

A code generator tool for the gamma design patterns

ABSTRACT

Software reuse has been recognised as an attractive idea with an obvious payoff to achieve software that is faster, better and cheaper. One important component to be highlighted in designing reusable object-oriented software is design patterns. Design patterns describe a commonly recurring structure of communicating components that solve a general design problem in a particular context. An important property of design patterns is that they are independent of a particular application domain and programming paradigm. As a result, design patterns facilitate reuse of software architecture, even when other forms of reuse are infeasible. Despite the fact that design patterns have tangible benefits, they have been found difficult to use. Since a design pattern only describes a solution to particular design problem, it does not lead to direct code reuse. Some developers have found it difficult to make the leap from pattern description to a particular implementation. The step in relaxing this complexity can be achieved using a code generator tool that aids developers to transform design patterns into code automatically. There are several pattern code generator tools currently available, but they have several shortcomings. This paper describes an attempt to automate design patterns implementation into a concrete form that takes advantage of WWW as a communication infrastructure. It includes the main features implemented by the existing tools and tackles some of their shortcomings. The tool has been evaluated and results were reported to be comparable and even better than other pattern code generator tools.

Keyword: Software reuse; Design patterns; Pattern code generator tool