

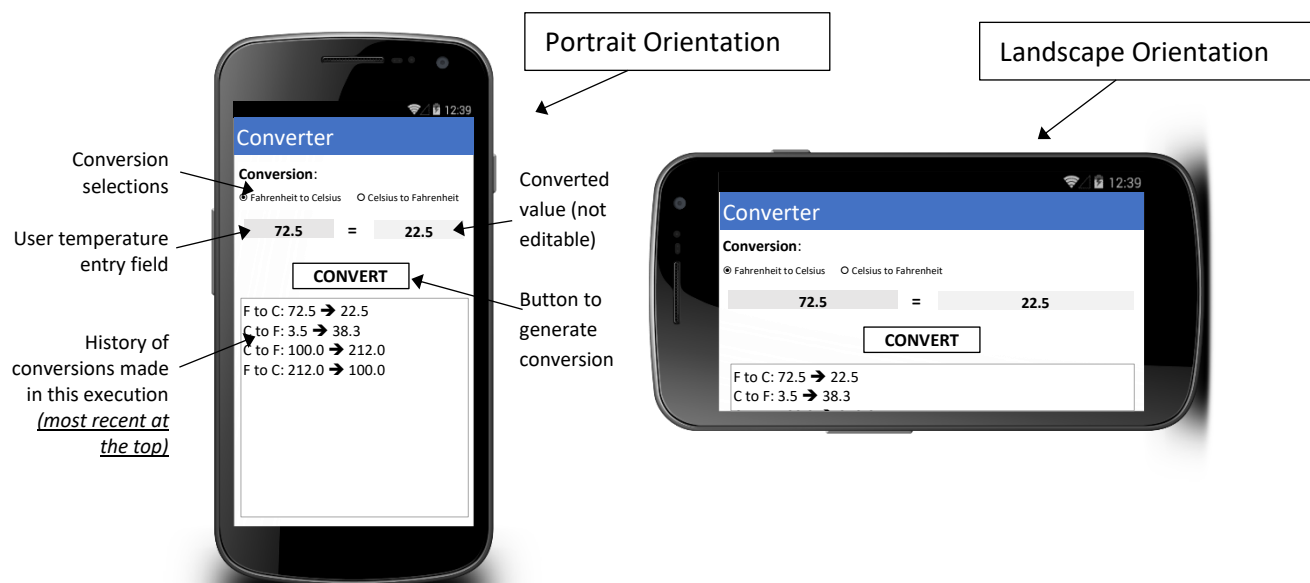
CS 442: Mobile Applications Development

Assignment 1 – Temperature Converter

Your assignment is to create a Temperature Conversion app as described below.

App Requirements

- The app should allow the user to select either Fahrenheit-to-Celsius or Celsius-to-Fahrenheit conversions. No other conversions should be allowed, and one conversion must be selected at any given time (no situation where *no* conversion is selected).
- Your Activity must use a Constraint Layout
- User the following formulae for conversion:
 - $T_{(^{\circ}\text{C})} = (T_{(^{\circ}\text{F})} - 32.0) \times 5.0/9.0$
 - $T_{(^{\circ}\text{F})} = (T_{(^{\circ}\text{C})} \times 9.0/5.0) + 32.0$
- The initial temperature value should be entered by the user (see images below).
- Pressing a Convert button should calculate the converted temperature value and display it on the screen. Converted values should be displayed out to *1 decimal place only*.
- The conversion operation, value, and calculated results are added to the “history” (most recent conversions at the *top* of the history, history must be scrollable when many entries are present):
 - Example:
 - F to C: 55.0 → 12.8
 - C to F: 3.5 → 38.3
- The app must look and act consistently in either portrait or landscape orientation.
- Concepts and practices discussed in class must be followed.
- The below is an example of how the app *might* look. *Note, you do NOT need to make yours look exactly like this.* You are free to use your own creativity in designing the UI for this app. The only stipulation is that all the content mentioned above is present in the app.





Assignment Assistance

The TAs for our course are available to assist you with your assignment if needed. Questions on assignment requirements and course concepts can be sent to the instructor.

Submissions & Grading

- Submissions must consist of your zipped project folder (please execute *Build* → *Clean Project* before generating the zip file). Submissions not following these requirements will be penalized.
- Submissions should reflect the concepts and practices we cover in class.
- Late submissions will be penalized by 10% per week late. (i.e., from one second late to 1 week late: 10% penalty, from one week plus one second late to 2 weeks late: 20% penalty, etc.).
- The following are the key points that will be examined in Project when graded:
 - 30% UI Design and Appearance
 - Looks & works properly in both Project and Landscape orientation
 - Proper use of Constraint Layout
 - Conversion selections work properly (one is always selected)
 - Overall appearance is clean and professional
 - 20% Input operation
 - User data entry works properly
 - 20% Conversion & Results Display
 - Converted value is correct
 - Converted value is displayed properly (1 decimal digit)
 - 30% Conversion History
 - Conversions appear in the history
 - Most recent conversions are at the top of the history
 - When many conversions are present, history is scrollable

*If you do not understand anything in this handout, please ask.
Otherwise the assumption is that you understand the content.*

Unsure? Ask!