ENSEMBLE: ENRICHING COMMUNITIES AND COLLECTIONS TO SUPPORT EDUCATION IN COMPUTING*

POSTER SESSION

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ABSTRACT

Ensemble is a new NSF NSDL Pathways project working to establish a national, distributed digital library for computing education. Ensemble is building a distributed portal providing access to a broad range of existing educational resources for computing while preserving the collections and their associated curation processes. CITIDEL and CSTA are two of the major educational resources that are part of this expanding

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collection. We want to encourage contribution, use, reuse, review and evaluation of educational materials at multiple levels of granularity and we seek to support the full range of computing education communities including computer science, computer engineering, software engineering, information science, information systems and information technology as well as other areas often called "computing + X" or "X informatics".

The various aspects of the project include: (1) developing a distributed portal, (2) defining appropriate metadata and methods for indexing computing resources - including using an ontology to describe computing topics, (3) instrumenting the portal so that we can track use and reuse of resources (so that faculty can easily get metrics analogous to citation counts for the educational resources that they create), (4) integrating social software into the portal, (5) developing mechanisms to handle use of resources at multiple levels of granularity, (6) articulation of the various topics and how they overlap in the various computing disciplines, (8) user development and dissemination, (9) information finding and collection development, and (10) evaluation.

Ensemble provides content, communities, and tools for computing educators and students. The content consists of freely available computing education resources stored within Ensemble or at other locations. Ensemble provides federated search, indexing, annotation, reviews, and other services to make these resources accessible, visible, and more useful to the community. Ensemble also provides other sources of information of interest to computing educators. This content includes information streams such as news, event notices, and blogs.

Ensemble communities support interaction among computing educators via facilities such as discussion forums, posting of working papers, and connections to venues such as Twitter and Facebook. These services support open collaborations such as a CS1 community site and also hosts closed working spaces for groups like the ACM Education Board and the Future of Computing Education Summit working groups. Ensemble tools provide access to more advanced facilities to help instructors and students' access and organize materials relevant to computing education. An example is Visual Knowledge Builder, which provides a workspace for collecting and organizing computing education resources. Ensemble also includes an alternate interface accessed via the Ensemble pavilion in Second Life.

Ensemble supports the full range of computing disciplines and also programs that blend computing with other STEM areas (e.g., X-informatics and Computing + X). Ensemble is funded by the National Science Foundation via the NSDL Pathways program.

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