Project Title: Design Patterns Orchestration and Adaptation to Facilitating Software Reuse
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Abstract:
Most design patterns are described using a combination of textual description, object-oriented graphical notation such as UML and sample code fragments. Informal textual description gives rise to ambiguity as well as limits tools support and their correct usage. There is also a lack of visual aid on the internal workings of a design pattern and its intended adaptation. When selecting and adapting a design pattern from a pattern catalogue, this ambiguity will reduce the effectiveness of applying a suitable pattern and design knowledge transfer. Formal description of design patterns aids in accurately describing them in order to rigorously reason about them. There is an emerging problem to cope with the shortcoming of information description. Formal description will serve as the basis to aid visualization support for the intended design pattern adaptation. Also, by explicitly viewing the static and variable part of the design pattern, designers are able to make a better judgment whether the current design pattern is appropriate for the problem. We propose to specify a method to visualize the possible adaptation and internal workings of a design pattern through an extension from formal techniques. From the research, a design tool prototype is developed to illustrate the approach used.