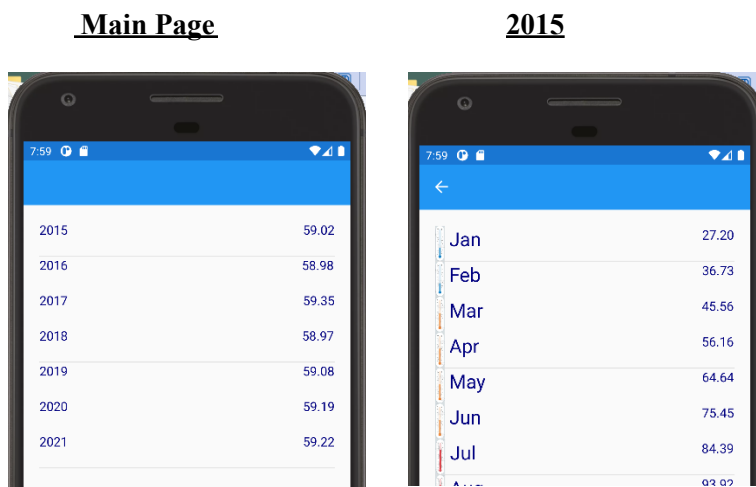


**CSE 382**  
**Project #5 - Weather Data**  
**Fall 2022**

In a previous application, you inserted and deleted information into/from a database. This project, named `WeatherData`, will focus on the display of that information. The elements that will be incorporated into this project are:

- Stack page navigation
- ListView templates
- Images



Provided source code will populate a database of daily temperature information. This code will be run once to populate the database with fabricated temperature data for the years 2015-2022.

- **(40) Top-level page of yearly temperature summaries** - The main page should display all of the years included in the database. Each year includes all of the dates in that year. Display the average daily temperature for the year.
- **(30) Individual monthly temperatures** - When selecting a year on the main page, the data for that particular year should be displayed. The display should show the average temperature for that particular year, broken down by month.
- **(10) ListView formatting** - The two ListViews should be formatted, approximately, as those shown in this document. This includes: whitespace borders around the ListView, color and sizing of the text, justification of the text.
- **(10) Images** - Your app should incorporate a small thermometer for each month. Use `cold.png` if the temperature is less than 40 degrees. Use `hot.png` if the temperature is 80 degrees or more.

Otherwise, use avg.png. You do not have to set up the images for all platforms. Your images, however, must work for the platform that you use in your demonstration video.

- **(10) Software quality**. For this project, I will review your software for quality. This includes formatting, naming conventions, minimal code redundancy, and code elegance.

#### **Notes**

- Your app should perform a reasonable action in error conditions; your program must not crash.
- I have provided code to populate the database with randomized temperature data. This is done only once, when the database is empty.
- I have provided a [directory with support code and images](#).
- It is recommended that your queries are terminated with .ToList(). For example:  
`IEnumerable<WeatherInfo> thisYearsData = allData.Where(d => d.Date.Year == y).ToList();`
- The key elements for handling the monthly ListView:
  - Define a class for a month's data.
  - This class will have C# properties that provide, average daily temperature, the name of the image to use, and the name of the month.
  - The ListView's data template should include an Image and two Labels.

**Demonstration** - You must submit a video demonstrating (at most 3 minutes) your project. Perform the following steps:

- Announce your name
- State what works and what does not work.
- Have your program running from within Visual Studio
- Show the images within Visual Studio. State what you did to make the images visible within your code.
- Run the program
  - Read off the averages for 2015 and 2020
- Select 2015
  - Read off the averages for January and December
  - Show that the correct thermometers are used for each month
  - Go back
- Select 2020
  - Read off the averages for January and December
  - Go back
- Select 2017
  - Read off the averages for January and December
  - Go back