



Ed Tech Grants Program - Round Seven

4/14/2005: Entire Application For
Distributed Learning Project

Project Investigators

Primary Investigator

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Has Primary Investigator applied for an Ed Tech Grant before?

Yes

Has Primary Investigator received an award for a previous application?

The Distributed Learning Project received an ETC grant and developed the project but is in need of a follow-up grant to be able to successfully implement the research undertaken so far.

Co Investigator(s)

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Project Abstract

The Distributed Learning Project (DLP) an online software tool that will support learning communities to create, find, and share content. Its initial implementation in the field of new media (arts) and new media theory is an example that can be extended to any other academic field that uses specific disciplinary language (i.e. Clinical Sciences, Physics, Communications, Engineering, Comparative Literature).

This collaborative learning project focuses on new media education. New media departments are emerge all over the US, Europe, and South East Asia, yet educators are struggling with questions about how to best educate students: Which texts should read? Which topical orientation is most urgent? Which vocational skills are needed now and where can I find good tutorials? Which Open Source Software tools work best and where can I download them? Instead of re-inventing the wheel over and over, The Distributed Learning project offers a central hub for educators and researchers in the field of new media (and potentially any field) to connect and collaborate on the creation of curriculum.

The DLP is a collaborative online tool that allows educators in the U.S. and internationally to openly share knowledge, content, as well as resources, and work collaboratively on the development of curriculum. Intellectual property questions are addressed through the widespread application of Creative Commons licenses. A particular strength of the project lies in its facilitation of associative referencing and searching. Descriptions of entries are automatically scanned for instances of what we refer to as "subjects", which map out a taxonomy of important concepts and an idea space. It than offers the user who searched for term A also results ("projects," "resources") for terms that we associated with term A. For example, a link on "Michel Foucault" will not only bring up projects referencing "Michel Foucault" but will also show entries containing other subjects related to the subject of Foucault. As an example, results may also contain references to such subjects as "The Order of Things", "Archive", "Control", and "Database". Our investigation of such associative capabilities, inspired by emerging paradigms such as topic maps and the semantic web, goes beyond traditional approaches such as meta-tagging to potentially broaden the context of user supplied content.

The development of the initial phase of this project over the past year has lead to us establishing valuable relationships with researchers at other unversities such as Rice, Harvard and UC Santa Cruz (for details see project narrative). The interest expressed in the DLP as well as the existence of other similar, yet unique, emerging initiatives in these centers underscores the timeliness of such a project. We must admit that we were overly optimistic with our goals and timeline last year. Having now gone through several development cycles we

DLP concept. Working with the ETC and outside contributors during the next phase will allow us to realize these insights as a collaborative, community building resource for the academic community.

Institutional Impact

The UB 2020 *Strategic Strengths* listed below are targeted by this project

- Artistic Expression And Performing Arts
- Civic Engagement And Public Policy
- Literary, Cultural, And Textual Studies
- Information And Computing Technology

the intended teaching and learning impact of this project are:

1) The Distributed Learning Project (DLP) could be adopted by any department.

In its current incarnation the DLP tool is focused on the field of new media research. But it could be easily re-designed to serve any other field that uses a specific disciplinary language (Medicine, Physics, Comparative Literature, Communications, etc). The project is meant as an exploratory prototype and proof of concept for future UB IT courseware.

2) In addition, The Distributed Learning Project will allow several departments at UB with intersecting research interests to collaborate. The project will immediately aid teaching in the Department of Media Study, Art, and Informatics (potentially Computer Science, and Social Sciences).

3) In the same way that such collaborative, open access learning projects have contributed to the internationalization of universities with such projects (Rice, and Harvard)- the project would also add to UB's international visibility.

Project Narrative

The one group which would benefit most from this project is:

- Undergraduate Students

Following is a discussion of this project, its intellectual content, its activities, and its intended beneficiaries:

(See supplemental documentation for pdf file of narrative)

The Distributed Learning Project (DLP)

<http://www.molodiez.org/dlp/page/home.php>

Development Weblog

<http://distributedcreativity.typepad.com/dlp/>

The Distributed Learning Project (DLP) provides an infrastructure for groups of researchers and educators of all kinds to create, find, edit, re-use and share up-to-date content situated in new media discourses and production.

What is the Distributed Learning Project (DLP)?

The DLP is a project by Trebor Scholz and Tom Leonhardt supported by an ETC grant. It is a web-based collaborative educational project that is accessible twenty-four hours, seven days a week for anyone with an Internet connection. The DLP is a peer-reviewed experimental knowledge network supporting collective research in new media. The project is for all who are curious, interested and engaged with new media on

knowledge from the audio sound lab, the new media art classroom, the design studio, and the many departments and disciplines within universities internationally.

The Terms We Use

At the center of the structure of the DLP are the terms subject, module, resource, and project. In addition, we speak of participants rather than users. For a description of these terms please consult the DLP detailed glossary below.

Linking Ideas

Inspired by ideas of topic maps and the semantic web this easy-to-use tool for teaching and research interconnects chunks of knowledge from different departments, disciplines, universities, cultures and professions to aid new media education. Knowledge is drawn from diverse research fields. In between these contexts the DLP links concepts, people and projects. Use this tool for teaching, researching or just to learn something new.

Links within the DLP are established automatically when the content in two contributions is related. Words within the module link the user to relevant other modules based on topic maps and connections made through the semantic web. The DLP offers an area in which users can assemble modules or resources to aid their research, build lectures, and core curriculum.

Goals

The goal of the project is to provide a collaborative educational tool that can be easily adapted by different disciplines.

Short term value:

Linking up of educators and researchers teaching classes on new media. We plan to link up databases with similar projects to ensure richness and diversity of content. With workshop and presentations and through online communication channels a community of users is created. This also requires travel to build personal relationships with selected interested new media educators. It is these relationships that will guarantee that the DLP gets populated.

Mid-term value:

Database gets populated. Workshops on the DLP involve an increasing number of researchers and educators worldwide. Increasing quality of entries and number of visitors.

Long-term value:

The DLP becomes a valuable tool in many disciplines such as medicine, bioinformatics, nanotechnology, and clinical sciences, etc.

Motivation

Researchers and all learners across the United States and internationally teaching in new media find it hard to keep up with a field that is evolving rapidly. They may find it challenging to design new curriculum because there is little precedence for their work and it is challenging to cover both, in-depth knowledge and advanced skills in cultural theory, art (history), and the technical insight needed to produce using emerging technologies.

In the text context of the DLP knowledge transcends the walls of the university lab. Here, collaborative interauthorship appears within groups of researchers, industry professionals, lawyers concerned with Internet law, sociologists, students, media critics, VJs, media artists, musicians, and educators.

The DLP encourages open exchange of knowledge and free distribution of research materials. Collective research (and not password protected syllabi) saves time, and resources and it improves teaching.

Many texts in new media have short expiration dates and textbook are linear, expensive and are often not up-to-date. The DLP offers an alternative to traditional modes of teaching-- it questions the way knowledge is created, developed, and distributed to the public.

Researchers and educators alike search each others materials and syllabi online to learn about topical orientation, or coding problems. But, we ask-- why reinvent the wheel? Why not benefit from platforms of co-operation such as the DLP?

Example

Somebody with a background in computer science could choose to only see modules on loops in php programming for instance. But she would also get relevant topics drawn from cultural theory relevant to data-based programming with issues such as the archive, memory and forgetting, human rights, access, and data knitting. A person leaning more towards cultural theory would find information intriguing to them. A data artist would find project descriptions and screen-grabs of database driven online artworks.

Open Source Software/ Open Content

The approach of the DLP actively encourages open source software and open content. We use html, php, xml and mysql in the creation and development of the project. We propose to view the project using a Mozilla browser such as Firefox.

Relationships To Other Universities

We established many relationships other universities. For example, we are currently working with the directors of comparable projects at Rice University and Harvard University (H2O and Connexions) and UC Santa Cruz. Molly Krause, the project manager of Harvard University's H2O project invited us to be part of a workgroup at Harvard. This group has the goal to create an XML standard that connects the databases of our projects. Entries into either project would go into both. Beyond that we are planning to connect to MIT's OpenCourseWare and Rice University's Connexions project as well as a similar emerging project at UC Santa Cruz. Rice University's Connexions' Director Richard Baraniuk invited us to collaborate. Professor Warren Sack at UC Santa Cruz contributed an extensive annotated bibliography of new media, formatted for our database. Intern Nikolina Knezevic who is a PhD student at New School University defined the thousands of relationships between specific subjects. The project progressed to a data model, creation of the database, moderate input into the database and the establishment of about 700 subjects and relations among them. However, large parts of the coding have not been finished and the interface design of about 30 templates has not been done yet. In the spring semester 05 Tom Leonhardt, Thomas Slomka (of ETC) and Trebor Scholz had weekly work meetings in which we re-thought the project. While this was highly necessary it did shift our initial time schedule. We are asking the committee to grant us an additional ETC grant to finish this tool, which already many new media educators showed interest in using. Without this follow-up grant we could not finish the project.

What do I submit?

Anybody interested in new media can share their knowledge by uploading content. Just create a free account and you are ready to start. Each contribution, short or long should focus on a particular topic. Modules mostly include links to resources such as sound, images, readings, or tutorials (pdf or txt format for download).

Text includes lecture notes, code, definitions, case studies, descriptions of artworks with screenshots, thumbnails, references to relevant films or DVDs, animated demonstrations, news items, readings, bibliographies, quizzes, tutorials, timelines and more.

Bibliographies are to be submitted in Harvard format. For correct formatting please see <http://referencing.myquestion.net/index.htm>

The module description should contain the prerequisites needed for the course. Modules are maintained by the author or 'group initiator.'

What happens to my submission?

Once uploaded a team of new media researchers will review your entry. Contributions are automatically added to the site. However, the review team reserves the right to edit out submitted material.

How do I view the information?

Users can choose in which way they want to view the DLP. They can choose to only see results that refer to one area such as programming. One could choose, for example, to only see all tutorials introducing php. This flexibility allows for individual framing of content.

Project Building

Modules selected by a participant can be arranged in an order as part of a project. They then become a project to which additional material can be added. Application of this are lectures series, research support, or syllabi.

Editing Modules

Each author who is logged in can edit her own module. Authors can admit other DLP users to edit their material.

Working As A Group

The uploaded teaching resources can be developed by trusted authors- taking the idea of free software to theory and art. A community of authors uploads material to then improve on each others texts. The quality of submissions is based on authorship pride. Rather than the single-author-to-one-text relationship here collaborative inter-authorship appears. Users can change existing texts, and code.

How long will it take me to submit?

It will take you from a few minutes to a few hours to get the material together and format it in the DLP. This is well worth it and comparatively much more time efficient than spending entire summers searching the web for relevant material.

Intellectual Property

Be aware of copyright issues when you upload a file. Never use materials that infringe the copyrights of others. In the text that you add to the image describe the copyright situation. Should you find a fascinating text that is copyrighted in a book or newspaper article it is important to know that it is the creative expression of ideas that is copyrighted, not the ideas themselves. It is perfectly legal to write about these ideas in your own words.

Submissions to the DLP may include images, and text quotes used under the U.S. Copyright law "fair use" doctrine. We prefer the use of images with the most free license such as GNU Free Documentation License (GFDL) or public domain. Along with the GFDL all material on this site is licensed under a Creative Commons License. Documents (images and texts) can be copied and distributed as long as the source is stated and non-commercial, free access to the information remains intact. This principle is called copyleft. The contributing author chooses one of the license types available at www.creativecommons.org The DLP allows unlimited modification and distribution of modules, provided authors receive attribution for their work. Commercial use of submitted is not permitted unless otherwise specified. The content contained in the dlp is protected under the creative commons licensed.

What about images from ".gov" or ".mil" websites?

The general rule is that images, which were photographed by a government employee as part of her job are public domain. There may however be exceptions to this rule. Always check.

If you suspect copyright infringement...

The DLP does not police materials before participants upload them. We cannot determine if the correct ownership is stated in a given submission. We will immediately remove any material that has infringed the rights of others. If you believe that a particular submission infringes another's copyright, please send us a comment to fdc@distributedcreativity.org.

To request removal you must be either the owner of the copyright or a person to act on behalf of the copyright owner. We will email you our fax details so that you can provide us with a statement of claim.

Which file image file formats do you support for upload?

The site currently supports ".jpg," ".jpeg," and ".png" Ideal image file size is between 35KB and a max of 70KB Examination of copyright as it applies to images is required. A no-porn rule is strictly examined.

Glossary

"Subject"

Subjects are shared tropes by content in the DLP-- they are the glue of the project and agents of intertextuality. When a participant enters a description for her contribution into the DLP- the text is scanned for terms that DLP authors defined. These terms are associated with other related ones. A participant's search result is displayed together with entries that contain terms associated with search terms. These associated results are ordered by subject, project, module, and resource.

"Module"

Modules are stand-alone texts or instructions mainly on one particular topic. For example, a module contribution could be an introductory text contextualizing the use and history of databases in an art context. This module can be associated with resources. Several modules can be grouped together to form a project.

"Resource"

Resources are meant to support modules and projects. These can be media files, URLs, link lists, bibliographies, code-- accompanied by a description.

"Project"

Projects are aggregated content from within the DLP. Participants browse the data available in the project and mark them to become part of a project. A group of participants can decide to work together on one project (ie. edit a text collaboratively).

"Participant" vs. "User"

We talk of participants rather than users as the latter is a misleading term derived more a shopping user of a corporate website. We rather think of creating, distributing and shaping than using.

"Topic Maps"

Topic maps address the information overload that we are faced with.

Book indexes basically perform a similar function. Topic Maps are the online equivalent of printed indexes-- they are made up of multiple links. Knowledge is described and associated in more complex ways. Topics are grouped in classes of topic types. Topics maps are about optimization of navigation. They are "connection hubs" between the modules. Information is accessed through a semantically associated list terms that offers all entries that semantically relate to the search term (for example "employment" would be associated with "employee" and "employer". This method is more effective than the alphabetical arrangement of keywords. This is made possible by XML technology. The navigation allows you to visualize connections between concepts, code, theory, and art. Module A module is a self-contained component of a system, which has a well-defined interface to the other components; something is modular if it is constructed so as to facilitate easy assembly, flexible arrangement, and/or repair of the components. We refer to modules here as knowledge chunks.

"Semantic web"

URL: <http://www.semanticweb.org/>

The Semantic Web is a project that intends to create a universal medium for information exchange by giving meaning, in a manner understandable by machines, to the content of documents on the Web. Currently under the direction of its creator, Tim Berners-Lee of the World Wide Web Consortium, the Semantic Web extends the ability of the World Wide Web through the use of standards, markup languages and related processing tools.

"Metadata"

Metadata is data about data. An example is a library catalog card, which contains data about the nature and location of a book: It is data about the data in the book referred to by the card. The content combined with its metadata is often called a content package.

Related Projects

H2O

<http://h2o.law.harvard.edu/index.jsp>

The H2O project is building an interlocking collection of communities based on the free creation and exchange of ideas. The recent development of the Internet has been overwhelmingly driven by commercial interests. Commercial websites must ultimately focus on making money. The founding premise of the H2O project is that the university world has something to add to the growth of the Internet that the commercial world cannot contribute. H2O aims to apply Internet technologies to the underlying aims of the academy -- the free creation and exchange of ideas and the communities formed around those ideas -- both within and beyond the confines of the traditional university setting.

KEEP toolkit Tool for Knowledge Exchange, Exhibition and Presentation

<http://www.carnegiefoundation.org/KML/KEEP/index.htm>

Carnegie Foundation

The KEEP toolkit is a set of web-based tools that help teachers, students and institutions quickly create compact and engaging knowledge representations on the Web.

The Open Knowledge Initiative

<http://www.okiproject.org/>

The Open Knowledge Initiative develops specifications that describe how the components of an educational software environment communicate with each other and with other enterprise systems. O.K.I. specifications address broad interoperability agreements that allow for adaptation and further specification by communities of practice. In this way, O.K.I. seeks to open new markets for educational tools and content.

URL: <http://ocw.mit.edu/index.html>

MIT's OpenCourseWare is a free and open educational resource for faculty, students, and self-learners around the world. OCW supports MIT's mission to advance knowledge and education, and serve the world in the 21st century. It is true to MIT's values of excellence, innovation, and leadership.

Connexions

URL:

Knowledge should be free, open, and shared. Connexions is a rapidly growing collection of free scholarly materials and a powerful set of free software tools to help authors publish and collaborate, instructors rapidly build and share custom courses and learners explore the links among concepts, courses, and disciplines.

Timeline

Goals and tasks for each month of the grant cycle:

May / June

Meet with ETC grant co-ordinator.

July

Complete web site plan, data model and interface mockups. Write comprehensive design brief which outlines motivations, strategies and functional requirements of project. Complete initial subject list with relationships and introductory text.

August

Begin server scripting, focusing on functionality required to test display of content associations. Begin production of web templates, designed to allow rapid modification during the testing phase. Set up the database and load subject list.

Begin collecting and editing content focused on initial test subjects.

Late August / Early September

Meet with ETC grant co-ordinator.

September

Complete the bulk of server scripting to support all required interactions with database.

Begin testing interface internally with focused set of content (i.e.: material related to one course). Debug interface functionality and information design issues.

October

Complete server scripting and database-tuning based on initial testing.

Expand testing to include select group of academics. Travel to establish personal relationships with a small group of select academics who will use the site. This socialization of a tool is an often overlooked yet crucial part to the success of an online tool like this. The higher the quality of the initially submitted content- the more will high ranking scholars feel attracted to using the site. To get advanced researchers involved requires a demonstration, a workshop and personal, face-to-face contact.

Develop promotional material for conference presentations and launch.

Late October / Early November

Meet with ETC grant co-ordinator.

November

Official site launch including distribution of promotional print material.

December

Late December / Early January

Meet with ETC grant co-ordinator.

January

February

Late February / Early March

Meet with ETC grant co-ordinator.

March

April

Technologies

Technologies that will be used to implement this project:

group and collaborative learning tools

Each user (or what we call participant) can invite and admit others to join in the editing of modules and projects. The DLP provides a central hub for new media educators who can work in this online tool collectively from remote locations.

Faculty can collaborate to collaboratively create content and students can use this vast, open resource.

information architecture

The innovation in information architecture lies with the search feature that associates what we call subjects with entries. It brings up a variety of search results that contain subjects that we associated with the search term. There is a total of about 700 subjects with thousands of associations that we defined based on five types of relationships.

repurpose existing content

Users enter (upload) material such as course descriptions, which are then repurposed, collaboratively edited, and/or restructured in what we call a project. This can be paralleled to the idea of the shopping chart. In our case a browsing user selects "knowledge chunks" (what we call modules) and can bring them together similar to checking out in a shopping chart. While this consumer metaphor is not unproblematic it demonstrates the technical functioning of this feature well. Content is repurposed in new combinations. For intellectual property concerns see the supplemental documentation: full-length narrative.

digital library

The issue of Intellectual Property of submitted material is addressed with the option to select one of 16 creative commons licences. For information on the creative commons license system see: <http://creativecommons.org>

Budget Request

Item Type	Person/Resource/Material	Purpose	Cost In \$
Materials / Misc.: Travel	The DLP is as good as the people who input into it. Online tools are not populated without being socially integrated. The socialization of online tools is an often overlooked yet crucial factor to their success. High-ranking scholars are attracted by high quality content. The quality of the initial content depends on the willingness of high ranking scholars to contribute. This will be achieved through personal relationships, workshops and demonstration on campuses. We need to go to these campuses where faculty plans using the DLP-- give workshops and establish personal relationships. Those relationships are a key to the project's success.	travel (2 presentation trips for Scholz/Leonhardt - 1 West Coast, 1 East Coast)	2500
Personnel: Consultant	Thomas Slomka	project concept development & planning (contribution in kind by ETC)	1
Personnel: Faculty Stipend	Trebor Scholz	project management, design & concept development, academic outreach (1 month)	2200
Personnel: Graduate Assistant Stipend	Tom Leonhardt	server script programming, database design/implementation, design & concept development (4 months)	4800
Materials / Misc.: Services	ETC staff	interface & promotional material design (contribution in kind by ETC)	1
Materials / Misc.: Services	promotional printing	brochure outlining the project	500
Total			10002

Supplemental Documentation

<http://www.molodiez.org/dlp/page/home.php>

Location of project.

<http://distributedcreativity.typepad.com/dlp/>

Development Blog of the Distributed Learning Project.

Here we kept a log of most issues discussed and managed the content.

<http://h2o.law.harvard.edu/index.jsp>

Harvard's H2O

The H2O project is building an interlocking collection of communities based on the free creation and exchange of ideas. The recent development of the Internet has been overwhelmingly driven by commercial interests. Commercial websites must ultimately focus on making money. The founding premise of the H2O project is that the university world has something to add to the growth of the Internet that the commercial world cannot contribute. H2O aims to apply Internet technologies to the underlying aims of the academy -- the free creation and exchange of ideas and the communities formed around those ideas -- both within and beyond the confines of the traditional university setting.

<http://wikipedia.org>

Wikipedia, the collaborative knowledge sharing encyclopedia.

Here users contribute to a peer-edited free and open encyclopedia.

<http://www.creativecommons.org/>

Copyleft development organization that developed 16 widely accepted copyright licenses, which offer legal protection beyond the confines of traditional copyright.

http://molodiez.org/dlp_datmodel.jpg

Work Flow Chart

http://en.wikipedia.org/wiki/Dublin_Core

Dublin Core

The Dublin Core is the widely-used library standard.

We use the Dublin Core to describe our resources.

<http://molodiez.org/dlp-interface.pdf>

Interface design mockup (for 3 web pages: create project, project view, subject view).

http://distributedcreativity.typepad.com/dlp/files/DLP_overview.pdf

in-depth essay on issues, goals, motivation of DLP

<http://ocw.mit.edu/index.html>

MIT's OpenCourseWare is a free and open educational resource for faculty, students, and self-learners around the world. OCW supports MIT's mission to advance knowledge and education, and serve the world in the 21st century. It is true to MIT's values of excellence, innovation, and leadership.

<http://cnx.rice.edu/>

Connexions

Knowledge should be free, open, and shared. Connexions is a rapidly growing collection of free scholarly materials and a powerful set of free software tools to help authors publish and collaborate, instructors rapidly build and share custom courses and learners explore the links among concepts, courses, and disciplines.

http://molodiez.org/DLP_overview_0405.pdf

Full-length project narrative for download

<http://molodiez.org/dlp-pagedata.pdf>

Web page information design (for 3 web pages: create project, project view, subject view). This lists all dynamically generated content and navigation links on each page. Informs interface design and helps identify scripting requirements. Provides checking mechanism for data model.

<http://molodiez.org/dlp-datamodel.pdf>

A Data Model which shows how all the contributed content is grouped into data entities which are then related together. The design of our relational database is based on this model.

...end of document