

A Virtual, Globally Dispersed Twenty-First Century Academic Library System

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Abstract: This article presents a new model for virtual global distributed information and research services currently implemented at a completely online university. It outlines academic library technology innovation through geographically dispersed librarians, information technologies and online course guides, an award winning library alternative to the traditional university print textbook model.

Keywords: Online library, virtual teams, online education, geographically dispersed work models.

Figure 1: APUS Online Libraries Main Portal, 2012

Online Libraries in a Virtual Environment

While many people tend to think of librarians as working in a physical place where they interact face-to-face with patrons and their library colleagues, the Internet and other communication technologies have changed this traditional paradigm (Duncan, 2008; Schneider, 2000). The ability to provide library services using a remote staff has becoming a reality at American Public University System

(APUS) where librarians all work in a virtual work environment. This means they choose their own location to perform their work duties whether this be a coffee shop, home office or the beach. Online librarians can also set a majority of their own working hours, allowing for much flexibility in work schedules with the exceptions of virtual reference desk shifts and when attendance at a teleconference is needed.

In order to understand the online information services and online help environment described herein, a brief background on American Public University System is provided. American Public University System began as American Military University offering graduate-level courses in Military Studies in January 1993, with a total enrollment of 18 students and the first graduation in 1996. Growth has continued logarithmically to 2012 when annual enrollment figures topped 120,000 registrations (see Figure 2). The viability of a fully online university is demonstrated by this institution which now includes seven schools, over 80 undergraduate and graduate degrees, and 69 certificate programs, all regionally and nationally accredited. There are now also two institutions under the umbrella, American Public University System (APUS): The American Public University (APU) and The American Military University (AMU). The university also now employs over 1,800 geographically dispersed global faculty as well as a large online professional library staff including, currently, 20 geographically dispersed online librarians in North America and the Middle East. The 2012 graduation awarded 986 Associate degrees, 3,163 Bachelor's and 2,947 Master's, with 29 countries represented. APUS is now also a relatively new paradigm for universities - a publically traded corporation (NASDAQ: APEI).

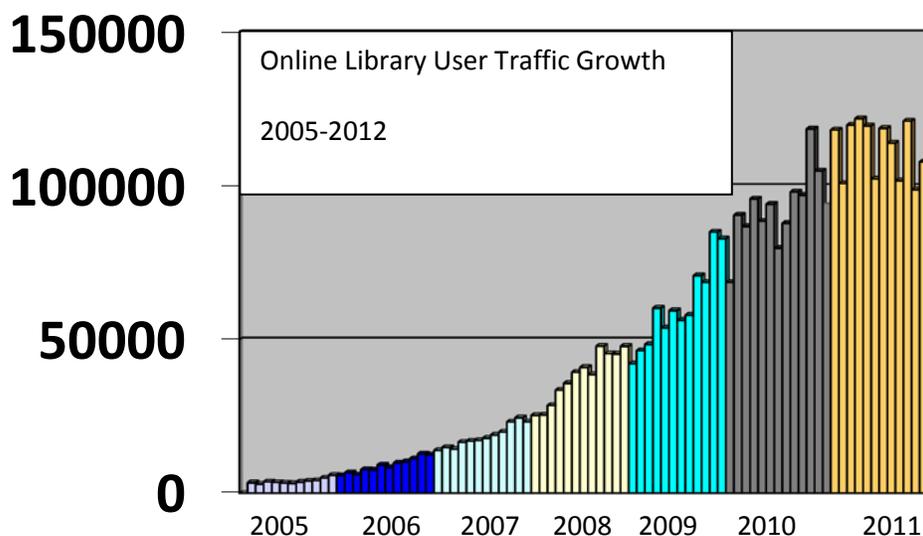


Figure 2: APUS Online Libraries User Traffic - 2005-2012

To make APUS's virtual library work environment a new model for academic libraries in the twenty first century, multiple factors work together. The University provides each librarian with a laptop computer, intranet access, and rights to the institutional Content Management System. All librarians have access to the online library and the university classroom learning management system, Sakai. Springshare products, CampusGuides, and LibAnswers are cloud-based, allowing for virtual group collaboration.

Technically, the American Public University System Library is an academic library supporting faculty, staff, and students in an online, asynchronous, for-profit educational setting. The library's collection consists of licensed e-resources supporting various programs offered by the university. The library offers 150,000 licensed e-books from 9 different vendors, 42 online full text aggregators, multi-media streaming video databases, and over 35,000 full-text journals with a full suite of information discovery applications including Aquabrowser, Serials Solutions 360 Journal search, and A-G Graphics Online Book Catalog. Accompanying the virtual large e-book collection, the library also possesses a physical collection of 3,000 military-related books and a burgeoning archival collection focusing on the universities' specialty of security-related studies. Notably, the archives also houses former Army Inspector General Richard Greenleaf Trefry's complete archives.



Figure 3: APUS Online Library - Online Students and Geographically Dispersed Librarians

The library's presence is globally virtual with an accompanying physical base in Charles Town but also, technologically disaggregated in the cloud with an online catalog, information discovery tools journal aggregator, databases and course guides, all served from geographically disparate US and globally-based server locations (see Figure 3). The primary way APUS's globally dispersed student body accesses and envisions the library is through the libraries' virtual online Web presence and online gateways, available through the universities' learning management system. The library Website currently sits behind the instructional fire-wall and institutional gateway available to all students and faculty through a foregrounded link in the online classrooms. Because the digital infrastructure of an online university consists largely of Web pages, library use is uncharacteristically high as the university consists of essentially the online classroom and the online library - the main curricular/online learning components. The Website makes available all traditional library services virtually, including both an online tutorial center (see Figure 4) and various traditional library functions such as research help and interlibrary loan, completely migrated to virtual arenas.

Figure 4: APUS Online Library Tutorial Center

The smaller physical library and archives in Charles Town, West Virginia, houses APUS's archival collection. This serves regional and national accreditation purposes, is open to the local community, and is found on the ground floor of the university's newly constructed academic building (see Figures 5 and 6).



Figure 5: APUS Academics Building



Figure 6: APUS Physical Library (Charles Town, WV)

Staffing of the library is reflective of the nature of our library and university. There are 20 part-time librarians who work remotely, approximately 15-25 hours each week, staffing the library for help approximately 18 hours per day, seven days a week. Librarians act as subject specialists, program liaisons and cover the extent of virtual reference services including ILL and the online classroom basic questions or routing to appropriate university parties. All the librarians report to the on-site library

director who oversees operations, human resources, and coordination with the wider online university and programmatic needs. The library director reports to the Dean of Library & Educational Materials who oversees the library, electronic course materials (the bookstore), and e-press. This heterodox allocation and synthesis of traditionally separate university divisions allows for synergies and collaborations otherwise not possible in a more traditional environment, including making good use of the library resources as direct curriculum replacement, creating both a cost-saving measure and return of the academic library to historical foundations (see Figure 7). The current potential for library, university e-press and e-textbook synergies is enormous (see Uzwyshyn, 2012).

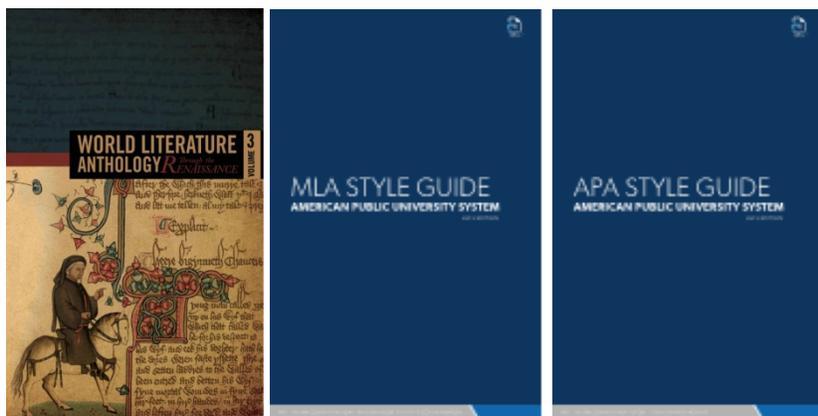


Figure 7: APUS E-Press/Library-Created Electronic Course Materials

APUS Online Librarian Duties

The part-time, online librarians share responsibility for virtual reference desk services and a host of other duties. To provide virtual reference duties to a globally diverse student and faculty body, geographically dispersed librarians (see Figure 8) are scheduled with overlapping emails. One librarian, later in a shift, is able to see earlier traffic. This provides wider synergies and coverage for APUS faculty, staff and students. When scheduled for the virtual desk, the librarians are responsible for covering

several library service points, including email, a Semantic Q&A knowledge database (LibAnswers) with the option of question submissions and an array of social media including Facebook, and Twitter.

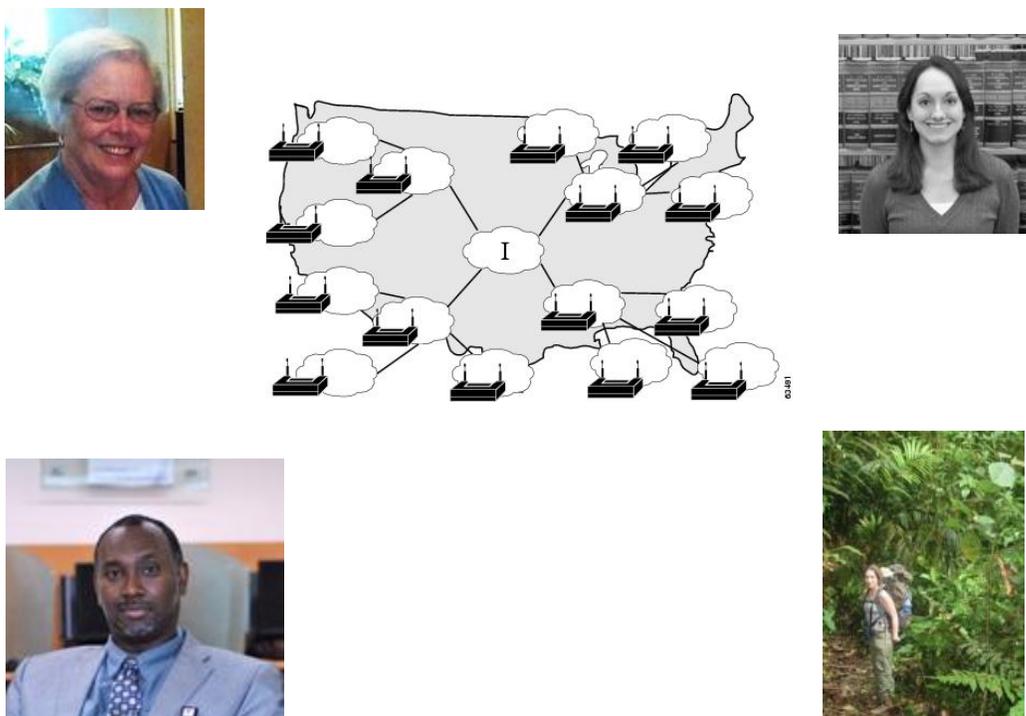


Figure 8: Geographically Dispersed Librarians in an Online Environment: Pictured Here from Top Left Clockwise: Susan Hyland (Florida and Virginia), Jeannette Moyer (Pennsylvania), Priscilla Coulter (Texas), Mustafa Abdelwahid (Abu Dhabi)

Another shared responsibility consists of program liaison duties. Like more traditional university libraries, this includes advisement on collection development issues, advanced research assistance for graduate students, and accreditation programmatic resources reviews. The liaison duties include the creation of virtual pathfinders and direct course curriculum textbook replacement, using Springshare's CampusGuides product, at the course and program levels (see Figure 9). Creating guides is a key component of each part-time librarian's responsibilities and the guides have become a cornerstone in the universities' innovative online multimedia curricular replacement focus .

In addition to these shared duties, the online part-time librarians have additional individualized responsibilities, depending on the needs of the library and the various skill sets of the librarian. Specialized cybrarians become the de facto point of contact for the various library applications which

reside in the cloud (online catalog, course guides, semantic reference engine, etc.). Virtually, librarian subject specialists, in tandem with library administration, also offer school, program and faculty education workshops through Adobe Connect and Faculty Online Meeting Forums. The system is geographically dispersed and global. The system operates efficiently through various Web 2.0 methodologies native to the online internet environment with social networking ancillary sites maintained by librarians such as Facebook, YouTube, LinkedIn and Twitter.

The screenshot displays the APUS Online Library website. At the top, the header reads "Online Library American Public University System" with navigation links for Home, Article Databases, Books/E-Books, CampusGuides, Tutorial Center, and HELP/FAQs. Below the header, the breadcrumb trail is "APUS Online Library » CampusGuides » Library Subject Guides » Counter Terrorism Studies | Program Guide". The main title is "Counter Terrorism Studies | Program Guide" with tags for counter, counterterrorism, and terrorism. A sub-header states "A guide to online Counter Terrorism Studies research for APUS faculty and students." and provides the last update date (Oct 6, 2011) and the URL (http://apus.campusguides.com/counter_terrorism_studies). There are also links for Print Guide, RSS Updates, and Email Alerts. A navigation menu includes Home, Articles/Journals, Books, Web Resources, Research/Writing, and Course Guides. The main content area is divided into three columns: "Program Director" featuring Christopher M. Reynolds, Dr., Counter Terrorism Studies Program Director; "Welcome" with the heading "Welcome to the Counter Terrorism Studies Program Guide" and a paragraph of introductory text; and "Librarian" featuring Jeanette Moyer, M.L.I.S., with a "Contact Info: Send Email" link.

Figure 9: APUS Online Course Guides: Counter Terrorism Studies

Focusing on Help in an Online Environment

Taking advantage of the library team's distribution across multiple time zones, librarian subject specialists are able to offer prompt assistance in shifting time spans. The library uses Springshare's semantic reference engine, LibAnswers, to answer student-submitted questions, as well as to build a searchable public knowledgebase of frequently-asked research questions. As of June, 2012, APUS's current installation of the Libanswers (see Figure 10) public knowledgebase featured well over 90,000 views. Libanswers has also become the primary automated resource for students wishing instant technical answers with regards to the universities' online classroom and online learning management system, Sakai.

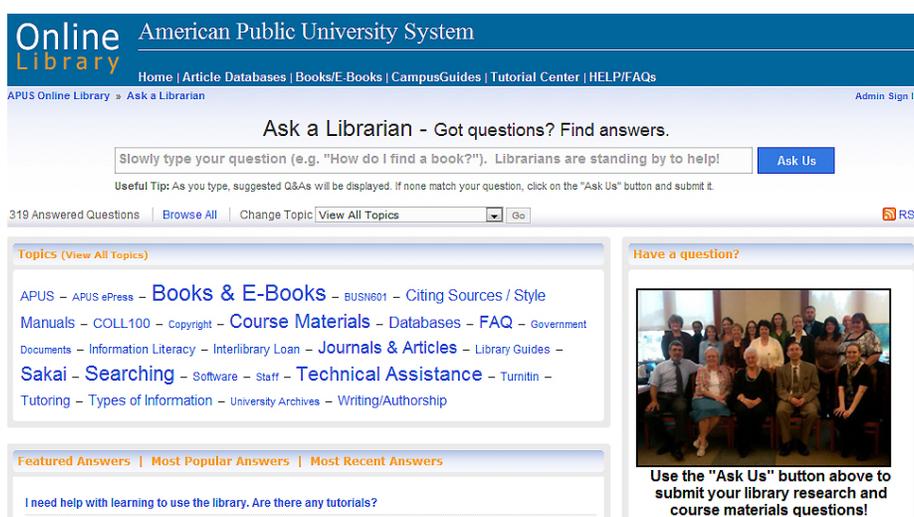


Figure 10: LibAnswers: APUS Semantic Reference Engine and Main KnowledgeBase for the LMS, Sakai

The libraries also broadcast LibAnswers' Q&A's via social networking sites and embed them inside the university's classrooms and in library course guides. The steady growth of "followers" on each site indicates that our users appreciate our presence on the social web. The opportunity to reach large numbers of students at once is invaluable.

Online Help and Reference Duties: Questions and Needs in a Globally Dispersed Online Environment

APUS librarians answer several hundred general reference questions each month. High enrollment courses, with research assignments from a large adult learner population, generate much of the traffic. For instance, COLL100 (Foundations of Online Learning), is a course required of all APUS students; in 2011, just under 39,500 students took the course. To help with the flood of student questions that arrive as these assignments near, the librarians established a COLL100 set of topics in LibAnswers semantic reference engine. Each of the commonly-asked questions is represented, with research tips intended to give students a solid start on their class assignment, as well as information literacy instruction that serves the students well in later courses. As the library's website traffic consistently indicates that students are doing their research during the evening and non-traditional hours, this automated source of help is an important part of reference service.

In addition to the expected questions related to classroom research assignments, APUS online librarians encounter a wider variety of "non-research" questions than do many of their brick-and-mortar colleagues. For example, the libraries field a large number of textbook and course materials queries (e.g., "Where is my textbook located? I can't find it in my classroom!" or "My course e-book won't open. Help!"). Technology related, troubleshooting questions are common as well (1,605 in 2011). To answer these successfully, it is imperative that librarians maintain a close working relationship with the university's electronic course materials and classroom support teams which all work closely together.

Geographically Dispersed Faculty and Librarians

The virtual library environment has not only untethered librarians from a physical library but also enabled the library to better manage material and human resources. One such enhancement is a geographically dispersed team (GDT) model. GDTs are made up of members who are “dispersed across distance and time and linked by electronic communication technology” (Sessa, Hansen, Prestridge, & Kossler, 1999, p. 1). APUS Libraries have been a vanguard in the implementation of the GDT model in the library environment with members dispersed around the country and world. The GDT model has proven beneficial to the APUS Library in several ways as it provides the library with a human resources advantage, allowing the recruitment of a high level of library of subject area and technological expertise, regardless of geographic restrictions. Librarians are dispersed across the country, from Maryland to the Midwest, from California to Abu Dhabi, and complete their work for APUS from various universities and government agencies from the National Library of Medicine to libraries in the Middle East.

The part-time status of most APUS librarian positions also enables the library to hire talented librarians who have full-time jobs at various academic and government institutional libraries. APUS students and faculty benefit from the advanced subject matter knowledge and technological expertise and the use of the GDT and virtual model has a variety of implications for libraries shaping organizational communication and ways the libraries accomplish help in the twenty-first century. Because APUS librarians and students alike are geographically dispersed around the globe, the majority of research questions are answered via email. Librarians must learn to translate the social cues they were able to use and read in a face-to-face environment, such as tone and facial expressions, into their emails, not only answering patrons’ questions but also making them feel at ease which also is a virtual craft more art than science and developed through longstanding experience. As new librarians come on board they shadow more experienced online librarians who act as mentors and guides as they come up

to speed online. Research does also suggest that GDT' communication is often more task-oriented and GDT members are less socially inhibited and less hierarchical" than members of co-located teams (Sessa, Hansen, Prestridge, & Kossler, 1999, p. 5-6). Less hierarchy and inhibition is a positive outcome of the model as organizations that promote innovation tend to be participatory and non-hierarchical (Ahmed, 1998, p. 36).

Online Course Guides as Direct Textbook Replacement



Figure 11: Online Course Guides Homepage: <http://apus.campusguides.com/>

For corresponding academic programs, librarians are tasked to create related online course guides (see Figure 11). Each course guide is created in cooperation with the lead instructor for the course, guided by the course syllabus, and increasingly used as a low cost multimedia curriculum replacement. The course guide itself links to licensed library resources at the article level and database level, as well as open access and multimedia content which serves the organization and students well as

a major cost-saving measure (see Stielow, 2012). The Springshare Campus Guides platform allows the libraries to incorporate extensive video and Web 2.0 elements into APUS course guides which fits both student preferences and the adult learner population. The platform also enables the modular use of data elements, furthering the scalability of a project of this size.

The course guides can be accessed by users through multiple points. The most important access point is directly from each APUS Sakai classroom. Teaching faculty are encouraged to link directly to the corresponding course guide from within their virtual classrooms. A secondary point of access is from the library Website and the open Web through a Google search.

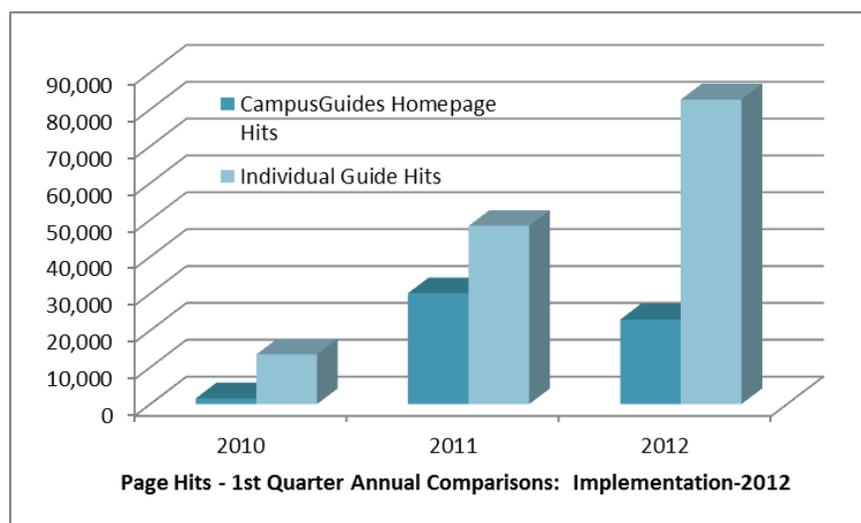


Figure 12: APUS Online Course Guides Year-Over-Year Usage, Growth, and Adoption

The course guides have become a key library resource for our faculty and students (see Figure 12). Students use the course guides for research (see Figure 13). Faculty use the course guides to facilitate course assignments and, increasingly, as a more effective textbook replacement (see Stielow and Uzwysyn, 2011).

The Future of Academic Library Services – Online

APUS Online libraries and librarians present a new generation and model for the academic library. The libraries have set a forward-thinking vision of academic libraries in the twenty-first century through innovative virtual teams, major use of the cloud for the library infrastructure but also increasingly online course guide adoption as traditional text book replacement. In this respect, IMS Global awarded APUS libraries its gold medal in May of 2012 for best new innovative learning technology at an international learning technology competition and subsequent awards ceremony in Toronto. In June 2012, APUS Online libraries received an honorable mention award by the US National University Technology Network for best new distance learning technology application for its online course guides initiative and forward-thinking vision for the future possibilities for libraries in a twenty-first century networked environment. While APUS libraries exist in a for-profit online environment, the bottom line focus has allowed the libraries to move with agility, quickly develop new academic library/university synergies, and thrive on technological potential in the New Millennium that would not be possible in old guard brick and mortar environments. As the phenomenon of the online university grows, from the vanguard to wider acceptance by the established academy, APUS online libraries expect to do the same.

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