MVC
Model View Controller
all about reducing coupling
Task: read in data & graph

```java
public class DataGrapher {
    private static Vector<Integer> data;

    public void readData(String filename) {
        // Read data from file
        data = ...;
    }

    public void graphData() {
        // Generate graph from data
        ...;
    }
}
```
public void main(String[] args) {
    String filename = args[1];
    readData(filename);
    graphData();
}
> java DataGrapher mydata.dat
read Data (filename, storage vector)

lost cohesion

data display

functions to manipulate

drawing View

data manipulation
data functions to manipulate data

- add - scale - filter - write Model
C - controller

\[ \downarrow \]

link between model & the view

the class that deals with user input
MVC was 1st developed in Smalltalk's in 80s

↓

Got picked up in 90s w/ advent of web

Apache Struts → MVC

MVC-Ⅱ
back to Swing

many Swing widgets

have a V & a M
Design Patterns

Adapter Pattern

1. Need to subclass to implement GUI (custom mouse bindings)
2. We don’t care about most of functionality.

So

⇒ we have an abstract class that implements default behavior for all methods.

We subclass & implement just a handful of methods.
What is a design pattern?

What’s a system architecture?

F,ord style  C,ape C,od  s,plit-l,evel

Set of constraints on a system

Common / unspecified
Client-server
Dataflow
Layer
Modular
Sw Architecture
Design Patterns

Christopher Alexander (architect)

A Timeless Way of Building (1970s)

Design Patterns
A DP is a "template" for a solution to a common problem

⇒ not at the architectural level

⇒ Gang of Four

⇒ Three Cs: (1) **Collaboration**

http://cz.com