

DEPARTMENT OF MEDICAL INFORMATICS & CLINICAL EPIDEMIOLOGY:
ALUMNI WEBSITE REDESIGN

by

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Capstone Project

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School of Medicine

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School of Medicine
Oregon Health & Science University

Certificate of Approval

This is to certify that the Master's Capstone Project of

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*“Department of Medical Informatics & Clinical
Epidemiology: Alumni Website Redesign”*

Has been approved



William R. Hersh, MD - Capstone Advisor

Background

A website is often the place impressions are formed for an important group of program constituents: site visitors are a captive, interested audience. Frequently, this group of visitors has done research and selected the site because it sparked their interest. Rather than having to sell a group of people on a program, this group has come seeking information. Certainly, a graduate program in Informatics is an important group to impress with technology. This critical marketing tool sets the tone for the entire program and becomes an on-going resource for current students and alumni.

To capitalize on the benefits of a website, the Department of Medical Informatics & Clinical Epidemiology (DMICE) is undergoing a major redesign of their public facing website. The site has received a new design, updated content and a conversion into the university's content management system. Previously, the alumni portion of the website was minimally populated: visitors to this section could find a list of alumni, degree earned, and occasionally a link to student theses or capstone projects. The department chair's vision for the site was an online community for alumni.

To effectively capture this vision, I spent time in conversation with the department chair and conducted surveys to determine site visitors' needs. The surveys were sent to DMICE faculty and staff, current students and alumni. Results of this feedback were incorporated into the new site requirements.

Redesign Objectives/Methods

The redesign of the alumni website had three primary objectives:

1. Update the content & design
2. Minimize the time required for site maintenance
3. Cultivate an on-line community for DMICE alumni

Design & Content Updates

One of the main objectives of the redesign was to update the site content and design.

Over time, content on the alumni portion of the DMICE website had become outdated and incomplete. Expansion of the program led to categories of students missing altogether. For example, post-doctorate fellows were not listed on the site. Other students were listed without a link to their thesis or capstone project. Internal DMICE staff was assigned to track down missing student information and update the database used to populate content. Inventory was taken of the existing site to determine content that could be saved and content that would be removed.

The timing of the global site redesign was convenient for creating a look that matched the rest of the site. The alumni pages were integrated into the new design by using cascading style sheets (CSS) and the university content management system, CommonSpot.

Improve Site Maintenance Process

Internal department resources for website maintenance are limited. DMICE needed a way to distribute the burden of site updates and minimize the time required for maintenance. The time-saving strategy for the alumni website was two-fold: rebuild the site using a content management system that supports workflow and collaborative

authoring and dynamically populate alumni information with data from the department's SQL database.

OHSU's content management system, CommonSpot, allows for rich text editing, geared towards non-technical users. This system is perfect for busy program staff that may need to make frequent updates.

DMICE uses an on-line SQL database to track their alumni. This information duplicates the student, degree and project information needed for the website. ColdFusion and SQL code were written to integrate this database with the new CommonSpot site and dynamically create these pages of the alumni website.

Cultivate an On-line Community

The final objective for the alumni website redesign was to create an on-line space that fosters community among DMICE graduates and provides incentives for alumni to stay in touch with the program. Input from current students, alumni and staff was critical to creating a community that meets the needs of its visitors. Surveys were written with input from DMICE staff and sent to each of these stakeholders; 27 completed surveys were received, with 19 from alumni. (Appendix 2) The group of students who responded to the survey is a biased group; since the survey was voluntary, this group of respondents is unquestionably the most interested in the program and likely to express a high level of interest in any information tailored to alumni.

Survey participants were asked to rank their interest in a list of topics: opportunities to network, upcoming events, career information, job postings, discussion forums and program news. Results were very positive – most topics presented were of high to medium interest, with networking opportunities, upcoming event listings and career information as top priorities. Discussion forums were at the bottom of the list, but there was still substantial interest.

Feedback was used to create a “content wish list” for the site. Conversations with the department chair narrowed down the list to final content selections and production began on the site.

Site Production

Production of the new alumni website began in June and ended in September.

Preparation for the site build-out was a several month process. While the content was being developed and stakeholders surveyed, I began the process of preparing for the technical aspects of production, beginning with the data-driven components of the site.

The inclusion of a “find alumni” page was a central requirement of the site and did not require input from stakeholders to produce. First, a set of requirements for this module was agreed upon (Appendix 3). The ability to filter or search for alumni is a critical feature of the alumni listings – as the program’s number of graduates grows, the list of alumni on the website will become long and must be broken out by user selections to maintain usability.

A datasource was configured to map data from the DMICE Alumni database to the CommonSpot website. A wireframe design was developed and sent to the department chair and DMICE web designer for approval (Appendix 4). A search algorithm was developed to allow site visitors to conduct advanced searches for alumni. Finally, the Find Alumni module was developed in ColdFusion, JavaScript, HTML and SQL to dynamically output real-time data to the public-facing web site.

After the Find Alumni module was complete, production of the static pages began. All pages, static and dynamic, were created with CommonSpot. Page creation in CommonSpot is template-based, so each page in the site (alumni and general areas) begins with a customized DMICE template. This template contains common page elements such as navigation, layout and headings, eliminating the need to recreate these components with every new page. Changes to these template elements propagate to all site pages.

The review process for the site will continue beyond the scope of this paper. DMICE staff has been given the opportunity to review the site for content and functionality and submit change requests. As part of the project, I will also provide training on the new site's content management system and database connectivity.

Conclusion

The alumni website redesign easily achieved two of its primary objectives: the site has a new look, updated content and will be far easier to maintain as part of a content management system. The third objective, to foster an on-line alumni community, will be determined over time. DMICE will need to continue evaluating site usage and

evolving content to meet the needs of its alumni. The site provides a solid foundation for more advanced development down the road.

References

Krugs, S. (2006) *Don't Make Me Think*. Berkley, CA: New Riders Publishing.

Brink, T. (2002) *Usability for the Web*. San Francisco, CA: Morgan Kaufmann Publishers.

Appendix 1. Project Proposal

Project Proposal

Objective

Develop and build out the alumni area of the DMICE website.

Time Line

1. Identify content “wish list” (6/26/06 – 7/17/06)
 - a. Survey alumni
 - b. Survey DMICE staff
 - c. Review other alumni web sites
2. Inventory current content (6/26/06 - - 7/17/06)
3. Establish final list of content requirements (7/17/06 – 7/21/06; approved by 7/21/06)
4. Design wireframe (7/24/06 – 7/28/06)
5. Configure dynamic data sources (7/29/06 – 8/16/06)
6. Build static content (7/29/06 – 8/16/06)
7. Site review/revisions (8/17/06 – 8/23/06; all changes requested by 8/23/06)
8. Site revisions complete (9/1/06)
Remaining week of term left open for overflow

Deliverables

1. A functioning alumni area of the new CommonSpot website for DMICE alumni (www.ohsu.edu/ohsuedu/academic/som/dmice/people/alumni).
2. Documentation on site set-up, style sheets and configuration of external data sources.

Exclusions:

- Advanced site features, such as a wiki, blog, rss feeds, etc. I can prepare recommendations, but will not implement.

Assumes:

- Approval of content requirements in keeping with time line
- Receipt of content

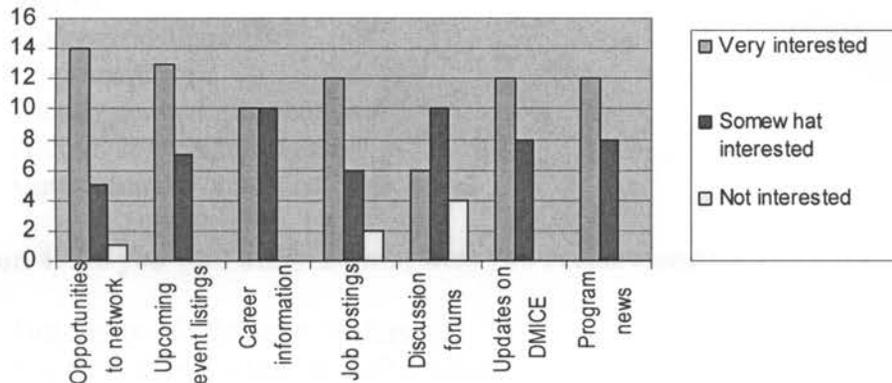
Appendix 2. Survey Analysis

Website Survey Results

All responses from students unless listed otherwise

Question 1: What information would be useful or interesting to you on the DMICE Alumni website?

Total respondents: 27



Question 2: Are there other services for alumni that DMICE could provide that would be useful to you?

- Opportunities to assist with research and/or teaching at OHSU. I've enjoyed working with Bill Hersh on the image retrieval project and look forward to similar opportunities.
- Summary links to important aspects of bioinformatics to allow us to keep up in the broad perspective. Many newsletters focus on industry segments and not the breadth including biogenetics to CPOE.
- Opportunities for collaboration with faculty or alumni: Is anybody out there thinking about doing a paper, research or other "stuff" that we could become part of. A "Call for collaboration" type of service
- Coupons for free stuff or discounts on fun stuff
- Portal to other medical informatics Web resources
- I think a lot of alumni could be tapped to suggest how to refresh the content and topic areas of the current curriculum. E.g. yearly (SHORT) questionnaire on what areas/expertise are important in alumni's current positions. My fear is that new students graduating using curriculum that is really dated, might devalue the degree a little in the market. A really nice benefit is if there were

a way to leverage the alumni numbers to offer us discounted certifications or professional trainings: e.g. PMI, CISSP, Microsoft, Oracle etc.

- Notification of upcoming conferences, possible events of interest where faculty and current students might be. (faculty/staff response)

Question 3: What have you searched for in the past on the DMICE website?

- Theses
- Updates on alumni
- Program news
- Faculty contact information
- Alumni contact information
- Curriculum information

Question 4: Do you visit other alumni sites you recommend?

- University of Michigan (undergrad)
- Stanford Alumni (faculty/staff response)

Question 5: Other comments about the DMICE web redesign?

- I would probably be more willing to post contact information if I knew it was behind a server where one would authenticate with a logon/password
- Please don't use it as just a way to ask for money.

DMICE Alumni Website – Recommended Content

- Alumni information, with ability to filter list
 - Name
 - Degree earned
 - Year of graduation
 - Thesis/capstone title with link to full text
- Job postings
- List of employers who have hired DMICE alumni with links to company web site and contact, if known
- Page about DMICE Alumni database: what it is, how to login

- Donating to the program: why & how
- Recommended for other part of website, but prominently linked from alumni section:
 - Program news
 - Upcoming events
 - Links to other informatics websites
 - Call for collaboration – may be able to reside in alum section?

Appendix 3. Find & Display Alumni Feature

DMICE Alumni: Finding & Displaying People

Information pulled into the “Find Alumni” portion of the site will come from the DMICE Alumni database. Information entered into the database will be automatically updated on the site – no maintenance of these pages is necessary. Incomplete data in the database will lead to incomplete records on the site – “smart formatting” (checking for data before inserting) will control for design issues in the base of missing information.

Each student will be listed in the search results in this format:

Name , Degree (year of graduation)

[Link To Capstone/Thesis](#)

{additional degrees/projects below in year descending order}

The default search page will be a list of the most current year’s graduates, grouped by degree. Selecting “Advanced Search” will open a box of expanded search criteria.

Search Criteria:

- Year of graduation (only criteria showing by default; the rest are under advanced search)
- Degree
- Capstone/Thesis keyword
- Group by: year, degree, no group (alphabetical order)

Common Searches: (will be a list of links to pre-formatted searches)

- Most recent year of graduates
- List all by degree

Appendix 4. Find Alumni Wireframe

OHSU *Where Healing, Teaching and Discovery Come Together* OHSU SEARCH SITE MAP CONTACT

about / academics / news & events / research / people / giving / contact

**Department of
Medical Informatics & Clinical Epidemiology**

DMICE: Find Alumni

Displaying:
- 2005 graduates
- Grouped by degree

Search search

Advanced Search New Search Common Searches

Master of Science in Biomedical Informatics (MS)

Rose Campbell, MS (2005)
Thesis: Comparing Bedside Information Tools: A User-Centered, Task-Oriented Approach

Aaron M. Cohen, MS (2005)
Thesis: Using Symbolic Network Logical Analysis as a Knowledge Extraction Method on MEDLINE Abstracts

Susan Moy, MS (2005)
Thesis: The Impact of Verbal Orders on Clinical Work Processes: An Exploratory Study

Master of Science in Biomedical Informatics (MS)

James Case, MBI (2005)
Capstone Project: Development of a Randomized Controlled Trial Metadata Query Tool and Web Service

Search
Search this site

Search

Info for

- + Prospectives
- + Students
- + Faculty

[OHSU Home](#) [About OHSU](#) [Search](#) [Site Map](#) [Contact OHSU](#)
[Health Care Services](#) [Research Programs](#) [Academic & Students](#) [Regional Outreach](#)

[OHSU Notice of Privacy Practices](#)

Appendix 5. Original Site Screenshots

OHSU *Where Healing, Teaching and Discovery Come Together* OHSU SEARCH SITE MAP CONTACT

HOME PAGE
CONTACT INFORMATION
MEMBERSHIP
HOW TO VISIT
PEOPLE
EDUCATIONAL PROGRAMS
RESEARCH
WHAT IS MEDICAL INFORMATICS
EVENT CALENDAR
RESEARCH EVIDENCE BASED PRACTICE CENTER

OHSU
Oregon Health & Science University
Department of Medical Informatics & Clinical

Department of Medical Informatics & Clinical Epidemiology

- Fellowship Program Alumni
- M.S. Alumni
 - 1998
 - 1999
 - 2000
 - 2001
 - 2002
 - 2003
 - 2004
- M.M.I. & M.B.I Alumni
 - 2002
 - 2003
 - 2004
- Certificate Program Alumni
 - 2002
 - 2003
 - 2004

Fellowship Program Alumni

- Richard Anolevard, Ph.D.

- 2004 M.S. Program Alumni
 - Nicholas R. Anderson
Masters Thesis Title: [A Qualitative Assessment of Bioinformatics Tasks, Tools and Workflow Within an Academic Biological Research Laboratory](#)
 - Pramod D. Jacob
Masters Thesis Title: [Adaption of an Instrument to Measure Attitudes Toward the Implementation of an Electronic Medical Record](#)
 - Samone Khouangsathiene
Masters Thesis Title: [A Data Model for the Oregon National Primate Center](#)
 - John A. Perrine
Masters Thesis Title: [Developing an Interaction-Centered Evaluation Tool for Distance Education](#)
 - Dat Tran
Masters Thesis Title: [Applying Task Analysis to Better Support Bioinformatics Tasks](#)

Appendix 6. New Site Screenshots

Department of Medical Informatics & Clinical Epidemiology

Develop your Site

Alumni: Find Alumni

You searched:
- All alumni
- Grad year: 2005
- Degree: MS

6 results found

Search Alumni

Graduation year: 2005
DMICE degree: MBI
Project keyword:

search new search advanced

MS

Rose Campbell, MS (2005)
Thesis: Comparing Bedside Information Tools: A User-Centered, Task-Oriented Approach

Ted Laderas, MS (2005)
Thesis: Developing and Validating a Tool for Microarray Cluster Analysis

Tina Pumat, MS (2005)
Thesis: Participatory Software Design Processes in a Basic Science Research Setting: Planning of a Web Site

Veena Seshadri, MS (2005)
Thesis: A Qualitative Study of the Effects of Clinical Information System Usability on Outcomes

Search
Search this site

Search

Info for
+ Prospectives
+ Students

Department of Medical Informatics & Clinical Epidemiology

Alumni: Who Hires Informatics Grads?

Graduates of OHSU's Biomedical Informatics Program work in a wide variety of careers. The following employers have hired our program alumni:

- + Ascension Health
www.ascensionhealth.org
- + Cerner
www.cerner.com
- + Cook County Bureau of Health Services
www.cc.cook.il.us/agencyDetail.php?pAgencyID=66
- + Epic
www.epicsystems.com
- + GE Healthcare Technologies
www.gehealthcare.com
- + Hospital for Sick Children
www.sickkids.ca
- + IDX Systems Corporation
www.idx.com

Search
Search this site

Search

Info for
+ Prospectives
+ Students

Appendix 7. Technical Details

DMICE Alumni Website: Technical Details

Development Site

- Test site: <http://webauth1/ohsuedu/academic/som/dmice>

Production Site

- Live site: <http://www.ohsu.edu/ohsuedu/academic/som/dmice>