I. Introduction

There is a pressing need to create the Hán Nôm\(^1\) digital library with concerned institutions and individuals to share digital research materials worldwide and to promote Hán Nôm scholarship in pre-modern Vietnamese studies. This would be in response to the growing interest in research and teaching in Hán Nôm studies and the lack of convenient electronic access to the significant Hán Nôm resources that are scattered in the national libraries, research institutes, museums, archives, and personal libraries in Vietnam and in other countries.

The scope of this paper focuses on Hán Nôm collections rather than on Chinese collections. The ongoing challenge is to distinguish Hán Nôm from Chinese resources because almost all the titles of Hán Nôm works are in Chinese. The range of Hán Nôm resources includes cataloged, uncataloged or yet to be identified archival collections, visual images or objects, maps, reference sources, monographs, manuscripts of various genres, scholarly journals, woodblock printing, paper rubbings, stone inscriptions, bronze bells, stone gongs as well as wood plaques dating as early as the 10\(^{th}\) to the 20\(^{th}\) centuries in Vietnamese history.

Accordingly, this paper will focus on the challenges and solutions in creating the Hán Nôm digital library. It will discuss the current challenges, explore new ideas, collaborative strategies, and innovative solutions to provide online access to Hán Nôm collections and to share ongoing Hán Nôm scholarship in an international forum. A principal aim is to encourage participation in Hán Nôm scholarship as well as to facilitate collaborative support from international scholars, faculty, government officials, administrators, museum directors, librarians, archivists, and representatives from funding agencies to discuss issues and concerns of common interest and to assess the need to create the Hán Nôm digital library as an international project that would benefit all interested persons.
II. Challenges

2.1 Hán Nôm Holdings in Vietnam

Currently, the Institute of Hán Nôm Studies in Hanoi has the most comprehensive Hán Nôm holdings in Vietnam. The Institute currently holds an estimated 20,000 volumes of Hán Nôm holdings (including Nôm books of the Tay and Dao ethnic groups and various Hán Nôm texts such as customs, cadastral registers, and stories of the gods) plus over 48,000 pieces of engraved Hán Nôm texts including steles of Champa ethnic group. Out of this total estimate, the Nôm holdings make up only a small percentage: 1,559 volumes of separate binding (including 595 volumes of AB notation, 192 volumes of VNb notation, and 772 volumes of VNv notation). The estimated number of holdings will increase every year as the Institute of Hán Nôm Studies appoints staff to visit various sites across the country for any new discovery of Hán Nôm resources. In addition, the National Archives I, the National Library, the library of the National University of Hanoi, the libraries of the Institute of History and the Institute of Literature, and museums also possess Hán Nôm holdings. Without an online union catalog, it is unclear exactly what Hán Nôm holdings that each library has for resource sharing.

2.2 Hán Nôm Holdings in Japan, England, France, the Netherlands, Italy, and the United States

Professor Trần Nghia was invited to visit libraries with Hán Nôm holdings in Japan, England, and France, and published his bibliographic findings in Tạp chí Hán Nôm (Journal of Hán Nôm Studies). He and Nguyễn Thị Oanh compiled a union catalog of Hán Nôm holdings available in the four libraries in Japan: Keio University, National Diet Library, Toyo Bunka (Asian Library), and the Institute of Oriental Culture of the University of Tokyo.

The Toyo Bunka, the branch library of the National Diet Library, has the largest collection of Hán Nôm holdings in Japan with 104 titles in their original published form and 102 titles in photocopied versions, which were reproduced primarily from École Française d’Extrême-Orient in Paris. While 206 titles include some Vietnam-oriented Chinese literature, the main library has 28 Hán Nôm titles, some of which are facsimile editions.

In 1995, Professor Trần Nghia conducted Hán Nôm resources findings at the British Library, and his short list provides a glimpse of Hán Nôm holdings at the British Library. In it, he categorized the annotated Hán Nôm listing into two parts: Hán Nôm resources compiled by Vietnamese scholars and Hán Nôm resources compiled by foreigners. He also compiled an annotated list of 13 Hán Nôm titles at the Archives des Missions Étrangères in Paris during his visit in 1995. The Bibliothèque Nationale de France has a total of 19 Nôm works on Catholicism with detailed bibliographic annotations. The library of École Française d’Extrême-Orient may have some significant Hán Nôm holdings yet to be surveyed. Furthermore, Dr. Trần Văn Toản in France offered a catalog of 134 Hán Nôm works and 31 titles have been included in Di Sản Hán Nôm Thư Mục Đế Yêu.

While in the Netherlands, Drs. Trương Văn Bình, Lecturer of the Department of Languages and Cultures of Southeast Asia and Oceania at Leiden University wrote a short essay about Hán Nôm works in Leiden and compiled an annotated list of 38 significant and unique Hán Nôm works.
A few of the 30 some Nôm/Vietnamese works composed by Vietnamese scholars are yet to be explored at the Vatican City Library in Rome, Italy.\textsuperscript{11}

As for the United States, Yale University owns the Maurice Durand Hán Nôm Collection. Professor George Dutton from the Department of Asian Languages and Cultures at the University of California, Los Angeles wrote an introduction to the “Partial Catalogue of the Durand Collection at Yale University” and compiled a 55-page guide to the collection during his research trip to Yale in 1997. As the guide states, the collection includes microfilm, notebooks, photographs, and manuscripts with accession numbers, but which are not accessible through an online catalog.

Professor Liam Kelley from the History Department at the University of Hawaii at Manoa compiled a catalog of 571 Hán Nôm microfilm titles housed at the university library.\textsuperscript{12} There are 14 titles that the Institute of Hán Nôm Studies does not have and 37 titles have not been listed in Di Sàn Hán Nôm Thu Mục Đề Yểu.\textsuperscript{13} The Library of Congress and the Harvard Yenching Library may have some Hán Nôm holdings yet to be surveyed.

Unfortunately, as indicated, the identified Hán Nôm holdings mentioned above are not accessible via the two internationally available bibliographic information systems, OCLC (Online Computer Library Center) and RLIN (Research Libraries Information Network), based in the United States. The differing formats and standards posed by the various printed library card catalogs, the scattered bibliographic listings, and a few published bibliographic reference sources call for establishing uniformity and consistency before any listings can be posted in a bibliographic database. The different languages (Chinese, English, French, Japanese, Nôm, and Vietnamese) used in the holdings of various countries further complicate the project. However, these printed resources seem to be the only tool of information sharing among libraries, archives, museums, and many personal library collections yet to be identified until an online bibliographic system becomes available.

\subsection*{2.3 Database Infrastructure}

In 1999, Professor Trịnh Khắc Mạnh, Director of the Institute of Hán Nôm Studies, provided a progress report on using the information technology in preserving, managing, researching, and discovering Hán Nôm resources.\textsuperscript{14} The Institute of Hán Nôm Studies has been taking the lead in creating data files for preserving the Hán Nôm heritage collections and meeting the research needs of Hán Nôm studies in the country. The development of database infrastructure has been improved over the years in providing bibliographic information through automation. Chu Tuyết Lan, Director of the Department of Library Documentation Information at the Institute of Hán Nôm Studies will elaborate on the challenging technical aspects of data infrastructure for the Hán Nôm holdings in her separate paper.

\section*{III. Solutions}

\subsection*{3.1 Survey of Hán Nôm Holdings}

Given the fact that various Hán Nôm collections are scattered in various locations in Vietnam, Japan, England, France, the Netherlands, Italy, and the United States, there is an urgent need to conduct an online survey for assessing the current holdings and identifying the duplicates at each institution as well as evaluating how best to create the Hán Nôm digital library for improving access to Hán Nôm collections for scholarly needs. An international committee of
selected country representatives should coordinate the survey. Each country representative will work with the local institutions to collate the individual responses and compile a summary of the data collected from the survey. This will serve as the basis for the scope of the digital library. The contents of the survey should include:

- Contact information of institution and person in charge;
- Staffing, bibliographic and physical access to collections;
- Detailed statistics of cataloged and uncataloged Hán Nôm holdings of primary and secondary sources;
- Collection categories, strengths of collections, database infrastructure facilities;
- Priorities, needs, questions, suggestions, recommendations, and concerns of a proposed Hán Nôm digital library.

The results of the online survey could be mounted on the website of the Vietnamese Nôm Preservation Foundation for information sharing and online discussions via listserv accessible through the Internet. But first of all, it would be most helpful to create an international directory of Hán Nôm institutions as the basis for this proposed survey. It is essential to have the country representative to communicate effectively with the local institutions and individuals about the purpose of the survey to assure better results. At the end of the survey, it would be highly desirable to create a listserv among Hán Nôm participating libraries to discuss or share common interests, needs, concerns or challenges in collection development and management, bibliographic access, digital or microform preservation, and research reference.

3.2 Functions of the Hán Nôm Digital Library

The Hán Nôm digital library will have several functions:

a) Serve as a clearinghouse for an internationally recognized, comprehensive, and standardized bibliographic union catalog of all Hán Nôm resources organized by format. To improve worldwide online access to Hán Nôm holdings, it is crucial to create a comprehensive union catalog of Hán Nôm holdings by format such as monographs, journals, archival manuscripts, genealogies, theses, steles, woodblocks, paper rubbings, bronze bells, stone gongs, microforms, and compact discs. This would provide greater bibliographic access to retrospective and contemporary scholarly resources and electronic communication among libraries locally and globally. Correspondingly, a vital concern of scholars, librarians, and information specialists is for software programs to standardize the Hán Nôm characters and to include them in a proposed international bibliographic online database for retrieving Hán Nôm texts in Chinese or Hán Nôm characters.

b) Update and maintain bibliographic access to the ongoing expanded union catalog of Hán Nôm collections through a searchable index by author, title, keyword, and compatible subject headings to all users worldwide. After creating a comprehensive bibliographic union catalog of all Hán Nôm resources, it is important to commit long-term staffing support and to continue updating and expanding any new Hán Nôm holdings for updated information retrieval.

c) Disseminate research publications, work progress reports, library news, and facilitate scholarly information exchange. It is essential to create an online Hán Nôm studies listserv among the academic Hán Nôm community for sharing ongoing Hán Nôm research projects,
announcing any new discoveries of Hán Nôm materials, and keeping up-to-date with the trends and needs in teaching and scholarly research.

d) Create an Internet-based infrastructure for full-text electronic journal delivery of Tạp chí Hán Nôm (Journal of Hán Nôm Studies). This is an important bimonthly scholarly journal of Hán Nôm studies in Vietnamese with Chinese and English translations of the table of contents. The contents of the journal have been greatly enhanced over the years ranging from scholarly articles, book reviews, exchange of opinions to selected Hán Nôm works for research reference and news update. Đào Phương Chi published two separate catalogs of the journal articles in 1996 and 2003. Scanning the entire run of the full-text journal and the ongoing issues would provide electronic access to this scholarly journal archive anywhere in the world. The next step could include a searchable index by author or title. It would be very worthwhile to have the journal published in a bilingual version, Vietnamese and English or even a trilingual version, Vietnamese, English and French for the benefit of encouraging a wider readership in Vietnamese studies.

e) Provide pedagogical resources such as Hán Nôm dictionaries and Hán Nôm texts along with modern Vietnamese for online interactive teaching and learning needs.

Currently, there is an online Nôm look-up tool using Unicode created by a special group of international computer specialists and linguists of the Vietnamese Nôm Preservation Foundation. This Nôm look-up tool requires users to have a certain command of the various language options before they can fully benefit from this online dictionary tool because it is not a 1-2-3 tutorial tool but an interactive tool.

The Institute of Hán Nôm Studies has established over the years international academic collaboration with various research institutes in China, France, Japan, Korea, Russia, Singapore, Taiwan, and the United States. Faculty, researchers, and staff of the Institute have been invited to conduct collaborative research projects in linguistics, information technology, oriental studies, and preservation. It would be most helpful to include teaching and learning issues as part of the research agenda and to create online interactive Hán Nôm teaching texts from beginning to advanced levels for those who want to learn Nôm in an interactive online environment without time and space constraints. This would serve the purpose of preserving the Nôm heritage in Vietnam and in other countries.

3.3 Funding and Collaboration

Depending on the results of the survey and the specific needs of the Hán Nôm academic community, some of the funding agencies could be considered for funding the proposed Hán Nôm digital library such as the Asia, Christopher Reynolds, Ford, Japan, Luce, Mellon, Rockefeller, Toyota, and the National Endowment for the Humanities.

The Vietnamese Hán Nôm Preservation Foundation was created in late 1999 as a non-profit organization based in North Carolina, United States. The Foundation is a co-sponsor of this conference and would be very much interested in working with scholars and institutes in Vietnam and abroad to preserve and provide access to the Hán Nôm heritage holdings. To fulfill this goal, one of the many projects that the Foundation supports is to provide bibliographic Internet access to Hán Nôm collections. This kind of international project requires long-term funding, effective communication, considerable collaboration, and the professional commitment of project members to implement the project at various stages in different parts of the world.
IV. Conclusion

Given the various major challenges and the proposed solutions in creating the Hán Nôm digital library in an international milieu, the project can be divided in several phases over a period of five years. Conducting an online directory of Hán Nôm institutions and drafting a feasible survey of international Hán Nôm holdings would be the first step of the proposed Hán Nôm digital library. The results of the survey would give some direction as to the priorities and needs of creating the basic infrastructure of the Hán Nôm digital library. Funding support would be the key factor to decide the scope of the project if it ever becomes a reality.

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1 "Hán Nôm" refers to classical Chinese and Nôm resources. Nôm or chữ Nôm is the “Vietnamese demotic script used in Vietnam until the early twentieth century. It was constructed from Chinese characters and variants which were modeled after the six categories of Chinese characters (Chinese: liushu, Sino-Vietnamese: lục thư). Though there are different theories about the first appearance of chữ Nôm, it was at least used, through successive modifications, for one thousand years to record a significant part of Vietnamese literature, history, medicine, and religion.” Source: Professor Sính Vĩnh from the Department of History and Classics, University of Alberta in Edmonton, Canada who graciously offered his definition of chữ Nôm.


3 AB refers to the holdings that École française d'Extrême-Orient returned to the Social Sciences Library after it was established in 1967. VNh and VNv are reserved for Hán Nôm resources compiled by Vietnamese scholars. Source: Trần Nghĩa, “Cần phân biết sách Hán Nôm Việt Nam với sách Hán Nôm nước ngoài do ta sao chế hoặc in lại,” [A Need to Distinguish Hán Nôm Books in Vietnam versus Hán Nôm Books Abroad that We Copied or Reprinted]. *Tạp chí Hán Nôm* 1 (8) 1990: 27.

4 The authors do not have access to all Hán Nôm holdings scattered in different parts of the world so this is just a brief report on what is available at the time of writing.

Mr. Akio Yasue from the National Diet Library provided the Hán Nôm holdings as per his email response as of January 22, 2001. A list of the Hán Nôm holdings was published in Azia Shiryo Tsuho 33 (3) June 1995: 1-11.


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"The Unicode Standard is a character coding system designed to support the worldwide interchange, processing, and display of the written texts of the diverse languages and technical disciplines of the modern world. In addition, it supports classical and historical texts of many written languages." Source: http://www.unicode.org/standard/standard.html

For an online Nôm lookup, see: http://Nomfoundation.org/Nomdb/lookup.php

http://Nomfoundation.org/Conf2004/VienHanNôm.html