

Remembering things forgotten

6.883 – 5508 Problem Set 5

Due Wednesday April 10, 2006

1 Background

Your phone may always be with you and can easily be a memory assistant reminding you of things to do. Time-based reminders are fairly common, but location-based ones are more unique. In this assignment, you use the phone to generate content, associate it with a location, and when you arrive at that location, the phone issues a pop-up that either displays the content or indicates that there is content.

As usual, there is lots of freedom to be creative and to extend the assignment in interesting ways. Please plan things out before diving in to write code. A lot of time is being allocated for this problem set, but it is too much to do the weekend before the submission date.

Part I: Where am I

Simple version: Continuously loop and check where you are by listening for bluetooth devices. There should be at least two BT dongles or devices that indicate a location of interest, and they should be located at two different places. Ideally, one at home and one in the office, but for the problem set, two different offices are fine.

The tricky part is how to both poll for location information and be responsive to key-press.

Advanced version: use cell towers, gps receiver, and bt dongle information; whatever is available.

Part II: A Picture May Be Worth a Thousand Words (1k bytes) But How Many Sound Bites?

There are three types of "content" that you can easily generate on the phone using your sophisticated python programming skills. The easiest is text. The body of the screen can be a text box into which the user can enter and edit text. When done, indicated by selecting a menu item, the text can be written to a file.

Taking a picture in python is easy. Must take care to attach correct menu buttons to first say that one wants to take the picture and then to have the picture being taken. The real issue is getting the screen to display what the camera is seeing before the picture is taken. I do not know how to do this in python. I guess one can take and display a picture every second until the user pushes the "take photo" button or menu item.

Making an audio note is also not difficult. There is a record and stop operations and puts the recording in a wav file.

Although any of the three are possible, please do at least one for the problem set.

Whatever the content, it should be associated with a location.

Part III: In your face

When the phone detects that it is in a new location – one of the known locations, say by noticing a special blue-tooth dongle, then the phone checks to see if there is any content (files) associated with this location. If

so, it displays the content, in the case of text or picture. In the case of an audio note, it is your choice as to what to do: either display a message and have the user ask to play the recording or simply be annoying and play it automatically. The reminder should be deleted or something like letting the user keep the reminder for next time you come back.

Comments:

This problem set has a bunch of parts. Each is small, but putting them together can be complicated. Please spend some time planning overall flow of the application. It can be extended in many ways, and I encourage you to think about extensions.

The pieces, are fairly independent. So they can be worked on as separate modules. Try to generate and display content, without the triggers first.