

# Design Patterns (revisited)

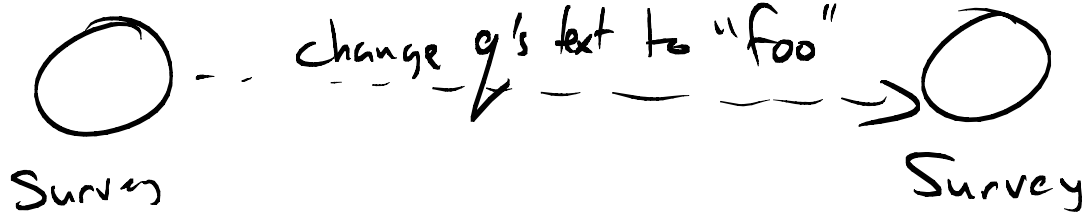
Note Title

4/19/2007

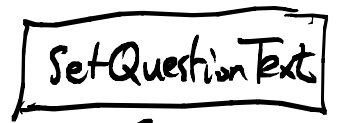
Mon Apr 23 at 6pm in McMillen Cafe

- ACM Fireside Chat
  - Indian food
  - Update on CSE
  - ask ?'s / suggestions
- Organization / Information Meeting for programming contest

# Lab 5 - Option 1



Command pattern



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



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

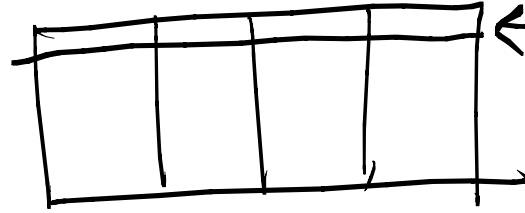
Goal: Want a way to display a list of objects in a table

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

## Background:

1) JTable

View



designed for use in a  
JScrollPane

header is put in the  
scroll pane header

2) TableModel  
Model  
accessors/mutators:

get # row & cols

get/set values at row/col

get name of a column

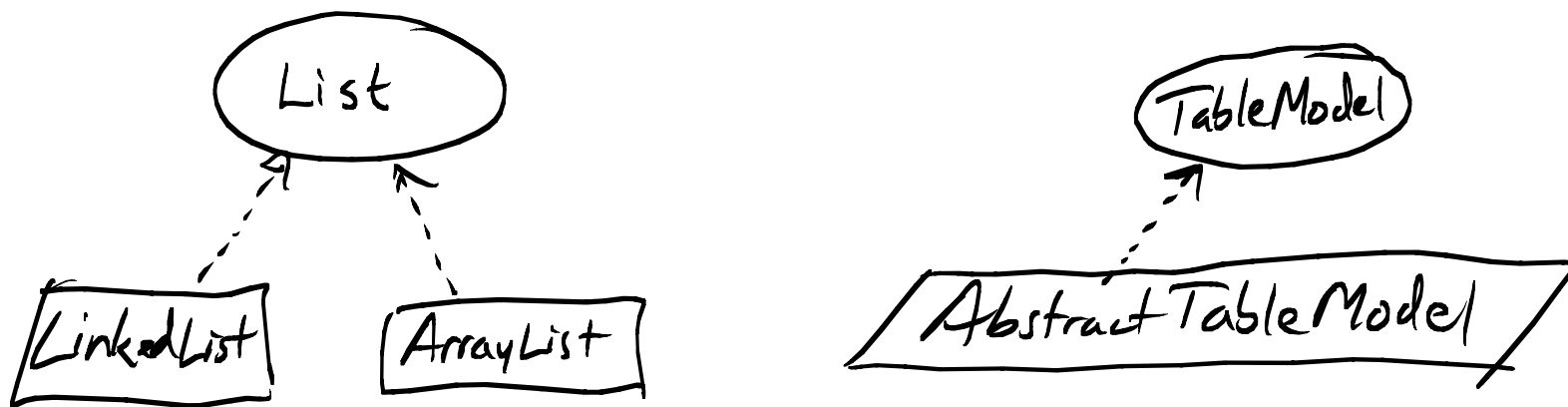
get the type of a column

fires events when things change

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

## 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

