

# SCM and Hypertext Versioning: A Compelling Duo

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## *Position Statement*

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Software engineering researchers have long been tantalized by a model of software projects consisting of a set of artifacts, such as requirements, specifications, test cases, code, etc., and relations, both implicit and explicit, between them. Several researchers in the hypertext community have been motivated by the possibility of making these relations browsable, allowing a software developer to quickly browse through their project information space. This research has resulted in systems such as Chimera [ATW94], HyperWeb [FHSC+92], HyperCASE [CR92], and HyperPro [Øste95].

Maintaining control over a large software project's artifacts requires the use of a software configuration management (SCM) system. Unfortunately, to date, hypertext systems for software development have only provided simple versioning of artifacts, often with drawbacks which limit the generality of the approach. For example, HyperWeb stores and versions all artifacts in a PCTE object base, preventing access by common tools which operate on files, and without support for configurations. HyperPro is similar, storing all code within an environment-specific database. While the authors of HyperCASE acknowledge the need for strong configuration management support, their system never achieved this goal.

Given the breadth of functionality in commercial configuration management systems such as Continuus/CM [Cont94] and ClearCase [Atri94], it is far better for hypertext systems to cooperate with these systems, rather than laboriously and unsuccessfully duplicate their efforts. Research on adding versioning capability to the Chimera system [WAT94] is focused on how to achieve such cooperation. The Chimera approach assigns responsibility for versioning the relationships between artifacts to the hypertext system. Responsibility for configuration management of the artifacts is assigned to a configuration management system which operates as a peer to the hypertext system.

This peer-to-peer relationship between the hypertext system and the configuration management system is expected to have several advantages, notably (a) use of a commercial SCM system allows hypertext to be applied to much larger software development efforts, (b) preservation of existing investments in SCM technology, (c) easier adoption of hypertext technology due to its cooperation with the existing environment, and (d) a clean separation of versioning concerns between the hypertext system and the SCM system.

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