

**COLAB Studios:**  
**Augmenting Collaborative Creation of New Digital Literature for Cyberspace**

**NARRATIVE**

**Enhancing the humanities through the use of emerging technologies**

***IMAGINE***

Imagine you have a significant flash of insight triggered by the association of a report of a recent discovery, an essay just read online, and in context of a book you are reading. You quickly write about your insight and post it into your blog, where it might attract a few comments and then slide into the (searchable) basement archive of cyberspace. But you have another option: you schedule time at a convenient colab studio and invite three of your local colleagues to join you for a few sessions in the colab studio to create a webdoc related to your insight. Your colleagues are referred to your blog entry and are encouraged to contribute some spontaneous comments.

You and your colleagues meet at the colab studio, which is equipped with a wide assortment of intelligent collaboration tools, more than most individuals can afford and learn to use. The technical staff is there to support you. Staff have been selected according to the specific processes you want to engage in the colab studio. You and your colleagues may be given instructions on use of the colab studio where your profile of colab studio competencies on record indicate a need for instruction. Some instruction may have been done individually at home if that person alone lacked the requisite competencies.

You have the option to sit or stand in the colab studio, even move about. Each of you is equipped with a quality wireless microphone and where you sit or stand has a camrecorder able to follow you with minor movements. Available in separate windows or monitors are the texts involved: the essay, the report of the discovery, access to pages in the book you were reading, your blog entry and the comments of your colleagues.

You and your colleagues start a verbal dialog on the potential relevance of your insight. Your objective is to create a webdoc in the colab studio (possibly involving more than one session) that will share the potentials of your insight with a larger audience in cyberspace. The webdoc will be in a format that will be entertaining, educational, and with features to attract participation from the online audience.

As each person talks, they will be recorded and the others will listen. The person talking may accompany their speech by sketching on a pen/pad or by standing at an electronic whiteboard. Those listening are patient, letting the speaker complete his or her thought package. However, if there are specific moments a listener deems special and would like later to comment on, they can electronically mark the recording with an index that may include a value scale. Listeners may also attach brief notes to these indexed moments.

The dialog may continue, each person contributing to the dialog as listeners index important moments. Depending on how the team prefers to timeweave, they can call for a replay of an indexed segment, after which dialog can continue related to that indexed segment and that branching dialog is automatically linked to the original recording. Over time, this will generate a branching tree of dialog segments. A diagrammatic map of these segments can be displayed and used for navigation. Notes and sketches can also be linked to the dialog web and viewed. During the playing/viewing of any segment, it can be paused and indexed, and another segment branched from that point. This is but one example of the potentials of augmented composing in hypertext and hypermedia. See attachment [hyperwebs.pdf](#) for brief background on the development of hypertext composing.

This may conclude the first session, or by shifting position in the colab studio, the participants may begin to design the webdoc to be composed of segments from their dialog along with sections of text and graphics. Dialog during this active webdoc construction might also be recorded, as new insights are often triggered when creating. Participants may suggest other segments for inclusions in the webdoc: some linked from cyberspace, some video or

animated graphics, and even background music.

The product, the webdoc to be posted in cyberspace may contain segments of the video recorded dialog. Or, some may be transcribed and presented as text. Future generations may provide the cyberspace user options for both viewing and participating. Feedback from viewers may lead to revisions; or other teams in other colab studios could create another webdoc building on the original, and linked back to it.

This is but one example of the multifaceted/multiple uses of colab studios. The pilot colab studio may not include all of these features. See [sampleactivities.pdf](#) for other sample activities and self-supporting (or commercial) products for colab studios.

### *Explanation of the start-up activities and the ultimate project results.*

It is important to distinguish the objectives of this pilot start-up and the intended consequences of achieving those objectives, the ultimate goal being the spreading use of viable colab studios. The colab studio created during the start-up will be primitive and attractive to use only for those desiring to further the improvement of colab studios. However, even with this early form, the start-up project will create many quality webdocs for cyberspace. After a few generations of development, colab studios may be as popular as cell phones or laptops. The evolving adaptation of new technologies is a complex process, often with many surprises.

"Colab studio" refers to both a physical setting with intelligent tools and a mental concept of what potential creative processes and products can emerge when the setting matches the cognitive needs of those using colab studios. An introductory description of colab studios and its potential uses is given in the abstract of this proposal.

Although colab studios will attract users from many domains of human endeavor, they will be especially attractive to the humanities, which may be one of the domains least served by digital technology. Digital technology has brought much of the production of human creation to scholars, students and general audiences. Music, dance, drama, art, sculpture, poetry and even

simulated tours of historical architectural sites are available to broadband viewing online; and much more will be available in the future.

However, what is not yet well augmented by digital technology is human dialog and discourse on the more abstract issues that serve as context for the perceivable products of human creativity. Digital technology has increased both the volume and response time for dialog on critical issues to the humanities. But, I'm sure not just to me - a participant for decades - computer forums, listservs, and email threads have not improved the quality of discourse. Concerns about quality and ease of interaction openly discussed in the late 1980s and 1990s remain unresolved.

Digital technology lags in providing tools to augment composing in hypertext. This lag is highlighted by the potentials cited in 1991 by Jay David Bolter in Writing Spaces: The Computer, Hypertext, and the History of Writing (also available in hypertext at <http://elab.eserver.org/elab.html>)

There are many reasons for this, and colab studios cannot alone resolve this difficulty; but colab studios will be a valuable tool in bringing quality to discourse in the humanities, for both scholars and the general public.

***Description of the scope of the project activities, the relationship of the project to other published and ongoing work in the field, and major issues to be addressed.***

Much R&D is underway to create systems for virtual collaboration, including synchronous sessions where participants are linked by cameras, chat, and electronic white boards for sketching. Numerous difficulties remain for this program, which I won't discuss here. The dominant metaphors, however, remain one worker per workstation, with limited mobility; and the conference table. Neglected in these metaphors are the individual cognitive, social, and emotional differences between participants and the newly discovered brain-brain resonances between persons in close face-to-face dialog. The confining boxes of the workstation,

conference or lecture chair contradict our long evolutionary heritage as intimate social beings engaged in collective pursuits.

I remain a strong supporter for the development of virtual communities, projects, and collaboration. My vision of colab studios complements the virtual - essentially substituting a team in a colab studio for an individual in a workstation in the virtual settings. Nor will colab studios compete with moments when individuals wish to create solo - and personalized versions of colab studios will replace the desktop.

Roger Caldwell, a member of my Advisory Board, was involved with the University of Arizona's Center for the Management of Information: <http://www.cmi.arizona.edu/index.spy> CMI allows smaller groups of people to brainstorm, jointly edit, interact with Internet or data banks, rank order, conclusions, or vote, all in their facility (which is sometimes called a co-laboratory). I will pursue building on what CMI, and other such centers, have accomplished. In spite of the excellent work done by such centers, what I propose for colab studios takes a different perspective and seeks to accomplish more than facilitate collaboration: less formal, even playful, recording and integrating dialog during work, focus on production of webdocs for cyberspace.

As far as I know, there is no current interest in developing settings where small teams will work flexibly with multiple input/output interfaces, while their dialog and work is recorded. They probably exist in situations where such close activity is required; but such settings are probably created in-house and are specialized. If you have ever tried to instruct another on using a complex application, or yourself has attempted to be so instructed, you are well aware of how contemporary computer systems are designed for one user at a time, and are difficult for two persons to collaborate with one desktop setting. This situation may be used to argue against the utility or need for colab studios. Other viable explanations can be given for this situation -- but the psychological complexity of persons changing modes of practice appears to require a colab studio (even a primitive one) to create the web documents (webdocs) that will

attract and hold their attention to demonstrate the utility and viability of colab studios.

The scope of the start-up project activities is simple. It is exploratory, an attempt to demonstrate a concept, even if in primitive form. This first colab studio will lack many features of future colab studios, and its ease of use will be far from desired. A start, however simple, must be made.

In rough outline, the first stage will be to brainstorm specifics for the pilot colab studio, and involve consultant experts as to compatibility and cost, selecting what fits the budget. Consultants will then construct and be available to maintain the colab studio. This is planned to be completed during the first six months of the start-up project. These consultants will need to be paid for their services. The next 12 months will be devoted to running as many sessions (of different types) as possible in the colab studio. Core participants in the colab studio will be volunteers, some support staff will probably require payment. We will tune up the colab studio from feedback. At the termination of the grant I expect to continue using the colab studio, promoting the concept and seeking resources to create a second generation. The (self-sustaining) plan of charging teams to use colab studios will be part of the exploration/experiment.

***Rationale for the compatibility of their methodological approach with the intellectual goals of the project and the expectations of its users.***

There are two populations to be effected by colab studios. The first are any cyberspace surfer who discovers and chooses to engage a webdoc created by colab studios. Some of this population will seek out other colab studio productions, and some will desire to use colab studios. It will be possible to invite a few online participants to colab studio sessions.

The second population will be those interested in using colab studios to better share their ideas in cyberspace. Special promotional and educational programs will be needed to attract participants to the use of colab studios (and to their continued improvement). I anticipate

these will be created using colab studios. The promotion of colab studio use among scholars and students will need special attention.

Digital technology is very rich in features and modalities, and so rapidly expanding that only balanced teams can adequately take advantage of these opportunities and produce viable web products. The colab studio will create a space for individuals to join in collaborative teamwork and not be restricted to institutional settings.

The modalities of cyberspace are in rapid transition, with video and multimedia becoming readily available online. However, the ability of individuals to create quality content for cyberspace is a delicate issue. Easy to use digital video recording, editing, and posting, such as in YouTube engenders the illusion that creating quality content is an easy to learn competency. There may be a few rare persons capable of mastering all the skills required for quality production. But, from personal experience and considerable effort in trying, I find that I lack skills and time to keep up with the new technologies and maintain my systems' functionality. I find this situation is common among computer users. Also, I believe it is important that creators have early feedback as to the perceptibility of productions by persons of differing cognitive styles. I fear that without colab studios, production of quality content for cyberspace will be limited to those with resources to employ talent and provide expensive technology; establishing another digital gap. Colab studios would be popular among many retired professionals who no longer have access to the resources of their institutions.

One prime motivation to create colab studios is to have a setting to specifically augment exploratory, creative collaboration - and not just a system to facilitate coordination of actions in pre-designed projects.

### *Use of open source software.*

The products of the pilot colab studio, webdocs, will be accessible from The Internet using open source operating systems and applications. Non open source software may be used

in the pilot colab studio if such software doesn't yet exist open source (and a movement would be undertaken to promote such open source development). Also, I will be using some of my personal non-open source software and other equipment (such as an electronic whiteboard) in the colab studio. It will be our objective that future generations of colab studios employ open source software.

### **History, duration and anticipated continuation of the project**

I began thinking about colab studios over a decade ago, with discussions on my website and papers drafted for presentation at conferences. During this time I have repeatedly attempted to collaborate with others at a single workstation, but we always found the arrangement uncomfortable. For the past few years my attention has been divided among many issues, including the development of virtual projects and communities. During this work I frequently returned to thinking that I, and many others, needed colab studios to improve the quality of online discourse. I recently have been giving more attention to creating a pilot colab studio to demonstrate its viability. My recent discovery of the NEH Digital Humanities start-up grant sparked my interest to shift my attention full to colab studios.

Most of my writing on colab studios and relevant content was in the mid 1990s. This was before online video was an everyday feature of cyberspace. Access to some of my relevant documents from this period is from my old website:

<http://ourworld.cs.com/larryvictor137/RelDocs/index.htm>

In 1995 I assisted Paul C. Wohlmut (now deceased), Professor of Law and Director of the Institute for Law and Systems Research in creating and facilitating a five day conference on "The Crisis of Text". Paul sought me out after attending a presentation I gave at an Asilomar conference of the International Society for Systems Science in June 1994. The title of my paper was "The Fundamental Reality of Text". I organized the video taping of all presentations and seminar participants, mixing from three cameras. The presentations (including mine) were

published in the *Journal of Contemporary Legal Issues* (Vol 6, 1995). The participants represented a broad diversity of expertise crossing many disciplines. Unfortunately, the lack of resources and the death of Paul curtailed our intentions of producing an edited version of the video taped sessions. Although not a high priority, a webdoc could be made in a colab studio by integrating video segments with sections from their published presentations.

My available research facilities are my personal computers and peripherals, which are listed in the [budgetnarrative.pdf](#) .

I propose to continue using the colab studio after the grant period, seeking support for upgrading the colab studio and working to motivate and empower others to create additional colab studios.

## **Staff**

Project Director: [Laurence J. Victor](#), PhD

The project director is retired and will devote full time to the project. He will be responsible for the selection and supervision of consultants and others who will work on the project. He will be responsible that products created in the colab studio will be made available online.

Consultants, technicians, systems operators, colab staff, and core participants will all be selected during the grant process.

The Advisory Board will assist the project director in the selection of consultants, review their proposals, and consult with the project director over major decisions, including assistance in selecting core participants and production activities in the colab studio.

[Roger Caldwell](#), PhD. I have known Roger since 1974 when we co-created a Tucson chapter of the World Future Society. Roger recently retired from his professorship in the Department of Agriculture at the University of Arizona. Roger was instrumental in establishing a

computer conferencing system for the UofA. He taught a course on futurism at the UofA, using an online component as well as classroom instruction. I would sometimes give lectures to his class and participated in the online activity. Roger has taken on many difficult projects for the university administration.

[Daniel Davidson](#), PhD. I have known Dan since 1971, including many camping trips to Mexico and a visit with him when he was on a faculty exchange in Great Britain. Dan recently retired after nearly 30 years on the faculty at Pima Community College. Initially a physics instructor, Dan was in on the ground floor of computers, designed and directed the student computer lab for the Community Campus and was the recipient of many computer and education related grants. He was also in on the ground floor of Pima's video education (being the tv instructor of basic math) and online educational system. For the past few summers, Dan and his wife, June, have been teaching English in China.

[Jamie Lantz](#), MA. I have known Jamie since 1990, when she became a teaching assistant for me at Pima College while she was working for her Masters in Counseling at Prescott College. Jamie has unique insights on human relationships and social systems, a person I value highly in planning teams and communities. Jamie is a creative artist, dancer, organizer, and specialist on rituals. For the past year we have been experimenting with online video dialog.

## **Methods**

### ***Detailed description of tasks to be undertaken and the computer technology to be employed.***

In describing methods and technology, keep in mind the distinction between the pilot colab studio to be constructed during the grant and the further generations and variations to follow. Specific technologies to be part of the pilot colab studio will be determined during the first 6 month phase, involving paid consultants in selecting technologies within performance and cost limitations.

The selection of the consultants will be part of the first phase. I will be assisted by my Advisory Board, and early consultants will assist in selecting later consultants. This is a bootstrap process. Some consultants will need to be from the Tucson area, those to be involved in the actual setup and maintenance of the colab studio. Other consultants can work online.

- The pilot colab studio will be located in a physical space sufficient for 3 core participants and 3 support staff to move about freely, as well as flexible seating for all when appropriate. Core participants and staff will be adequately trained in the use of the colab studio. The space will have appropriate lighting and broadband connectivity.
- All equipment must be easily moveable so different configurations can be explored. As many connections as possible should be wireless.
- Adequate, multiple input devices (keyboards, mice, graphic pads/pens, microphones, cameras) will be located to enable participants to sit or stand, and move about. I will contribute an electronic whiteboard. We may experiment with variations of input devices, such as one hand keyboards and dynamic pointer devices, such as being developed by the virtual reality movement.
- If possible, the recording of all input should be synchronized. If and how this can be done, within the budget, will be determined by the consultants.
- Multiple monitors with ability of displaying many simultaneous windows should be viewed from different locations in the colab studio.
- When possible, more than one participant should be able to work concurrently in the same window.
- Whether the computer system will be a single specialized constructed computer or a network of purchased computers will be determined by the consultants. Backup and security will be a priority.
- Software will be selected for both recording and later editing and construction of web documents. Training programs will be required for use of some of this software. Some software will be donated, other software will first be selected open source, if available. Compatibility of software will be important.

How the colab studio will be used is described elsewhere in this proposal. A list of

hardware and software that I will bring to the project is included in the Appendices.

Reminder: the metaphor for the colab studio is a few different craftspersons working concurrently on a mixed media artform. In a colab studio the participants work to create a webdoc for cyberspace while their dialog and activity is recorded and some of it integrated into their production. Many of the webdocs will be relevant to the humanities.

### *Plans for evaluating the results of the start-up activities.*

Project design and management software will be employed for this project, enabling ongoing evaluation. The project will be conducted as an action-research endeavor, with specific attention given to learning what to do better in the next generation. Feedback from cyberspace users of all productions will be explicitly solicited. All participants in the colab studio will be asked to evaluate the process. A summative evaluation of the whole project will be composed in the colab studio and made available online. See [educationresearch.pdf](#).

## **Final Product and Dissemination**

### *Description of plans to disseminate the results through various media and discussion how the project's ultimate product is likely to be disseminated and maintained long-term.*

All web documents created during the project will be accessible from a website, available to anyone online. This web site and the colab studio project will be promoted on various websites and blogs. Some web documents may become available on DVDs. Reports of the project will be organized and distributed, probably leading to a book on colab studios.

The project's ultimate product will be generations of improved colab studios, with many variations. I will continue development myself with resources I solicit from organizations who want to use colab studios. Others may initiate development of colab studios to market for profit. Colab studios will open creative collaboration to many, creating new web documents that will revolutionize cyberspace and contribute to humanity facing the challenges of our future.

## Work Plan

*Description of the specific tasks that will be accomplished during the grant period.*

### THEMES OF PROJECT DESIGN & IMPLEMENTATION

For two decades the author of this proposal has followed, with many limitations, the development of computer and communications technology. The basic idea of the colab studio (and its function in society) is over a decade old, although many of the specific technologies to create a viable colab studio were then in their infancy. Today there are a great many excellent technologies (hardware and software) from which a selection could be made to cobble together a pilot version of a colab studio. Specialized versions of colab studios may already exist. The author has lacked the resources, detailed expertise, and time to survey what is available and select compatible components. The grant would provide funds to employ consultants with the requisite expertise to conduct such a survey and make the selection. The creation of the start-up colab studio will be a team effort.

Although a user of computers and online interaction since the early 1980s, the author is overwhelmed with the complex task of selecting hardware and software, learning to use them effectively, and maintaining the functionality of his system. A functional colab studio will need competent technicians and system operators (sysops). The grant would provide for both acquiring the requisite base equipment and for the employment of technicians and sysops.

The whole project is below described as seven sub-projects or themes, which would overlap temporally, so they cannot properly be called steps or phases.

- **Theme A.** Select an "Advisory Board" for the project - persons known by the principal author to be willing to devote time for a token financial reward. Like the principal author, they would be primarily motivated by contributing to the success of creating a viable pilot colab studio. In theme A we would add necessary detail to the design; create task descriptions for

consultants (for hardware and software selection) and for technicians and sysops; and design/implement a process to seek and select candidates for these positions.

- **Theme B**. The consultants would be given projects (which they would help design) to select requisite hardware and software. Contributions from companies will be sought. Prospective technicians and sysops will be partly involved in the selections process, as these would be tools they would use and be responsible for. Technicians and sysops may double as paid consultants for selection. The latter will need to be selected from the Tucson area, whereas other consultants could be from anywhere with internet connectivity. Most of the design will be conducted online, including synchronous video conferencing. Theme B will also include the design of a formative evaluation scheme for the colab studio to gather information to aide in the design of the next generation of colab studios.
- **Theme C**. Constructing the colab studio and making it functional. Theme C will overlap with Theme B. This will include determining the site of the colab studio.
- **Theme D**. To design the core activities to be augmented by the colab studio. Although the pilot colab studio of this grant proposal will be located physically in Tucson, many in cyberspace may become involved in its design and implementation. Some may even visit Tucson to use it. Others may watch its development in anticipation of cloning (with improvements) the colab studio in their own location. Future colab studios could also be mobile. Those interested from cyberspace will participate in designing the core activities.

Theme D will begin early so it will be up and ready when the colab studio is functional. A portfolio of proposed uses of the pilot colab studio will be created and participants selected. Core participants will give their time to the project because of interest. They will be selected from groups and persons in the Tucson area active online in topics related to the humanities, and such activist groups as Sustainable Tucson and those studying consciousness.

- **Theme E**. Design and select participants for support staff of core activity in the colab studio. Core members should be as free as possible of responsibility for the functioning of the colab studio. Colab studio staff will enable their use of the colab studio. Staff may be asked to do routine processes, such as searches for the core team. The staff will be vitally important in keeping the recording of the discourse among core participants accurate, facilitating instant replay when requested, and indexing those moments deemed most significant (to assist in later editing). Support staff may include mediators for core participants when needed.
- **Theme F**. Design an evaluation process for the use of the colab studio, as an action research project, and select participants. Data collection for evaluation may be separate from analysis, which could be done by others online. Although not an explicit part of the project, if others wish to research the data generated by the project, they would be encouraged to do so. See: [educationresearch.pdf](#).
- **Theme G**. Once a core team has completed (a draft) of a product, it should be made available online, with facility for interaction and feedback. As result of feedback, the core team may wish to meet again in the colab studio. Many diverse sessions will be conducted during the latter phase of the project. See [sampleactivities.pdf](#) for a sampling of products that might be created in colab studios.