Task A8.1P: many suns

Working with persistent data

Due: by Monday in week 10, for review ahead of week 10's lab

Aim

The aim of this task is for you to demonstrate how persistent data can be used in apps.

Tasks

1. Creating a list from a file

Extend the Sunrise/set calculator code (provided on BB) to allow the user to select a location from a pre-defined list of geographical locations.

a) You are expected to present to the user the list of Australian city names by reading the data file (provided on BB). You are free to choose an appropriate UI design for the context.

b) You should also update the data file with two other Australian cities of your choice.

c) The report should contain screen shot(s) of the app that you designed and built. You should also have the code snippet that highlights how list data is loaded, and how the list item selection shows the appropriate information (about sunrise and sunset).

Data file name: `au_locations.txt`

Data file format (CSV): `City Name, Latitude/Longitude, Time zone`

Note: You can use the time zone provided to directly initialise the timezone object. For example: `TimeZone.getTimeZone("Australia/Adelaide")` will return a TimeZone object for Adelaide time zone. The time zone strings are provided in the data file in a format that will work in Android.

Note 2: for those who have done 5.3C, you are welcome to work with the original non-fragmented sample code for this task.

Checklist

- Data shows Australian cities and few additional cities added by the student
- App works as expected (based on the screen shots)
- Code snippets show how data is loaded, how list items are selected and how data is shown (sun rise/set times).

Tasks for COS80019 students only

The following tasks are core tasks that only Masters students should attempt. These tasks are optional for undergraduate students. The general concepts related to these questions are covered in the lectures, but Masters students are also expected to read, briefly research a bit more broadly to answer these questions.

2. File security

Describe the default data security model that is enforced by the Android architecture on application. In particular, how is it enforced? What are the benefits offered by this security model, and what are the trade offs?

Checklist

- Default file/data security model is explained (visual from lecture notes is fine)
- Benefits and tradeoffs explained

Core/Extension Tasks

All tasks in this assignment are “core”. You must complete all core tasks, submit for feedback, and achieve a pass for all tasks in order to be eligible for a pass grade in this unit.

Submission

You are required to submit a PDF report using Doubtfire:

- login to Doubtfire at http://doubtfire.ict.swin.edu.au
- The header (or) footer of the document must contain your name, student id, and unit code.

- The document must have a title (e.g. Submission for Assignment <number>)
- Evidence that shows you completed each task must be presented in a separate section.
- The document does NOT need a table of contents nor a cover page.

The reports are assessed and feedback given via Doubtfire and, if required, in your lab. You are expected to incorporate the feedback (esp. if changes are required) and submit the changed reports as part of the final portfolio.

Note: This is a formative assignment. That is, an assignment designed to provide feedback. If you fail this assignment, you have one week to make corrections and resubmit to pass.

Demonstration

You may be asked to demonstrate your assignment in the lab. You should be able to do this and explain your code when asked in the lab session.