

## Lab 6, 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](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 *SimpleListItem1* 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. (Format the text string that you put in each row so that it has two lines).

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.

## 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.