Lab 4 – Tide Prediction App Using a ListView

CS235AM, Intermediate Mobile Application Development: Android

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.

Project for Group A

Display the tide chart using an activity that derives from ListActivity with a *TwoLineListItem* layout with an adapter derived from BaseAdapter that supports fast scrolling and a section index. The list adapter should use a list or array of custom objects (instances of a class you define that holds tide predictions). 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 cm using a toast. Your app will use an annual tide prediction file formatted as tab separated values (download it from the NOAA using the TXT button). Format your ListView as shown in the example below:

Example

List View:

2012/12/31 Mon
High: 02:56 AM
2012/12/31 Mon
Low: 08:30 AM
2012/12/31 Mon
High: 02:02 PM
2012/12/31 Mon
Low: 08:59 PM
2013/01/01 Tues <-- Click here for toast
High: 03:29 AM
2013/01/01 Tues
Low: 09:13 AM
2013/01/01 Tues
High: 02:44 PM
2013/01/01 Tues
Low: 09:33 PM

Toast:

186 cm

Zip the beta version of the solution (after removing the bin and obj folders) and e-mail it to your code-review partner.

After getting a code review, revise your code and upload it to Moodle.

Project for Group B

Display the tide chart using an activity that derives from ListActivity with a *SimpleListItem2* layout using an adapter derived from *SimpleAdapter* 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 ft. using a toast. Your app will use an xml annual tide prediction file. Format your ListView as shown in the example below:

Example

List View:

Mon 2012/12/31
02:56 AM - High
Mon 2012/12/31
08:30 AM - Low
Mon 2012/12/31
02:02 PM - High
Mon 2012/12/31
08:59 PM - Low
Tues 2013/01/01 <-- Click here for toast
03:29 AM - High
Tues 2013/01/01
09:13 AM - Low
Tues 2013/01/01
02:44 PM - High
Tues 2013/01/01
09:33 PM - Low

Toast:

6.1 ft.

Zip the beta version of the solution (after removing the bin and obj folders) and e-mail it to your code-review partner.

After getting a code review, revise your code and upload it to Moodle.