Lab 4 – Tide Prediction App Using a ListView

CS235AM, Intermediate Mobile Application Development: Android

Introduction

This lab practice working with Android ListActivities (an Activity with a built-in ListView) and ListView Adapters. In particular you will get practice implementing:

- a ListActivity
- a row click-event handler
- fast scrolling and a section indexer
- a data adapter for a ListView
- a custom file parser that can populate a ListView Adapter with data parsed from a text (or XML) file.

Requirements for Group C

For this lab assignment you will create an app that displays tide predictions for a coastal location. You will need to download an annual tide prediction file for a US coastal location from the NOAA web site:
http://tidesandcurrents.noaa.gov/tide_predictions.html.
For example, you could download the annual tide predictions for the Florence, OR USCG station from this page:
http://tidesandcurrents.noaa.gov/noaatidepredictions/NOAATidesFacade.jsp?Stationid=9434098.

Display the tide chart using an activity that derives from *ListActivity* with a *SimpleListItem2* layout using an adapter derived from *ArrayAdapter* that supports fast scrolling and a section index. The section index should show the month. The list should show the date and time for each high and low tide (usually 4 per day). When you click on a row, it should show the height of the tide in inches using a toast. Your app will use an xml annual tide prediction file. Format your ListView as shown in the example below:

2012/12/31 Monday
High: 02:56
2012/12/31 Monday
Low: 08:30
2012/12/31 Monday
High: 14:02
2012/12/31 Monday
Low: 20:59
2013/01/01 Tuesday <-- Click for toast
High: 03:29
2013/01/01 Tuesday
Low: 09:13
2013/01/01 Tuesday
High: 14:44
2013/01/01 Tuesday
Low: 17:33 PM

Toast:

73 inches

Submission to Moodle

Beta Version

Post the following to the Beta + Code Review Forum:

1) A zip file containing your app's Visual Studio solution folder. (Make your solution smaller by deleting the *obj* and *bin* folders.)
   Or, optionally, a link to a repository containing your solution source code. You can put the link on the same document with the report on your exercise from part 1.
2) A copy of your lab instructions (so the lab partner who reviews your work will know what your requirements were).

Production Version

1. Item 1 above, but revised as needed.
2. The code review of your work (the one done by your lab partner) with the second column ("Release") completed by you.