

A Model Collaborative Platform for Geoscience Education

Sean Fox, Cathryn A. Manduca, Ellen A. Iverson, Science Education Resource Center, Carleton College



serc.carleton.edu

Over the last decade SERC at Carleton College has developed a collaborative platform for geoscience education serving dozens of projects, thousands of community authors and millions of visitors. The platform combines a custom technical infrastructure, the SERC Content Management system (CMS), and a set of strategies for building web-resources. These promote dissemination through project websites, cross-project material reuse (with attribution) and access via an integrated geoscience education portal that draws from all projects using the platform.

Geoscience education project websites have common needs:

- A public web presence that establishes the project identity and provides information about the project.
- Publication, organization (as with controlled vocabularies) and discovery services for resources produced or curated: curricula, activities, etc.
- A platform for supporting events: e.g. workshop registration and logistics.
- Collaboration tools for use both within the project and to engage with their community: private workspaces, email lists, discussion boards, social media integration

Generic solutions are available

Most of these needs would appear to be met by any of a variety of web hosting options (both commercial hosting and making use of local institutional options) and open source content management systems: e.g. Drupal.

As a shared collaborative platform SERC's CMS offer additional benefits beyond the generic solutions

SERC's CMS is a custom-built, web-based platform designed specifically to support geoscience education projects. It runs on infrastructure managed by SERC which also provides direct support in effective use of the system. All the projects using the system benefit from the use of a variety of common features and the transparent cross-project integration facilitated by working on a common infrastructure.

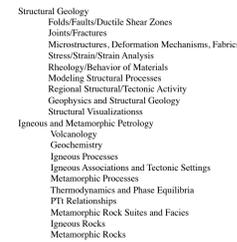
The platform reflects shared tools and practices evolved by the community of projects....

Shared Publishing Templates



Common page templates that reflect best practices such as this ActivitySheet format help projects ensure they are including the details their users will need, while providing users a familiar bridge between projects.

Shared Controlled Vocabularies



Common controlled vocabularies such as this excerpt from the larger Disciplinary Subject vocabulary are used to tag materials within each project to drive discovery and organize resources

Community Engagement Recipes

The system supports a streamlined and heavily scaffolded process for soliciting teaching activities from faculty and turning those into a searchable collection. Recipes like this involve online tools tightly integrated with a specific well-tested social process to solve a challenge common to geoscience education projects.

Review Management Toolset



Project-specific review processes can be supported through a set of configurable online tools that collect and tracks review data.

...that enable low-barrier cross-project integration

Cross-Project Collections



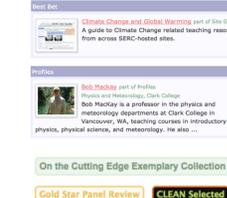
It's simple for a project to generate a targeted collection by drawing on resources from several partner projects. This collection of climate related teaching activities draws from a half-dozen different projects.

Common User Profiles



Public profiles reflect engagement across multiple projects allowing visitors to explore inter-project connections based on overlaps in project communities.

Cross-Project Search Enhancements



Search interfaces within project sites can highlight review outcomes from other projects, and provide cross-project links through best bets and profiles based on the visitors search terms.

Platform-wide Portals



Site Guides and Platform-wide portals allow visitors to explore themes that cross-project boundaries. The shared hostname helps search engine ranking.

Projects retain their own identity and have their project-specific needs met while gaining easy integration with other projects on the platform

The SERC CMS provides a common platform upon which individual projects can build their own identities, while allowing cross-project pollination and synergies to be realized without significant extra investment by each project. This is a sustainable model for a collaborative platform that takes advantage of the energy and resources of individual projects to advance larger community goals.



This work supported by the National Science Foundation through grants including: NSF-DUE: 0127141, 0127310, 0127257, 0127018, 0226243, 0226199, 0226243, 0443076, 0532768, 0633124, 0633402, 0633755, 0817353, 0938020, 1044028, 1125331; NSF-GEO: 0304762, 0085600, 1202920, 0507394; NSF-EAR: 0614926, 0331930; NSF-DRL: 0722388, 1019721.