Tactical Plan drafted by Ed Fox, Gail McMillan, convener, Susan Olivier, James Powell

Mission: expand the research capabilities of Information Systems' electronic publishing activities

Goal: ***V****irginia* ***T****ech* ***D****igital* ***L****ibrary*

To increase electronic publishing activities, Information Systems staff must continually build on their past experiences and experiment with new means for publishing electronically. Education is a key, ongoing source for gathering new information, sharing ideas, and expanding personal horizons as well as the university's technological leadership. We propose these three means to carry out this tactical plan that will result in the *Virginia Tech Digital Library* (VTDL).

Means: Education, Experience, and Experimentation

Designing and implementing the *Virginia Tech Digital Library* will require many continuing educational opportunities for staff development through which both the university and its personnel will benefit. IS personnel who contribute to the design of the digital library will take courses currently available from Computer Science and Educational Technologies. New seminars where IS staff will be both the teachers and as well as the students will be necessary to implement and maintain the VTDL, and we will sometimes have to go outside the university for educational opportunities (e.g., Cornell's workshop on digitizing/preservation).

Information Systems has a head start on creating a digital library because it can not only use the current and developing knowledge of its personnel, but it can build on past experiences in relevant areas. For example, the Scholarly Communications Project has experience publishing electronic journals, local news from television and newspapers, data (e.g., *Journal of Fluids Engineering* and the *FDA Animal Drug Database)*, and more, including theses and dissertations. Ongoing collaboration among the Library, the Graduate School, and Computer Science will also automate processing and access to future Tech electronic theses and dissertations from the broadly available digital library of VT scholarship and research. Other areas of Information Systems also have experience pertinent to the design and implementation of VTDL. These include projects such as MARIAN (developed search capabilities), ENVISION (improved education), TULIP (collaboration with traditional publishers), NCSTRL (distributed technical reports accessible through a single search interface), and other experiences.

Many activities within Information Systems and particularly the Scholarly Communications Project began as experiments and have become standard services. Access to course materials through Electronic Reserve has grown during its first year from PDF-only files generated by faculty to a centralized source of electronic course materials including scanned articles and links to faculty home pages. Digitizing images can move from experiment to production mode quickly as presented in another IS tactical plan, and will contribute to rich the resources of the VTDL. In addition, VTDL will provide a test bed for continuing digital library research, information retrieval, scalability, and robustness issues, access management, at so much more.

Expanding educational opportunities, building on past experience, and continued experimentation in new electronic access can lead to an excellent design and thorough implementation of the Virginia Tech Digital Library. It can become a vast information resource designed and constructed by the people of Information Systems with important collaboration from many critical areas including other areas of the university. VTDL needs support to if it is to become a viable library of use to the institution and the Commonwealth.

The people of Information Systems will make VTDL a reality through this tactical plan. To begin each IS unit head should identify staff within their areas to actively contribute to its design. Anyone within Information Systems who is interested in collaborating in the digital library should also have the opportunity to contribute and their participation will be sought through an e-mailed survey. As an incentive for enthusiastic expressions of interest, we want to offer two scholarships to attend the Digital Libraries conference in Bethesda, MD in March. This will be their first educational opportunity resulting from participating in the design of the VTDL.

From these two pools of people, James Powell, leader of the VTDL Design Team, will select and coordinate a body of people with current and to-be-gained knowledge to design the Virginia Tech Digital

Library. Following an initial face to face meeting, most of the design team's work will be shared electronically, not through traditional meetings.

To make the Digital Library a vibrant resource will take support and encouragement from the university administration. Faculty will be reluctant to contribute initially and only with strong encouragement from the university administration, deans, and department heads will it become a valuable resource. The university must stop giving away its research in the form of articles, for example, only to buy them back again in the form of journals.

Once in place, the VTDL can quickly become a viable source of rich information through additional electronic publications resulting, for example, from collaboration with Production Services. Its Print Shop is a ready source of digital library materials. Upper level administrative support and an active marketing campaign aimed at campus editors and authors, could greatly increase appreciation of a digital library and establish a university policy that would make VTDL a repository for all faculty, staff, and graduate students' works.

Design Team

- Leader: James Powell
  - consultants: Ed Fox, Susan Olivier, and Gail McMillan
  - contributors: Robert France, Lucy Nowell, 4 undergraduates, and others
- Skills needed (includes opportunities for staff development)
  - information retrieval, databases, distributed systems, search engines
- Meet to define parameters
  - What do we need to know? What can we teach each other and what do we need to go "outside" for? Will this include designing courses for ourselves?
  - 1 year of intense study (ongoing education, of course) as a component of VTDL design work
- Establish a listserv for this team
- In addition to Information Systems personnel, collaborators will eventually include:
  - other units of the university (e.g., CTES, Extension)
  - other areas of the state (e.g., VIVA)
  - other academic areas (e.g., SURA, OCLC)
  - industry (e.g., IBM, Mary Miller's company)

Timeline for the Virginia Tech Digital Library

Feb. 15	unit heads identify Design Team personnel in their units; next meeting of planners
Feb. 20	survey developed and e-mailed to all Information Systems personnel
Mar. 1	Design Team meets
Mar. 15	listserv established and active
April 15	bring in collaborators from outside the Design Team
April 30	prototype in place
May 30	begin implementing the Virginia Tech Digital Library design

Future factors: converting paper publications into electronic materials for the Virginia Tech Digital Library. Collaboration with commercial publishers is the logical choice, as shown by the TULIP project for converting journals. Book publishers with whom to collaborate should also be sought. Internal digitizing projects should also be undertaken to convert, for example, theses and dissertations. Planning for these and other projects will be undertaken if the VTDL receives an appropriate level of support to design and implement it.

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Anticipated Financial Support Requirements

- Staff for the VTDL

		annual salaries
3 FTE	Systems administrators	$105,000
.5 FTE	Hardware support	$15,000
2 FTE	User services	$60,000
1 FTE	Publisher (Production Services)	$25,000
6 FTE	Standards and	$50,000
	Designers/Implementers	$120,000
.3 FTE	Marketing specialist	$7,000
1 FTE	Editor	$30,000
1 FTE	Librarian	$35,000

- Education and Personnel Development
  $60,000 (based on 2 educational experiences (conference attendance, courses and workshops outside the university) per design team member (circa 15@$1500x2) plus $10,000 to bring in educators/speakers (covers $500 honorarium, travel, lodging, meals).

- Equipment
  use current IBM SMP machine ($.25mil)
  storage
  servers
  ATM (e.g., $50-70/month for all servers in Library, ISB, CS classrooms, computer/multimedia labs, etc.); design, implementation, and some expenses from CNS
  High speed caching machine in CNS or CC ($50,000)

- Software
  [Unknown. OCLC wants about $45,000 for their system but would waive that due to our work on TULIP; maintenance $7,000/yr. Open Text, others, ?)

- Seed money/Cost sharing: ?