A framework for uniformly visualizing and interacting with algorithms in E-Learning

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ABSTRACT
E-Learning materials contain more and more interactive elements, which are a unique asset compared to conventional learning materials. But because of a usually fragmented development process (several co-existing generations of design, development over a longer time, many contributors, etc.), both presentation and interaction might vary widely between such materials, even within a single course offering. Furthermore, a common didactic model (what information is present, where and how it can be accessed, etc.) is hard to achieve. In this paper we propose a framework intended to address some of these issues by streamlining didactic, organizational and technical aspects of interactive e-learning examples. This framework has already been used and evaluated in the development of several such examples, which have been deployed in a blended-learning setting at the university level. While it is particularly well suited for visualizing various kinds of algorithms, it has also proven applicable for other types of interactive examples.

KEY WORDS
E-Learning, interactive algorithm visualization, framework, uniform interaction and didactic models