Lab 4, Group B
Tide Prediction App Using a ListView and ArrayAdapter

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 pre-defined row layout
- a data adapter for a ListView
- a row click-event handler
- fast scrolling and a section indexer

Requirements for Group B

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 an Oregon coastal location from the NOAA web site: https://tidesandcurrents.noaa.gov/tide_predictions.html?gid=1409
For example, you could download the annual tide predictions for the Florence, OR USCG station from this page: https://tidesandcurrents.noaa.gov/noaatideannual.html?id=9434032
Display the tide chart using an activity that inherits from *ListActivity* with a *TwoLineListItem* layout and with 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. The XML parser is provided for you. 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.

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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).

Code Review

After completing a code review for your lab partner, upload it using the Code Review assignment link.

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.