The SMETE Open Federation: Interoperability of Educational Digital Libraries

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ABSTRACT
In this poster, we will demonstrate the key technologies and services developed by the SMETE Open Federation for educational digital libraries in Science, Technology, Engineering and Mathematics Education. The services include a number of federated search mechanisms, integration of user support services shared between geographically distributed partners and recommender systems.

Keywords
Educational digital libraries, interoperability, federated search, services for collections.

SMETE OPEN FEDERATION
The SMETE Open Federation bridges communities of learners and educators at all levels—present and future—that develop and use digital resources to strengthen learning in Science, Technology, Engineering and Mathematics Education. The Federation was founded through partnerships with nationally recognized professional educational organizations, academic institutions and private e-learning companies. With over twenty partners, the SMETE Open Federation exists to foster the ongoing collaborative development among partner organizations, provide tools and services to support collection and service providers, and develop programs and organizational structures that ensure stability, sustainability and scalability of the Federation's programs and projects.

SMETE.ORG: The Portal to the Federation
SMETE.ORG is the gateway to a comprehensive collection of science, technology, engineering and mathematics (STEM) education content and services to learners, educators, and academic policy-makers. This portal is the product of the collaboration of the SMETE Open Federation (see www.smete.org). SMETE.ORG serves as the integrative organization and distributes pedagogical material through the establishment of a federation of digital libraries. Providing direct access and delivery of instructional resources, the SMETE Open Federation advances education through participatory communities of learners.

The SMETE Open Federation technology services allow participating SMETE collections and services to form a cohesive digital library community that embraces and represents the fundamental diversity of our members. The technical foundation of the SMETE Open Federation is a set of sophisticated protocols and specifications to permit any SMETE collection or service to leverage the combined collections of the our members. This approach offers a range of options for collections to use for participating in the SMETE Open Federation. Collections and services can negotiate their participation to meet their needs from a set of options bounded by the following two endpoints of a continuum.

Key Services for Learners and Educators
The SMETE Open Federation will demonstrate a number of currently operational services, including:

- Multiple federated search techniques that allow end-users to perform parallel queries for educational resources across digital libraries.
- Recommender systems that provide personalized recommendations for end-users.
- Interoperable services to provide end-users pedagogical support and guidance through Utah State University's Instructional Architect.

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