

Rainfall App – 18% (Due 30th November 2015)

You are required to design and develop a Rainfall Notification service for Android devices. A service like this could be useful to people who work/play outdoors (painters, golfers etc.). The service should provide the following functionality

- It should allow the user to set up the app and specify some settings such as what location they want the rainfall to be reported for, (there should be an option here for “use my location”), how many days they want to include in the forecast, what threshold of rain should trigger a notification etc.
- It should download the 5 or 16 day (16 day is probably easier) forecast for the specified location everyday at the same time (e.g. 6 am) – Use an AlarmManager for this that is set to go off every day and will start a Service to download and parse the weather data and send a notification to the notification area if there is rain due.
- The application should generate the query string from the users location that will be sent as a request to a server offering weather data (see openweathermap API – again you need an API key but this is free).
- The weather service will respond with the weather data as either an XML or JSON file which you will have to parse (JSON should be easier). When parsing the data you are simply looking for the extent of rainfall for the next X number of days. If the rainfall is to exceed a set minimum in the next X number of days then a notification should be sent to the notification area with the details of the NEXT rainy day and the level of rain. Look at the openweathermap API for details on rainfall data so you can decide how best to present it to the user in the form of a notification (there is icons provided also from openweather map or you can create your own).
- Normally you would have an app open when the user selects the notification but there is enough work in the above.

There are servers that provide weather data such as:

<http://openweathermap.org/api>

Marks will be awarded for:

The functionality of the application, i.e. it should meet all aspects the specification defined above.

The appearance and usability of the application (use of images and user interface components/views, layouts etc.)

The quality of the coding of the application.