NDSU Technology Action Plan Request

I. Action Plan Introduction and Authorizations

NDSU ORGANIZATION OR UNIT

University Archives, NDSU Libraries

TITLE OF PROJECT
Spectrum Digitization (1896-1950)

Project Duration (3 years maximum) From: December 2010 To: March 2011

Type of Project (Check one) New X Previously Submitted Renewal

Total Technology Fee Request

Project Director(s) Campus Address:
(Must be NDSU faculty or staff) Libraries, NDSU Dept. 2080, PO Box 6050
Michael J. Robinson Michael J. Robinson John Bye
John Bye Phone: 231-1017 Phone: 231-8877
Fax: 231-5632 Fax: 231-5632
michael.robinson@ndsu.edu john.byre@ndsu.edu

Name (Type or Print) Signature Date

Project Director
Michael J. Robinson October 27, 2010
John Bye

Unit Head
Michele M. Reid 10/27/10

IT Division Consultant
Marc Wallman 10/29/10

Executive Summary (maximum of 175 words)
The Spectrum, the NDSU student newspaper published since 1896, a publication about the students, and written by the students, is currently available only on microfilm at the Institute for Regional Studies & University Archives, located at the Skills and Technology Training Center, on 19th Avenue. A complete hardcopy set is also preserved at the Archives. With funding from the Technology Fee the Archives proposes to digitize and OCR the first 54 years (1896-1950) of The Spectrum and to make it available for public access. This project would allow immediate, full-text access to The Spectrum for current students, alumni, campus administration, faculty and researchers, regardless of location.

Not only does this publication document the rich history of NDAC/NDSU, it has been used by the NDSU History and Traditions Council to research past traditions and events; by students doing research for class assignments on events and activities; Student Government and Blue Key have used The Spectrum to trace their development; as well as The Spectrum staff for historical stories and retrospective looks at NDSU.

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II. Project Overview

1. How does this project meet student needs?

Currently the only way to access the archives of The Spectrum, is through use of microfilm which is only available at the Institute for Regional Studies & University Archives, 1305 19th Avenue North, between 8-4:30, M. T, Th, F and 8-8 on Wed. only.

This project would provide NDSU students, student government, and student organizations with quick and easy access to the history of NDSU through their campus newspaper.

2. What audience does this project directly serve? What audience is indirectly served? How many students are affected?

Students, Student Government, Student Organizations, Faculty, Staff and Alumni. Potentially the audience can be all NDSU students, alumni, faculty, staff, etc.

3. For projects that target a subset of NDSU’s students, please describe the possibility for broader application in the future.

Ideally funding in the future would allow issues of The Spectrum published after May of 1950 to be digitized, OCR, and full text searching.
4. Describe both the immediate and long term impact of this project.

The immediate and long term impacts would be making the rich history of NDAC/NDSU available to current students, faculty, administration, staff and alumni.

5. Who will pay for ongoing expenses following the technology fee funded portion of this project (e.g., who will replace hardware or software after it has reached its end of life)?

The initial year (2011-2012) of web hosting funding is requested through this Technology Fee grant. After the initial first year, the NDSU Libraries will take over the web hosting and make The Spectrum available through DSpace, an institutional repository provided by the NDSU Libraries that collects, preserves, and distributes digital material located at or produced by the NDSU community. The NDSU Libraries will take over the responsibility for sustaining The Spectrum in perpetuity.

6. Describe how this project will follow NDSU’s best practices in information technology. (Please make sure the NDSU IT Division staff you consulted signs in Part I of this form.)

ArcaSearch, the company that would do the actual digital filming and scanning, has a long history of working with digitizing, OCR and web hosting of similar newsprint and other campus publications. Other institutions that have used ArcaSearch and have the material hosted with them include Concordia College (student newspaper), University of Massachusetts, Luther College, Carleton College, as well as libraries and government bodies. Their web URL is: www.arcasearch.com.

7. What service on campus is most similar to the one proposed here? How does this project differ?

There is no service such as this one on campus at present time. The closest project would be the NDSU Libraries’ Institutional Repository which PDF’s various documents for mounting in DSpace which is hosted by the NDSU Libraries. This project proposal differs in the nature of the frail and delicate material (newsprint going back to 1896), and the highly specialized equipment needed to digitize the material.
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III. Project Description

We will deliver to ArcaSearch (Paynesville, MN), issues of The Spectrum from December 1896 – May 1950, representing the first issues of The Spectrum to NDSU's 60th anniversary. This will include bound and unbound volumes. This represents approximately 8,500 pages of newsprint with size varying from 9½ x 6 in. to 21⅞ 14⅛ in.

Upon delivery, ArcaSearch will scan images from provided pages, create web ready “intelligent” PDF documents from captured images, as well as optimize PDF for viewing/searching using patented technology. AcaSearch will provide copies of the digital files on hard drives and, of course, return the issues of The Spectrum to the University Archives.

Specific deliverables include 2 complete sets of: JP2000 – 24 bit high-resolution (Master Archives Image), PDFs – Image/Text, and JPEG – preview images.
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IV. Milestones

List the date for each project milestone. These milestones should represent the significant accomplishments that will be associated with the action plan. For each milestone, please indicate its expected outcome and the means for assessing that outcome. (The table may be extended as needed.)

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
<th>Expected Outcomes</th>
<th>Means of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 1, 2010</td>
<td>Preparation and delivery of print and microfilm of <em>The Spectrum</em> to ArcaSearch</td>
<td>Verifying all issues are present and complete, for the set to be digitized</td>
<td>Staff inspection of all material</td>
</tr>
<tr>
<td>Jan. 2, 2011</td>
<td>Image capture by ArcaSearch</td>
<td>All issues of <em>The Spectrum</em> will be captured digitally</td>
<td>Based upon the company’s authentication and quality control outlined in its proposal</td>
</tr>
<tr>
<td>Feb. 1, 2011</td>
<td>Image Processing</td>
<td>Work done by ArcaSearch</td>
<td>Based upon the company’s quality control outlined in its proposal</td>
</tr>
<tr>
<td>March 15, 2011</td>
<td>Tailoring ArcaSearch software for NDSU and initiating web hosting</td>
<td>Full text searching and viewing of digital version finalized, working with the NDSU Archivists Michael Robinson and John Bye</td>
<td>NDSU Archivists will evaluate the searching and viewing components and have any needed modifications made</td>
</tr>
</tbody>
</table>

5.

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1 Dates approximate, based on delivery to ArcaSearch on December 1, 2010.
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V. Supporting Documentation

See Attached Proposal from ArcaSearch
# NDSU Technology Action Plan Request

## VI. Budget

Edit the dollar amounts in the “clear fields.” (click in area so that it appears “gray,” then edit) The “darkly shaded fields” can perform arithmetic. Simple use Ctrl A to “Select All” and then press function key 9, F9.

### NDSU ORGANIZATION OR UNIT
University Archives

### PROJECT DIRECTOR(S)
(Must be NDSU faculty or staff)
Michael J. Robison & John E. Bye

<table>
<thead>
<tr>
<th>A. Salaries and Wages (Number)</th>
<th>Number of Months</th>
<th>FUNDS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Staff ()</td>
<td></td>
<td>$ 0.00</td>
</tr>
<tr>
<td>2. Graduate Students ()</td>
<td></td>
<td>$ 0.00</td>
</tr>
<tr>
<td>3. Undergraduate Students ()</td>
<td></td>
<td>$ 0.00</td>
</tr>
</tbody>
</table>

### B. Total Salary and Wages (Sum A.1., A.2., and A.3.)

| $ 0.00 |

### C. Fringe Benefits

| $ 0.00 |

### D. Total Salaries (Sum B and C)

| $ 0.00 |

### E. Equipment (List each item; include installation and maintenance costs in your estimates)

| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |

### F. Total Equipment (Sum items in E.)

| $ 0.00 |

### G. Materials and Supplies (List each item)

| 1. Image capture, image processing and tailoring web hosting and searching, all done by ArcaSearch | $7,586.36 |
| 2. Web hosting by ArcaSearch for initial year, 2011-2012 | $3,022.00 |
| 3. | |
| 4. | |
| 5. | |

### H. Total Materials and Supplies (Sum items in G)

| $10,608.36 |

### I. Total Salaries; Equipment; Materials and Supplies (Sum: Line D + Line F + Line H)

| $10,608.36 |

### J. Total Technology Fee Request

| $10,608.36 |

### K. Match (Describe in Match Section)

| $ 0.00 |

### L. Total Project Expenditure (Sum: Line J + Line K)

| $10,608.36 |
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VII. Budget Justification

Since NDSU does not have the technological expertise for this type of project, it must be outsourced. Outside of preparing the material for transport and actually driving (paid for by the NDSU Libraries) them to Paynesville, Minn. and back, the total Technology Free request is based upon the formal proposal submitted by ArcaSearch. The company quote is $7,586.36 for digitizing, OCR, deliverables and tailoring web hosting site for NDSU; and $3,022 for initial year of web hosting.
## NDSU Technology Action Plan Request

### VIII. Budget Match

**Year 1**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving to/back Paynesville, Minnesota – 176 miles at $.50(2x)</td>
<td>$176.00</td>
</tr>
<tr>
<td>Salary cost would include 12 hours of Michael J. Robinson’s time for preparation of <em>The Spectrum</em> issues, transporting to ArcaSearch, reviewing the deliverables, and working with the company on the web hosting</td>
<td>$319.20</td>
</tr>
<tr>
<td>Three to five student evaluators – honorarium</td>
<td>$200.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$695.20</td>
</tr>
</tbody>
</table>

**Year 2**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>After initial year, the Libraries’ Server will provide up to 50 gigabytes of space for the digitized Spectrum</td>
<td>No Charge</td>
</tr>
<tr>
<td>Digital Initiative Librarian will ingest <em>The Spectrum</em> into DSpace - approximately 20 hours @ $21.60 an hour</td>
<td>$432.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$432.00</td>
</tr>
</tbody>
</table>
North Dakota State University

The Spectrum 1896-1950

Proposal

October 17, 2010
Overview

ArcaSearch is pleased to be considered as a digital archiving and processing partner for the North Dakota State University student newspaper project. Enclosed you will find our response to your request for a proposal including the estimated timing, estimated costs, and agreement terms.

Student Newspaper – The Spectrum

- 1896-1950
- 8,500 pages
- Page size – 9¾ x 6 up to 21½ x 14½
- Bindery – bound and pinned
- Books will be unbound
- OCR - English
- Research system – ArcaSearch E/S
- Document pickup and delivery by ArcaSearch personnel
- Web analytics included
ArcaSearch\textsuperscript{ES} Digital Archiving and Retrieval Process

ArcaSearch\textsuperscript{ES} is a professional and advanced research system that is simple yet extremely powerful in terms of searching and document navigation. It's comprised of several key components which seamlessly acquire, digitize and disseminate documents to your internal or external clients or customers.

As your digital archiving and retrieval partner, we provide project management and will use ArcaSearch technology/personnel to:

- Pick up books and loose issues from client
- Scan images from provided pages
- Newspapers will be cut and will be returned unbound
- Books will be unbound
- Create web ready intelligent PDF documents from captured images
- Optimize PDF for viewing/searching using patented technology
- Set up ArcaSearch\textsuperscript{ES} to customer specifications
- Provide copy of digital files on hard drives
- Return original books and issues to client

We look forward to working with North Dakota State University and have outlined your responsibilities:

- Allow the unbinding of materials for scanning purposes
- Provide for final digital archive storage
- Notify ArcaSearch of any scheduling requirements

Deliverables

Once the digitizing project is complete you receive immediately:

- Two complete sets of the following files:
  - JP2000 – 24 bit high-resolution (Master Archive Image)
  - PDFs - Image/Text
  - JPEG – Preview Images

- Additional files formats are available at the request of the client at an additional cost

In the event of a new format, or a loss occurring at the client repository, ArcaSearch retains one copy of the high-resolution captures on file for one year after completion of project. The client may always request additional copies.

Confidential © 2010 ArcaSearch
www.arcasearch.com
ESTIMATED TIMING

The following is a preliminary schedule for your planning purposes.

Step One: The scheduled start date is based on receiving the approved contact, content arrival and available production scheduling
Step Two: Image Capture – 3 weeks
Step Three: Image processing – 3 weeks
Step Four: Tailoring ArcaSearch\textsuperscript{ES} for North Dakota State University and initiating web hosting – 2 weeks
ESTIMATED COSTS

Assumptions
Our estimated costs include project management, image capture, image processing, OCR, data management and pick up/delivery of original documents. Additional support or file formats are available upon request and will be estimated separately. All scanning and processing is accomplished using customized ArcaSearch digital systems.

Image Capture
Scan originals using ArcaSearch scanning systems
ArcaSearch will not use automated document scanner equipment; our system provides superior image capture and the safe handling of your documents.

Post Production
Image enhance, OCR, create JP2000, preview and PDF files, provide standard metadata

Project Management
Set up scanning systems, monitor, manage, dialog, prioritize, etc

Authentication and Quality Control
Auditing (verifying all books have been processed, correct orientations, acceptable image appearance, cropping, etc.

Data Management and Storage
Duplicate hard drives for storage of all file formats

Original Document Transfer by ArcaSearch
Pickup and return of the original documents

ESTIMATED TOTAL PROJECT COST
Based on 8,500 pages
$7,586.36
ArcaSearch® Licensing

ArcaSearch Core Technology
Our core technology has been successfully operating for clients ranging from high intensity to casual users. Each installation has been tailored to fit the specific needs of the client and their related industry. We currently are researching and delivering over 14 million documents – all with ArcaSearch technology.

Product Modules
The key to a user friendly research application is to search and navigate information by product types, both separately and aggregated. ArcaSearch® will provide access to the North Dakota State University archive that will please both the casual reader and advanced researcher.

Web Hosting
The ability to access your archive from anywhere in the world opens many possibilities for staying in touch with alumni, recruiting new students and expressing the history of North Dakota State University everywhere. With ArcaSearch hosting the archive, you are minimizing the impact on our local network infrastructure.

Technology Updates
Updates are crucial to maintaining a functional archival delivery system. Changes related to operating systems, file formats- migration, automated updates, browsers and viewers can quickly render any software useless. Our plan assures that your service will operate properly when change comes.

Technical Support
Software is only as good as the people that support it. Our commitment to you is expressed by offering a subscription system that you can cancel if not satisfied as opposed to purchasing software that can leave you with shelfware. We are there when you need us!

Analytics
We use Google Analytics to provide you with information on the usage of your website. Our tracking does not include user clicks within the site.

Commitment
There are no long term commitment requirements; service cancellation requires a 90 day written notice.

Pricing
*Based on 8,500 documents*
All payments are due prior to the subscription period. Annual payments include a 5% discount.

Paid monthly - $265
Paid Annually - $3,022
Licensing Explained

ArcaSearch has moved to a licensing model for providing software products to our customers. Many of our vendors have done so also and the reasoning makes sense. Purchased software quickly becomes shelfware in today's technological world. Our company owns thousands of dollars in software programs that haven't kept pace with technological change.

Licensing integrates the cost of the ArcaSearch application, web hosting, upgrades, updates and technical support. This approach insures the usability of your ArcaSearch system as the technology environment changes. It also helps keep start-up costs down.

Licensing, especially for customized software, also allows for inexpensive growth to your digital archive and customer requested application enhancements. We believe that licensing is the most cost effective long-term solution for our clients. The option to purchase at this time is only available for clients that are responding to existing quotes.

Definitions

ArcaSearch is a customized research and viewing application that serves both the most ardent archive researcher and the casual reader. It is accessed using an internet browser.

Web Hosting is the process of administering a website and housing a client's content on a web server for accessibility on the Internet. This includes providing for redundancy and the many tasks of web hosting.

Updates are widely released fixes for a specific problem.

Upgrades are software packages that replace an installed version of a product with a newer version of the same product.

Technical support is the service provided by ArcaSearch to deal with technical questions and problems related to the ArcaSearch system in its current configuration. Technical Support does not include generic computer, software, or Internet training.
ABOUT arcasearch

Using a customized scanning/capture system, ArcaSearch created the technology and capability of scanning single documents to bound volumes including materials like paper, newspaper, onion skin, hardboard, carbon paper, blue prints and photographic paper all while maintaining accuracy, clarity and color. The data delivery system, ArcaSearch\textsuperscript{ES}, uses standard web browsers that may run on the Internet, Intranet, or a private network. PDF files are delivered within the same interface.

ArcaSearch is a professional and advanced research system that is simple yet extremely powerful in terms of searching and document navigation. It's comprised of several key components which seamlessly acquire, digitize and disseminate documents to your internal or external clients or customers.

Working with Us

We will meet with your team to gain as much knowledge about the project as possible and ensuring you that your concerns are our concerns including:

- Learning all potential ways your documents may be used, both now and in the future.
- Prioritizing the order of image capture.
- Determining whether to digitize on site or at ArcaSearch.
- Deciding on document pick-up, delivery and return.
- Discussing final archive storage, IT support for all internal computer and network issues, e-commerce needs and options.
- Discussing image capture and post-production including creating multiple format-appropriate files for each document/image that is digitized
- Determining searchable text and data.
- Using the ArcaSearch core technology we will tailor the ArcaSearch\textsuperscript{ES} research application to best fit your needs.
- Providing you with a branded, customized internet based Graphic User Interface (GUI) to access the system

After the project planning, site preparation and staffing are completed, we'll begin the project archiving and delivery including all requested files. Your digital archive is now ready for storage and backup and updates as needed.
Experience

The following are some of the clients for which ArcaSearch is proud to be the digital archive provider:

Arts & Culture
The Saint John’s Bible, Collegeville, Minnesota
Saint John’s University, Collegeville, Minnesota
Hill Museum & Manuscript Library, Collegeville, Minnesota
Chester Beatty Library, Dublin, Ireland
Wainwright Public Library, Wainwright, Alberta, Canada

Higher Education
Augustana College, Illinois
Augustana College, South Dakota
Bethel College, Minnesota
Carleton College, Minnesota
College of St. Scholastica, Minnesota
Concordia College, Minnesota
Gustavus Adolphus College, Minnesota
Hamline University, Minnesota
Luther College, Minnesota
Macalester College, Minnesota
North Central College, Illinois
Northwestern College, Minnesota
St. Catherine’s University, Minnesota
St. Leo’s University, Florida
St. Louis Country Day School, Missouri
Trinity University, Texas
University of Central Oklahoma, Oklahoma
University of Massachusetts, Massachusetts
University of St. Thomas, Minnesota
Wabash College, Illinois

Government
Isanti County, Minnesota
Renville County, Minnesota
Flathead County, Montana
Granite County, Montana
Gaines County, Texas
Hays County, Texas
Carbon County, Wyoming
Fremont County, Wyoming
Laramie County, Wyoming
Lincoln County, Wyoming

Newspaper Publishing
357 e-Editions
1100 Newspapers for research

Business
Anheuser-Busch Companies
Cargill Inc.

Nonprofits
Catholic Spirit
St. Paul Union
CASE STUDIES

Along with the brief descriptions we have included in the following case study, we have included a link to see more.

The company responsible for the scanning and the search technology is ArcaSearch, based out of Paynesville, Minn. Although the company is geographically close to Carleton, Hillemann insists that no other company in the country is as prepared for the work ahead. "If I were in California," Hillemann says, "I'd probably still send the newspapers to ArcaSearch."

Eric Hillemann
Carleton College Archivist
Gould Library
Northfield, MN 55057

https://www.arcasearch.com/us/cr/?paper=___
TERMS FOR ARECSEARCH

Timing
Estimated project fees and timing listed in this proposal are based on the project starting within 30 days from the proposal date. The client must reaffirm estimated fees and timing with ArcaSearch for projects starting thirty (30) days after the proposal date.

Payment
ArcaSearch requires 25% at the beginning of the project and 75% upon completion of capturing and processing.

Document Care
ArcaSearch will exercise professional care in preserving and digitizing the documents. Crown College will hold ColorMax, Inc. harmless in the event of any damage to the original documents – fire, water damage, etc.

Termination
During the processing of the archive project, both ArcaSearch, Inc. and Crown College have the right to terminate this agreement with cause. Terms of a termination are as follows: If one of the parties does not adhere to the responsibilities set forth in this agreement, and/or if payment has not been received.

Deliverables
Upon completion of the creation process a master archive will be delivered to the client on portable digital devices.

Confidentiality
This document is considered confidential. We request that all information contained within this document be shared only with the client’s personnel or other entities funding ArcaSearch’s participation in this project. This pricing should not be shared with other publishers, universities, colleges, government entities, commercial companies, private companies, non-profit organizations or competitors.

Indemnification
The client agrees to indemnify, defend or hold harmless ArcaSearch (and its employees) from any claim that the client content is defamatory, violates or infringes the rights of third parties or is in any other way unlawful. In any such action or demand the client will reimburse ArcaSearch for its attorneys’ fees and costs in defending, as well as any judgment, award or settlement amount.

Warranty
ArcaSearch warrants and represents that all products or deliverables specified and furnished by or through ArcaSearch under this agreement meet the completion criteria set forth in this agreement, and that services will be provided in a workmanlike manner in accordance with industry standards.
Prepared By:

Peter D. Fox
ArcaSearch
P.O. Box 59
109 West James Street
Paynesville, MN 56362

ArcaSearch is a division of ColorMax, Inc