Applying software evolution theory to hypermedia systems

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Abstract: Environments on the web should support high-level hypermedia features to improve their key challenges: searching, navigation, adaptation and maintenance of hyperdocuments. In this paper, we show the benefits of applying software evolution theory to Hypermedia Systems (HSs) and, in order to face these challenges we propose the Semantic and Evolutionary Model for HyPermedia systems (SEM-HP) model. This model assumes that the development and maintenance processes of HSs are evolutionary; that is, they require a process of continuous change. These evolutionary mechanisms, in addition to other techniques (such as semantic representation, separation of concerns and user adaptation), allow the author to structure the hypermedia, select a presentation, design its navigation and specify adaptation rules according to his/her behaviour while he/she navigates. At the same time, an HS developed according to this model eases the search, supports and improves the navigation and adaptation and allows the evolution of the HS.

Keywords: hypermedia systems; user adaptation; software evolution.