

Software Design and Architectures
SE-2 / SE426 / CS446 / ECE426
Fall 2003

Assignment 3 : Layering in an Interactive Data Processing System

Due in class (1pm RCH 205) on Monday September 29.

Refer to the *Dataflow Diagram for Interactive Database* (Shaw and Garlan figure 4.4 p 75, or slide set for Shared Information Systems) and the *Information Systems Reference Architecture* (Larman sec 30.2 p 451, or slide set for Layered Systems).

Refine the dataflow diagram by dividing each of the 6 processes ("bubbles") into 3 subprocesses at different layers of the system. Use the Reference Architecture to guide your assignment of processes to layers. Redraw the dataflow diagram in a layered fashion showing which processes belong to which layer. Recalling that layered dependency should be directed *downward*, suggest a mechanism for constructing each of the dataflows.

(I count 27 dataflows in the final diagram, because there are 15 in the original one, and two more will be introduced for the substructure of each of 6 processes. Of course there don't have to be 27 different mechanisms!)