

## SOFTWARE LAB ASSIGNMENT - 3

### Why are you doing this experiment ?

The intention is to teach how to design the User Interface in your programming assignment. Though it is the most important part of the user interaction, and the most likely to draw adverse comment, it is also the most neglected part of coding. May be because engineers do not understand a good interface intuitively. A good interface design can be taught, developing a great interface is an art to be developed by systematic application of processes and is difficult to master.

There are many tools which allow a basic UI to be cobbled together. For example, `tcl/tk` (and the `wish` shell) was developed by John Ousterhout to allow quick interfaces and shells to be thrown together. 4GL (4th Generation Languages) such as RAD tools (Delphi), IDEs such as Athena make this process easy and a lot less scary. In Ubuntu, try Anjuta or Glade or Fox/GLUT. In Windows, VisualStudio does an effective job of UI design.

User Interfaces can be static like the ones you are making in this experiment or dynamic. A good example of the dynamic UI is our joint project with University of Cambridge for which we are conducting user trials on 21-22 Jan 2014. You may volunteer for this activity (email [neerudewan2009@gmail.com](mailto:neerudewan2009@gmail.com) or call 6250). In this dynamic UI, if you are short-sighted or color-blind, the web page will adjust dynamically to give you the best viewing experience.

### Problem Statement:-

Develop an ubuntu app which can accomplish following two tasks:

1. forecasting next few days weather conditions
2. keep record of past few days' weather conditions (max 30 days) in to your database and show it as a strip chart which has a rewind / fast fwd button..

You can use `tcl/tk` for the GUI to interact with the user and scripting languages like `python`, `perl`, `shell`, `awk` etc for other operations. The user will be asked to enter name of a place for which weather conditions have to be forecasted, the number of days (n) for which to show information, and to press a button to decide whether to forecast or tell about the past n days' weather conditions. For keeping the record of past few days' weather information, you can use MySQL database (see the tutorial here- <http://www.mysqltutorial.org/basic-mysql-tutorial.aspx> ). Max 5 days' information need to be recorded.

You can make use of yahoo api for weather forecasting info. It easily tells about the next five days' weather conditions.

Develop html webpage using Doxygen to publicize your app.

Giving user an option to provide details of the place either by specifying name of that place or manually entering geographical location (lat/ long) will fetch extra credits.

Note- Mail a zip composed of your code, doxygen generated html and a report(qualitative description including screenshots)

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What is to be read for next week's assignment ?