

A Story

Once upon a time, a consultant made a visit to a development project. The consultant looked at some of the code that had been written; there was a class hierarchy at the centre of the system. As he wandered through the hierarchy, the consultant saw that it was rather messy. The higher-level classes made certain assumptions about how the classes would work, assumptions that were embedded in the inherited code. The code didn't suit all the subclasses, however, and was overridden quite heavily. If the superclass had been modified a little, then much less overriding would have been necessary. In other places some of the intention of the superclass had not been properly understood, and behaviour present in the superclass was duplicated. In yet other places, several subclasses did the same thing with code that could clearly be moved up the hierarchy.

The consultant recommended to the project management that the code be looked at and cleaned up, but the project management didn't seem enthusiastic. The code seemed to work and there were considerable schedule pressures. The managers said they would get around to it at some later point.

The consultant had also shown the programmers who had worked on the hierarchy what was going on. The programmers were keen and saw the problem. They knew that it wasn't really their fault; sometimes, a new pair of eyes are needed to spot the problem. So the programmers spent a day or two cleaning up the hierarchy. When they were finished, the programmers had removed half the code in the hierarchy without reducing its functionality. They were pleased with the result and found that it became quicker and easier both to add new classes to the hierarchy and to use the classes in the rest of the system.

The project management was not pleased. Schedules were tight and there was a lot of work to do. These two programmers had spent two days doing work that had done nothing to add the many features the system had to deliver in a few months time. The old code had worked just fine. So the design was a bit more "pure", a bit more "clean". The project had to ship code that worked, not code that would please an academic. The consultant suggested that this cleaning up be done on other parts of the system. Such an activity might halt the project for a week or two. All this activity was devoted to making the code look better, not to making it do anything it didn't already do.

1. **Was the consultant right to suggest further clean up?**
2. **What do you think happened next with the project?**

(From the Preface of *Refactoring: Improving The Design of Existing Code* by Martin Fowler)