TOBB University of Economics and Technology, Department of Computer Engineering

BİL425 Software Development for Mobile Apps (Spring 2014)

Homework 2

Due by Jan 24 16:30

Subject: Event handling

1. In Jan 17th class on Friday we stopped at the beginning of section 4.5. Read the section 4.5 (**Adding Functionality to the App**) in the textbook. This section basically explains how events are handled in Java code. In onCreate method of TipCalculator class (Fig 4.10) following lines register listeners for billEditText and customSeekBar widgets:

```
// get the billEditText
billEditText = (EditText) findViewById(R.id.billEditText);
// billEditTextWatcher handles billEditText's onTextChanged event
billEditText.addTextChangedListener(billEditTextWatcher);

// get the SeekBar used to set the custom tip amount
SeekBar customSeekBar = (SeekBar) findViewById(R.id.customSeekBar);
// customSeekBarListener handles customSeekBar's onProgressChanged event
customSeekBar.setOnSeekBarChangeListener(customSeekBarListener);
```

   Now read the code in Fig 4.14 and 4.15 showing how these listeners are constructed as **anonymous inner classes** overriding **onProgressChanged** and **onTextChanged** methods. When the user types numbers in billEditText widget, onTextChanged method in billEditTextWatcher (Fig 4.14) is executed. And when the user slides the handle on customSeekBar widget, onProgressChanged method in customSeekBarListener (Fig 4.15) is executed.

   Read this section (4.5) thoroughly to understand how events are handled in Android programming. The second important part is onSaveInstanceState method in Activity (Fig 4.13).

2. (**Enhanced Tip Calculator App**) Make the following enhancements to the Tip Calculator app:
   a. Add an option to **calculate** the **tip** based on either the price **before tax** or **after tax**.
   b. Allow the user to enter the number of people in the party. Calculate and display the amount owed by each person if the bill were to be split evenly among the party members.

3. (Body Mass Index Calculator App) The formulas for calculating the BMI are:

   BMI = (weight in pounds)x703 / (height in inches)^2

   or

   BMI = (weight in kg) / (height in meters)^2

   Create a BMI calculator app that allows users to enter their weight and height and whether they are entering these values in English or Metric units, then calculates and displays the user's body mass index. The app should also display the following information from the Department of Health and Human Services/National Institutes of Health so the user can evaluate his/her BMI:

   BMI VALUES
   Underweight: less than 18.5
   Normal: between 18.5 and 24.9
   Overweight: between 25 and 29.9
   Obese: 30 or greater

Deliverables:

1. Submit a zip file named **firstname-lastname-hw#.zip** containing the following:
   a. A document showing the screenshots of the emulator for two apps (Enhanced Tip Calculator and BMI Calculator). Name the document as **firstname-lastname-hw#.pdf**. For example erdogan-dogdu-hw1.pdf. Document should have a header like the following:

      BİL425 Software Development for Mobile Apps (Spring 2014)
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      Date: Jan 24, 2014
      Name: **Firstname Lastname**

   b. TipCalculator and BMI project directories (including bin, gen, src, res, etc.)
2. Submit your homework to **bil425bahar14@gmail.com** (w/ email attachment **firstname-lastname-hw#.zip**).