

Problem 3

1 The basic problem

When one object (which we'll call the subject) changes state, one or more other objects (which we'll call the dependents) need to know about it so that their states remain consistent.

Consider, for example, a system with a (decoupled) user interface. Elements of the user interface may need to display an up to date version of the state of an object inside the system (a customer's balance, or whatever).

2 An initial solution...

3 Criteria for a good solution

- It should be possible to reuse the subject without having to reuse the dependants: for example, it should be possible to put a completely new user interface on the system without needing to change the system internally.
- It should be possible to add or remove dependants at run time: some objects need to behave as dependents of a given subject only some of the time.

4 A better solution...