

## HCLE Fourth Quarter 2014 Progress Report

*Welcome to the fourth quarter and 2014 HCLE report. We share many of these news items via our outlets ([wiki](#), [blog](#), [Facebook](#), [Twitter](#), [LinkedIn](#)) and collect them here for your and our convenience.*

*The pace accelerated through the last half of 2014. Thanks to some key volunteer help elements like the catalog and database progressed to the point that they are operational. Substantial refinements are necessary for efficiency, but the initial infrastructure means work on the collection can begin. The contributor relationship management database is also operational, with the intent of increasing the efficiency of the outreach and fundraising campaigns. The collection database and the contributor database will be integrated so artifacts added to the collection by a contributor can be tracked. Exhibits can then also demonstrate the relationships between the artifacts, the contributors, and the stories.*

*With these accomplishments (and with the appropriate funding) HCLE should be able to produce a proof of concept in 2015. Subsequent to the proof of concept will be the major tasks of digitizing and curating the collection, and designing the virtual museum interface. Those tasks may not be completed in 2015, but significant progress is possible by the end of the year.*

*Please pass our news along, especially if you know someone else who will want to contribute money, know-how, artifacts, stories, or connections. Even by glancing at what we've done, you're helping make HCLE happen as you pass along the story. Thank you.*

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As of December 29, 2014

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## LO\*OP Center (HCLE's host)

HCLE is a project of the [LO\\*OP](#) Center, which means we actively support the Center's reporting needs. Glad to be of service.

## Operations (infrastructure construction)

HCLE Operations covers the majority of the work, and is the core effort directed towards creating a virtual museum. Each of the elements support and overlap with other elements. It all begins with the Collection that was created thirty years ago. The artifacts are in storage, and now are ready to be organized, preserved, inventoried, and cataloged. Before they can be cataloged we have to define which combination of terms will comprehensively describe the artifacts, make them trackable, retrievable, and publicly searchable. Those terms are the Metadata. The Catalog is the digital repository for the artifacts. As each artifact is identified and entered into the Catalog its digital definition, and digital contents will be included either through manual input or by digitization and scanning processes. As the Catalog fills selected items will become the basis for Exhibits. Depending on the subject, content, and audience the exhibits may be static web pages, dynamic web pages, interactive web pages, scripted 3-D web sites, or interactive 3-D web sites. In the meantime, our Wiki acts as a digital loading dock collecting information that will be the foundation and initial structure for the Virtual Museum.

The virtual museum is too large for some people to visualize so we will develop a Proof-of-Concept prototype first.

Creating HCLE's Virtual Museum is a large enough project that we are actively seeking additional resources from Volunteers, Collaborations, private contributions, corporate contributions, philanthropies and charities, and governmental contributions. Because contributions can come from individuals and organizations that are also subjects of the museum, we are creating a Database that will track artifacts, the individuals involved, their respective histories, and the interrelations that stretch back to the pioneering era for education and computers.

Through all of this work it is necessary to tell people what we are doing, demonstrate our progress, and connect with people who can mutually benefit from the museum. We conduct Outreach through social media ([Facebook](#), [Twitter](#), [LinkedIn](#)), our [blog](#), professional conferences, and initiatives. [Museum Learning Central](#) was a forum for museum professionals inspired by a session at the Museums and the Web conference; and those functions have been passed along to a new forum under the auspices of the Alliance of American Museums. Another, more active initiative is the [Online Museum Working Group](#) (OMWG); which was inspired by a meeting between Liza Loop and the head of IMLS. IMLS's current charter does not easily enable funding virtual museums like HCLE. Liza was asked to convene a working group that will propose new wording to incorporate into IMLS's subsequent funding legislation.

The following newsletter summarizes the fourth quarter 2014 activities in these areas. If you have any questions, please contact us.

Thank you for your support.

## Catalog (the archival inventory)

Thanks to the efforts of volunteer Stan Crump version 1.0 of the HCLE Catalog is complete. Stan coded the interface to Liza's directions. The Catalog, which consists of the database and the interface, are like most software, destined to perpetually be in revision. This first step allows the artifacts in HCLE's Collection to be added to and described within the database. While functional, the Catalog is not public yet because it requires additional documentation and interface enhancements to enable new users to securely access and interact with the database. One funding target is to upgrade the capability so the Catalog can be made readily available to the public.

Here's an example of the Data Entry Screen.

[http://hcle.wikispaces.com/Data\\_entry\\_screens\\_beta](http://hcle.wikispaces.com/Data_entry_screens_beta)

## Metadata (how we organize, find, and track the artifacts)

The fields in the Catalog that describe the artifacts are collectively called the Metadata. While the field names would seem to be simple descriptors, picking the exactly correct field names is important. With academically accepted field names outside researchers can more readily access HCLE's Catalog, and HCLE's Catalog can also reference Collaborators' catalogs extending the reach of both. Svetlana Ushakova has volunteered her time to research the state of the field. HCLE's [Metadata](#) is based on a standard called Modified Dublin Core, which must be extended to incorporate HCLE specific fields.

Svetlana compared several sets:

- Dublin Core (DCMI),
- MARC, and
- EAD (closest to HCLE because it's created for archives),
- and two examples from institutions:
  - Sewall-Belmont House and Museum, and
  - Digital Library of University of Houston.

The best set for HCLE will be chosen after a review.

Few Collections include such a variety of media and standardization continues to mature so the task is larger than it seems. As the definitive field names are selected they are reflected in the Catalog.

## Collection (the physical and digital repositories)

HCLE's Collection is predominantly the artifacts contributed to LO\*OP Center by Liza Loop. The Collection is stored in the HCLE offices. The artifacts include hardware and software, as well as documentation. The hardware will not be part of the Virtual Museum, though descriptions of it may be. The Virtual Museum will primarily be built from the software and documentation because they were either born digital or can be digitized. The task is significant. Software comes in many forms. Originally, many programs were recorded on paper, and then manually typed in. Software is also stored on paper tapes, computer cards, cassette tapes, large floppies, medium floppies, small floppies, and various disk drives. Within those media, a variety of file formats mean a variety of implementations and preservation requirements. It is common to store the programs in their original format, plus possibly a more modern format. The original formats are historic, and must be associated with their supportive operating systems, and in some cases, hardware. Documentation exists in the form of books and publications, but it also exists as hand-written notes, newsletters, mimeographs, software packaging, posters, and advertisements.

Thanks to Collaborations, various artifacts are being digitized in trials to best understand how to proceed. Henry Lowood is championing the digitization of publications from the LO\*OP Collection via the [Stanford Libraries](#). Mark Pilgrim has offered to digitize Apple II disks. Jason Scott at Internet Archive has welcomed the software's addition to the Internet Archive, and in particular, the use of their emulation software which will allow old programs to run in approximations of their original environments via [Archive.org](#)'s web site.

The hardware in the Collection is historically significant, particularly the Apple 1 #1 given to Liza Loop so she could bring computers into the classroom. He also gave her Apple II #10 for the same purpose. The various artifacts are being appraised prior so they can be properly insured and stored, and possibly made available to researchers. Our network of Collaborators includes other owners of Apple 1's particularly [David Larsen](#) and the Ford Museum. It is necessarily a small community, and therefore valuable.

The appropriate ways to collect, assess, preserve, and present artifacts are evolving within the larger community (including the US National Archive and Library of Congress) and we are engaged in those discussions. This is a maturing field with few absolute answers.

## Contributor Relationship Management (CiviCRM)

In support of the Catalog, the Collection, and Fund Raising we have formalized and centralized our contacts list, social media networks, and funders database into a one database that will also connect with HCLE's Catalog. The program we are using, [CiviCRM](#), is an open-source database designed to coordinate the operations of non-profits. We will extend it to enable the tracking of connections between artifacts in the Collection, the Story Project, Exhibits, Collaborators, Volunteers, and Funders. We are doing so because it is possible for a person to be part of every aspect of the Museum, and such extensive involvement should be recognized.

The work of implementing CiviCRM was largely performed by Liza Loop for the structure and definitions, and Tom Trimbath for the importation of contact data. This solution should be better than the assortment of Google Docs, Sheets, and GMail lists.

As with the Catalog, the initial phase is complete. The current phase involves the documentation of desired functions, creation of forms and reports, establishment of groups, and familiarization with incorporating operations like mailings, proposal tracking, and recording activities.

CiviCRM is still in review and could be replaced, but we've yet to find a more capable database for the price.

Attempting to integrate a museum's catalog with the contributor database is uncommon enough that the Office of Digital Humanities in the National Endowment for the Humanities is interested in our progress. We may report on the effort at the 2015 Museums and the Web conference.

## Wiki (HCLE's digital loading dock)

While the Virtual Museum is being developed and while support programs like CiviCRM are being incorporated, we need a place to coordinate the efforts, engage with Collaborators, and collect content for future exhibits. As we refer to it, [hcle.wikispaces.com](http://hcle.wikispaces.com) is our digital loading dock; it may not be as pretty as it could be, but it is where we are working from for now.

The wiki will probably persist even after the Virtual Museum becomes operational, as a background forum for volunteers and staff the way a loading dock is required even after a store opens its doors.

HCLE has grown rapidly in the last two years, and the wiki could use some cosmetic changes and reorganization. It is also possible that the wiki will be ported from wikispaces to wikimedia or wikia as our speed and efficiency needs change. Exploratory projects are progressing.

## Exhibits (a typical museum's end product)

HCLE's most public feature will be its exhibits. The three main categories of exhibits are currently the HCLE Pioneers and their stories, digitized copies of historic publications, and educational games. Until the main site is operational, the exhibits are being built on our wiki.

The Pioneers are those people who came first, those people who took the first steps to introduce computers to learning and education, and to apply learning and education to computers and computing. Most of their contributions are stories. Some are already recorded in memoirs or historical recordings. Most are in that perishable memory storage we call the human brain. We're beginning by collecting names, links, and stories. It is the main reason for our Writing Competition, an event held during various quarters.

Selected publications that are part of LO\*OP Center's collection are being digitized by Stanford University. The evaluation package consists of newsletters from the Homebrew Computer Club and from People's Computing Company. The preliminary scans are available on Stanford's site. We are in discussions about how to make them also available on HCLE's site.

Games attract people. Many people learned how to use computers by learning to play computer games. The games also taught basic curriculum content like history, geography, sociology, strategy, and even typing. We are constructing exhibits based on the most influential games. [Oregon Trail](#) taught students about the Oregon Trail; but, depending on which version the students used, they may have also learned about computer programming. Early versions were simple, but had to be typed in first; which created a new perspective for the student. Later versions are much more sophisticated and teach more about the nuances of history but teach less about the computer. Similar exhibits are being developed for Carmen Sandiego, SimCity, Civilization, Avalon Hill, and Dungeons & Dragons.

Eventually, exhibits will extend into 3-D interactive environments; which is why we are also staying aware of technologies like [Oculus Rift](#).

Many of these exhibits are also opportunities for collaborations or funding with the corporations that maintain intellectual property rights over the products. IBM's 1500 computer assisted instruction system that was designed to introduce mainframes to children is such an exhibit.

We are also pursuing a Cal Humanities grant to create an exhibit for "Public Access Computer Centers in California" including:

- oral history
- software

- description
- web page
- and involving Collaborators like:
  - Pratt School of Information and Library Science
  - Sonoma Cty Museum
  - Sonoma State
  - Schultz Foundation
  - Cal Humanities
  - Stanford - hosting PCC newsletters

## Fundraising

Fundraising is essential to HCLE's success. The initial Collection is in place. The Catalog is operational. The Metadata are being defined. Preliminary scans are in progress. Exhibits are being sketched.

Prior to mid-2014 the majority of funding sources contacted were governmental; e.g. National Endowment for the Humanities, Institute of Museum and Library Services, National Endowment for the Arts, National Archives, etc. These are the pre-eminent museum funders. Based on our experience, however, we have realized that such funders are not organized for small museums, or virtual museums, or museums covering ignored topics. Even if they did welcome HCLE participation, the process is designed around criteria that can only be met by fully-staffed, multi-year, conventional museums. If HCLE was well-established and didn't need the funds, HCLE could get the funds. Of course, within that environment, the only way HCLE is going to become well-established is to find the funds.

Based on the success of other museums, and by accepting a more entrepreneurial attitude, we have decided to pursue non-governmental funding philanthropists (including Vision Club), professional associations, private foundations, and corporations. To support that shift we've rearranged our social media networks to increase the opportunities for finding common interests. We were disappointed to learn that we did not receive funding from the Entertainment Software Association for our proposed Oregon Trail exhibit.

This is a good opportunity to celebrate one of the Vision Club member's success. Walter Isaacson's book, *The Innovators*, has been a great success. We also want to thank Walter for calling attention to HCLE and Liza Loop during some of his presentations.

We are open to governmental funding, but will only pursue it for narrower targets like Cal Humanities' "Public Access Computer Centers in California" described above.

It is appropriate that we mention one artifact from the LO\*OP Center Collection that comes up in discussions about HCLE and funding. The Apple 1 #1 is a priceless historic artifact personally given to Liza Loop from Steve Wozniak. For now, it has been decided to not sell it even as other Apple 1s are being bought at auction. It may, however, be made available for collaborative exhibits for a fee.

## Collaboration

Even if HCLE was fully-funded, collaborations are necessary. Museums work best when they integrate the collections, each taking the same items by emphasizing them for different reasons. As with any organization with less than full funding, HCLE uses collaborations to accomplish tasks that would be too expensive, complicated, or inefficient to do internally. Stanford scans documents. Volunteer Mark Pilgrim scans Apple II disks. Collaborators also can strengthen each other's grant applications. Our CiviCRM database lists over 900 contacts, with a natural gradation between the smallest and largest collaborations. The following is a partial list of collaborators active in late 2014.

- Library of Congress - defining Digital Stewardship
- National Archives and Record Administration - validation of definitions of Preservation and Access
- Computer History Museum - discussions about Apple 1, and movie with HomeBrew Alums
- Stanford University and Henry Lowood - scans of Homebrew and PCC
- Pratt Digital Preservation - student project based on HCLE disks
- AcademicGames
- Bugbook Historical Microcomputer Museum - owner of Apple 1s

## Outreach

HCLE is small now, but the issue is big (as one of our potential funders acknowledged.) We have several ways to get the message out, some of which as less about the details of the Virtual Museum and more about furthering the cause of similar museums, and making more people aware of what we are doing.

### Online Museum Working Group

One of the funding issues described above is something HCLE has in common with other virtual and online museums. Most funders are more comfortable supporting brick and mortar, or more likely marble and glass, museums. Some, like IMLS (Institute for Museum and Library Services) are actually precluded from providing funds to museums that only exhibit online. At a recent conference of the American Alliance of Museums, the head of IMLS met with Liza and agreed that the situation must change. She asked Liza to convene a working group of online museums to address two issues: 1) Suggest the criteria that make an online collection a museum and not just a web site, and 2) Recommend the words that should be added or edited in IMLS' 2015 funding legislation to give IMLS more latitude. In support of the [Online Museum Working Group](#) (OMWG), invitations and introductions have been delivered, a forum established on HCLE's wiki, and a presentation and meeting will be convened at the April 2015 Museums and the Web conference. The wiki contains the details, but the general agreement is that a museum, online or traditional, does more than present materials. It also preserves, curates, and provides access.

### Conference Attendance

One of the most straightforward ways to bring visibility to HCLE is to attend and present at professional conferences. In 2014 (and in 2015) HCLE has and will be visible at the Museums and the Web conference, which is dedicated to the technological changes affecting museums; and the annual meetings of the American Alliance of Museums (AAM), which is much larger, much higher profile, and is better for outreach to traditional museums that may cover history, computing, learning, and education. Our participation and impact has far exceeded what many expect out of one or two representatives.

### Museum Learning Central

A consequence of the 2014 Museums and the Web conference was the creation of a discussion forum for museum professionals. While many people discussed and considered the value, none was as active as Liza who, within several hours, produced a working site called [Museum Learning Central](#). It has since been superseded by a site produced by AAM, but initiating the site introduced HCLE to dozens of museum professionals, and demonstrated

HCLE's active style.

## Blog

We continue to [blog](#) about issues relevant to the history of computing in learning and education, but also virtual museums, fundraising for small museums, advertising our initiatives, and anecdotal histories. We must be doing something right because blog traffic set new records three months in a row.

- [HCLE Writing Competition October 2014](#)
- [Cataloging System Between Standards And Specificity](#)
- [What Makes A Virtual Museum A Museum?](#)
- [Why Republish Old Stuff?](#)
- [Computer Dating a la 1965](#)
- [Early Apples I And II At Loop Center](#)
- [ISTE Debate Should We Teach Computer Science In Elementary School](#)
- [What Is The Name Of Apple's Second Computer?](#)

## Social Media traffic report

	1/1/2014	6/29/2014	9/30/2014	12/29/2014
Facebook	59	80	87	91
Twitter	67	194	236	271
Wordpress	18	31	35	42
Wikispaces	12	28	36	41

## People/Volunteers

Much of the credit for our progress in the fundamental Catalog/Metadata and Database work is thanks to Svetlana Ushakova and Stan Crump, respectively. Each has devoted dozens or hundreds of hours to their tasks. We welcome volunteers for other tasks, too. Laxman Kumar has helped with the Collection. Svetlana's son, Andrey, has helped Stan with the Database. Jung-Jin has offered help with accounting. Jon Cappetta has offered help with the wiki and initial exhibits. And, of course, board members and Vision Club members are appreciated as well. Simply spreading the word may be the most powerful help available because greater awareness can inspire others with greater resources. We thank you all.

## Administration

Administration is boring (to some) and necessary. Everything from strategic tasks like maintaining the program plan, to everyday tasks like making sure the bills get paid are the work that enable the rest. (If you know a good web conferencing solution that is compatible with Chromebooks, enables screen sharing, maintains privacy, and is free or cheap, tell us. Clear communication is not as easy as the brochures suggest.)

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