Android Bootcamp

Develop an Android app that displays a list of tweets related to mobile development (with #mobiledev hashtag). This requires retrieving the data, parsing it, and then displaying it. Each tweet should include information such as: the tweet content, the creation time, the user who tweeted and their profile picture. Please note that the experience must be smooth: images and data should be loaded and decoded on another thread in order to leave the UI thread unblocked. It is recommended you start with the attached Hello World quick start guide.

PS. You should use Google a LOT! The more you Google things the easier it will be.

Resource for retrieving tweets: https://dev.twitter.com/docs/api/1/get/search

Bonuses:

1) Add a menu item to open up a second screen with a text box on top, which lets users type in any hashtag string. This application must then pull down all corresponding tweets for that string.
2) Dynamically refresh the tweets every 30 seconds (or add a refresh button). Display the new tweets with animation effect by pushing down the original tweets and fading in the new tweets.
3) Save and load the tweets using a Content Provider.

See next page for useful resources/guides.

Now, let's go through some of the important topics in building an Android application...

To set up your Dev Environment
Download & Install SDK- http://developer.android.com/sdk/installing.html
ADB (Android Debug Bridge) - very useful command line tool for debugging/logging
http://developer.android.com/guide/developing/tools/adb.html

Quick Start
Create a project, manipulate the look and feel-
http://developer.android.com/resources/tutorials/hello-world.html

Android Fundamentals - an Overview
http://developer.android.com/guide/topics/fundamentals.html

Main Building Blocks of an Android app (you don't necessarily need all of these)
Activities & **Activity Life cycle**:
The presentation layer, e.g. a screen that the user sees. An application typically has
multiple activities, and the users flip back and forth among them
EXTREMELY IMPORTANT! YOU MUST KNOW THIS!
http://developer.android.com/guide/topics/fundamentals/activities.html

Intents:
Asynchronous messages which allow the application to request functionality from other
services or activities - *ALSO SUPER IMPORTANT!*
http://developer.android.com/guide/topics/intents/intents-filters.html

Resources - how to get screen layouts, colours, images into your app
http://developer.android.com/guide/topics/resources/index.html

Services - perform background tasks and don't have any UI components
http://developer.android.com/guide/topics/fundamentals/services.html

Content Providers - interfaces for sharing data between applications
http://developer.android.com/guide/topics/providers/content-providers.html

Broadcast Receiver - a system-wide publish/subscribe mechanism, receives system
messages and implicit intents
http://developer.android.com/reference/android/content/BroadcastReceiver.html

Other components:

User Interface
Overview - http://developer.android.com/guide/topics/ui/index.html
Layouts - http://developer.android.com/guide/topics/ui/layout-objects.html
Adapters - http://developer.android.com/guide/topics/ui/binding.html

Threading
General - http://developer.android.com/guide/topics/fundamentals/processes-and-threads.html
Async Task - http://developer.android.com/reference/android/os/AsyncTask.html

Networking
HttpClient library: http://hc.apache.org/httpcomponents-client-ga/examples.html
Tutorial: http://hc.apache.org/httpcomponents-client-ga/tutorial/html/index.html

Sample Code – **VERY USEFUL FOR REFERENCE!**
Full list of samples - http://developer.android.com/resources/browser.html?tag=sample
API Demo (recommended) - Lots of UI demos: layouts, views, preferences, menus, etc
Note Pad (recommended) - adapter views, content provider, data access, intents
Install the samples - http://developer.android.com/resources/samples/get.h

Best of luck!

If you need any help or have any questions please don't hesitate to contact me, but please make sure to mention "UofTDev" in the email's subject.

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