle = ...
```
Source Control

CVS
Subversion

More control than Snapshots

Supports multiple developers on same project
Subversion

Starting new repository

svnadmin create repositoryName
Configuring Xcode to do the right thing

Configuration:
- [x] Configure SCM automatically
- [x] Save files before SCM operations

Comparison Handling:
Adding a Repository to Xcode

Subversion Settings

Name: local
URL: file:///Users/whitney/test/cs696Repository
Scheme: file
Path: /Users/whitney/test/cs696Repository
Host:
Port:
User:
Password:

Authenticated

Apply  Cancel  OK
Repositories Window

[Image of a graphical user interface for repositories management]
Tricky Part

Import project

Then Check it out

Work on the checked out project
Adding new Files to project

Have to add them to repository too
Commit & Update

Commit - send changes to repository

Update - Fetch latest version from repository

Refresh - update file status
Settings
Problem With Project Templates

Too much magic

Not enough understanding
How do we just use Standard Settings App?

Just add Settings.bundle to project

Works for any project
How do we read the values

NSUserDefaults *defaults = [NSUserDefaults standardUserDefaults];
username.text = [defaults objectForKey:kUsernameKey];
password.text = [defaults objectForKey:kPasswordKey];
NSUserDefaults *defaults = [NSUserDefaults standardUserDefaults];
[defaults setObject:@"Roger" forKey:kUsernameKey];
[defaults synchronize];
Details

iOS Application Programming Guide
Chapter 6 Implementing Application Preferences

NSUserDefaults class Documentation
That it for Settings

except for iOS 4
Background Process

iOS 4
Device must support multitasking
App Delegate Methods

- application:didFinishLaunchingWithOptions:
- applicationDidBecomeActive:
- applicationWillResignActive:
- applicationDidEnterBackground:
- applicationWillEnterForeground:
- applicationWillTerminate:
Launching the app

UIViewController method `viewDidLoad` is called
Moving to the Background

- Application running
- User presses the Home button
- Application moves to the background

Application Delegate:
- applicationWillResignActive:
- applicationDidEnterBackground:
Resuming Foreground

UIViewController method viewDidLoad is not called

Application in the background

Application is relaunched

Application enters the foreground

Application Delegate

applicationWillEnterForeground:

applicationDidBecomeActive:
Notifications

Observer
- Registers with Notification center
- For notification from a source
- Must unregister before dealloc

Source
- When changes sends message to observers

Can create own sources
NotificationCenter

Getting the Notification Center
+ defaultCenter

Managing Notification Observers
– addObserver:selector:name:object:
– addObserverForName:object:queue:usingBlock:
– removeObserver:
– removeObserver:name:object:

Posting Notifications
– postNotification:
– postNotificationName:object:
– postNotificationName:object:userInfo:
Notification Example

- (void)viewDidLoad {
    [super viewDidLoad];
    [[NSNotificationCenter defaultCenter] 
    addObserver:self 
    selector:@selector(defaultsChanged: ) 
    name:NSUserDefaultsDidChangeNotification 
    object:nil];
}

- (void)dealloc {
    [[NSNotificationCenter defaultCenter] removeObserver: self]; 
    [super dealloc];
}
Notification

Receive notifications when application becomes active

Receive notification for each time you register

Receive notification for each change
How to find out about Notifications

Each Class documents the notification it will send
Utility
Utility Apps
- (IBAction)showInfo:(id)sender {

    FlipsideViewController *controller = [[FlipsideViewController alloc]
        initWithNibName:@"FlipsideView" bundle:nil];
    controller.delegate = self;

    controller.modalTransitionStyle = UIModalTransitionStyleFlipHorizontal;
    [self presentModalViewController:controller animated:YES];

    [controller release];
}

Done

Just a button

Linked to method done:
@interface FlipsideViewController : UIViewController {
    id <FlipsideViewControllerDelegate> delegate;
}

@property (nonatomic, assign) id <FlipsideViewControllerDelegate> delegate;
- (IBAction)done:(id)sender;
@end

@protocol FlipsideViewControllerDelegate
- (void)flipsideViewControllerDidFinish:(FlipsideViewController *)controller;
@end
- (IBAction)done:(id)sender {
    [self.delegate flipside ViewControllerDidFinish:self];
}
- (void)flipsideViewControllerDidFinish:(FlipsideViewController *)controller {
    
    [self dismissModalViewControllerAnimated:YES];
}

Rotation
How to keep things synched

If used multi-views for single view rotation
   Keep portrait & landscape view synched when rotate

When switching tabs
   Make sure the new view is in the correct orientation

   How do we know when switch tabs?
UITabBarControllerDelegate

Managing Tab Bar Selections
   – tabBarController:shouldSelectViewController:
   – tabBarController:didSelectViewController:

Managing Tab Bar Customizations
   – tabBarController:willBeginCustomizingViewControllers:
   – tabBarController:willEndCustomizingViewControllers:changed:
   – tabBarController:didEndCustomizingViewControllers:changed:
Tables
Table View Reference

Table View Programming Guide for iOS

Class documentation
Table View Styles - Plain

Plain

Section Index

Selection List
Table View Styles - Grouped

Grouped

Grouped

With header & Footer
Cell Styles

No Subtitle (default)

With Subtitle
# Cell Styles

**Right-aligned subtitle**

<table>
<thead>
<tr>
<th>Cell Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clown Fish</td>
<td>Clown fish in coral</td>
</tr>
<tr>
<td>Dew Drop</td>
<td>Dew drop on a leaf</td>
</tr>
<tr>
<td>Earth</td>
<td>Photo of earth from space</td>
</tr>
<tr>
<td>Earth Hori...</td>
<td>Photo of earth's horizon from space</td>
</tr>
<tr>
<td>Flowing Rock</td>
<td>Striations in sandstone</td>
</tr>
<tr>
<td>Lady Bug</td>
<td>Ladybug on a leaf</td>
</tr>
<tr>
<td>Snowy Hills</td>
<td>Hills covered with snow</td>
</tr>
<tr>
<td>Stones</td>
<td>A collection of stones</td>
</tr>
<tr>
<td>Sweeping Cur...</td>
<td>Current sweeping past rocks</td>
</tr>
<tr>
<td>Zebra</td>
<td></td>
</tr>
</tbody>
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**Contacts format**

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</table>
Parts of a cell

With Image

Editing mode
Accessory Views

- Disclosure indicator - Leads to another table
- Detail Disclosure button - Leads to detail view
- Check Mark - appears when user tabs on item
Custom Cells

Customization can be done in code or in the Interface Builder.
Performance Issues

Reuse Cells

Layout custom cells once

Opaque subviews
Table View Delegate & Data source

Both required

Data source provides information about the data
Example From textbook

@interface Simple_TableViewController : UIViewController
    <UITableViewDelegate, UITableViewDataSource>
{
}

@property (nonatomic, retain) NSArray *listData;
@end
@implementation SimpleTableViewCell
@synthesize listData;
-
(void)viewDidLoad {
    NSArray *array = [[NSArray alloc] initWithObjects:@"Sleepy", @"Sneezy",
             @"Bashful", @"Happy", @"Doc", @"Grumpy", @"Dopey", @"Thorin",
             @"Oin", @"Gloin", @"Bifur", @"Bofur", @"Bombur", nil];
    self.listData = array;
    [array release];
    [super viewDidLoad];
}
Number of rows

-(NSInteger)tableView:(UITableView *)tableView
   numberOfRowsInSection:(NSInteger)section {
   return [self.listData count];
}

Reusing Cells

- (UITableViewCell *)tableView:(UITableView *)tableView
cellForRowAtIndexPath:(NSIndexPath *)indexPath {

    static NSString *SimpleTableIdentifier = @"SimpleTableIdentifier";

    UITableViewCell *cell = [tableView dequeueReusableCellWithIdentifier:
        SimpleTableIdentifier];
    if (cell == nil) {
        cell = [[[UITableViewCell alloc] initWithStyle:UITableViewCellStyleDefault
                 reuseIdentifier: SimpleTableIdentifier] autorelease];
    }

    NSUInteger row = [indexPath row];
    cell.textLabel.text = [listData objectAtIndex:row];
}

NSUInteger row = [indexPath row];
cell.textLabel.text = [listData objectAtIndex:row];