Design Patterns (revisited)

Mon Apr 23 at 6pm in McMillen Cafe

* ACM Fireside Chat

  * Indian Food
  * Update on CSE
  * ask ?'s/suggestions

* Organization/Information Meeting
  For programming contest
Lab 5 — Option 1

- change q's text to "foo"

Survey
Command pattern
Command execute()

SetQuestionText
Question:
String newText
execute() {
  q.setText(newText);
}

send

call execute when it arrives
Sophisticated Design Problem

Class Hierarchy, Design & Polymorphism

Design Patterns

Publish/Subscribe (Model/View/Controller)
Decorator pattern & proxy
Wrapper
Factory

Orthogonality & Plug-ins

Reflection
Goal: Want a way to display a list of objects in a table

- Any list!
- Any type of object!
- Table must update when we modify the list
- Edit elements
- Sort columns
Background:

1) JTable
   - View
   - Model
     - accessors/mutators:
       - get # row/cols
       - get/set values at row/col
       - get name of a column
       - get the type of a column
       - fires events when things change

2) TableModel
   - get/put row/cols
   - accessor/set values at row/col
   - accessor/set name of a column
   - accessor/set type of a column

3) JTable uses Cell Renderers & Cell Editors
   - can associate a renderer or editor with a type (specified as a Class object)
   - Both are factories that return JComponents

   designed for use in a JScrollPane
   - header is put in the scroll pane header
Design problem:
- Want data in a list
- Want table model behind the JTable

- Don't want a separate list & table model! (consistency problem)
- We want a list that behaves as a table model
- Don't want to reimplement existing lists or table models
- Want the table model to work for an arbitrary data type
Extend AbstractTableModel & implement List