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Engineering Websites: Ongoing Activities

School of Engineering Website: http://www.eng.rpi.edu

The following sections of the SoE website change often (daily/weekly/monthly):
- News (articles and video)
- Job Postings
- Calendar of Events (online and cable TV)
- Faculty Bios
- Research Centers
- Facts and Figures
- Feature pages (curriculum and research facility highlights)

Design Your Future Day (annually):
http://www.eng.rpi.edu/dyfd/

Undergraduate Research Awards & Forum (annually):
http://www.eng.rpi.edu/urfa/

Engineering Discovery Week
(did not do this last year, not sure for this year):
http://www.eng.rpi.edu/edw/

SoE Performance Plan (as needed):
http://www.eng.rpi.edu/performanceplan/

Department of Chemical and Biological Engineering
(support as needed):
http://www.eng.rpi.edu/chme/

Multidisciplinary Design Laboratory
(support as needed):
http://www.eng.rpi.edu/mdl

USFIRST (annually):
http://www.eng.rpi.edu/first/
**SoE Website: Recent Accomplishments**

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**Improved Functionality:**

Separate News search engine:
http://www.eng.rpi.edu:8080/soenews/

Improved Faculty and Research search:
http://www.eng.rpi.edu/soe/directory.cfm

User Defined pages:
http://www.eng.rpi.edu/soe/prospective_ug.cfm
http://www.eng.rpi.edu/soe/prospective_g.cfm

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**Expanded News coverage:**

More SoE accomplishments covered, in addition to all SoE related articles generated through the News & Communications Office:
http://www.eng.rpi.edu/soenews/update.do?artcenterkey=370

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**More videos on student projects and programs:**

PREFACE:
http://www.asms.rpi.edu/catv/asx/Preface_AML.asx

Spring LITEC Invitational:
http://itops.rpi.edu/webvod/schoolofengineering/
LITEC_Spring05.asx

FIRST Robotics Competition:
http://itops.rpi.edu/webvod/schoolofengineering/
FIRST_v1.asx

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**More photo albums highlighting Soe Events:**

Design Your Future Day:
http://www.eng.rpi.edu/dyfd/05Scrapbook/index.html

SoE Annual Picnic:
SoE Database :: re-designed for role-based navigation

I created this web-based gateway to the engineering database using Cold Fusion approximately 2 1/2 years ago to manage faculty bio information. Since that time, this database has become the cornerstone of information for the SoE and new department sites. It enables us to have single source publishing and improved, more detailed searchability.

Now, all information in the database is accessible and segmented based on a user’s role. See descriptions below.
Recent Accomplishments (cont.)

First SoE eNewsletter sent March 9, 2005:
http://www.eng.rpi.edu/soe/emailnews/winter04_enews.html

Highlights include:
- Only 3 opt outs from 476 recipients
- 57.1% HTML views
- 14.8% click-through rate

New MDL web site launched:
http://www.eng.rpi.edu:8080/mdl/

Highlights include:
- Integration with campus-based Luwak system for managing project abstracts
- Integration with SoE online news for Project Highlights
- Prospective sponsors can submit project abstracts online

New Chemical and Biological Engineering web site:
http://www.eng.rpi.edu/chme

Highlights include:
- Complete integration with SoE Database
- Automatic News links from News and Communications Group

USFIRST web site created:
http://www.eng.rpi.edu/first/

50th Anniversary site for Environmental Engineering:
http://www.eng.rpi.edu/50enve/

PanAmerican Conference:
http://www.eng.rpi.edu/panam/

Highlights include:
- E-commerce registration
Recent Accomplishments (cont.)

**Expanded :: Undergraduate Research and Forum Awards** -- project database created  
http://www.eng.rpi.edu/urfa/

**More Participation :: Cable Television posting of SoE events**

Better online calendar participation.

**Expanded :: SoE Performance Plan**  
http://www.eng.rpi.edu/performanceplan/

**Photo albums :: DYFD and SoE**  
http://www.eng.rpi.edu/dyfd
Department web sites: current status

DSES, CEE and CHME are all connected to the SoE database in different ways.

**DSES** uses the engineering database for;
- faculty and staff information.

**CEE** uses the engineering database for;
- faculty and staff information.

**CHME** uses the SoE database for;
- Faculty and staff directory
- ABET Educational Objectives
- Course Descriptions
- Research topics and descriptions
- Department contact information

For a complete look at the systems feeding the CHME department web site, see:

http://dev.eng.rpi.edu/chme/admin/
Looking Ahead

Department web sites :: the next 6-8 months

Biomedical Engineering
The new BMED site is approximately 50% finished.
See: http://www.eng.rpi.edu/bmed/

Materials Science & Engineering
The MSE site has been stagnant for the past year waiting on review of content by faculty and staff. I suggest that I pull together current information from the course catalog and deploy a new "minimal" site so that faculty lists are accurate and degree requirements can be easily located. More robust content can be added later.
See: http://dev.eng.rpi.edu/mse/

Mechanical, Aerospace, & Nuclear Engineering
MANE: Susan Miller has been designated as their web site administrator. She is motivated and knows basic html, therefore I think with her help, I would like to see a new site for MANE by Fall ’05.

Fuel Cell IGERT
This site will be built using the .CIO backend tool called Luwak and is slated to be fully online in September.
http://www.eng.rpi.edu/FuelCell-IGERT
School of Engineering web site ::
next 3 months

From now until August I will be spending significant development time improving the usability and quality of the undergraduate section of the site.

A priority in this upgrade will be looking for ways to promote and facilitate undergraduate research. To begin, I will consult with the Office of Undergraduate Education since they manage the Undergraduate Research Fellowships for the Institute.

School of Engineering web site ::
next 9-12 months

Electronic Newsletter

A significant new project will be to expand upon the success of the SoE Update E-News into a more integrated and robust electronic newsletter for publication in December.

Improving Gateway Sections

I feel that it is time to take inventory of the site and look for ways to better exploit rich content areas that have evolved over the last 2 years and test some revised gateway pages. These include the main sections and prospective student pages as follows:

http://www.eng.rpi.edu/soe/prospective_ug.cfm
http://www.eng.rpi.edu/soe/prospective_g.cfm
http://www.eng.rpi.edu/soe/research.cfm
http://www.eng.rpi.edu/soe/profile.cfm
http://www.eng.rpi.edu/soe/academics.cfm
Machine Database ::
next 6 months

A significant expansion within the engineering database has been the addition of machine data cross-referenced with facilities, faculty and courses. From rapid prototyping to custom machining the School offers students a variety of production tools and services. The depth and breadth of these systems are not clearly communicated online. They are primarily listed in a fragmented way via MDL, AML and PDI web sites. Unifying this information in the engineering database, will allow us to develop custom “views” for each of these applications serving multiple populations efficiently.

I am working with Sam Chiappone on the design and deployment of this new unified approach.
Until the Institute offers a comparable option, expanding the School of Engineering’s relational database will be the cornerstone for creating an up-to-date, highly usable web experience across school and departmental web sites.

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**Getting it Done: The Current Picture**

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**Working with Institute-level groups :: .CIO**

The .CIO group administers our web servers which are located in the main computer operations center in the VCC.

In addition to their role as system administrators, they also have a small development team that works on Institute-level tools that I take advantage of whenever possible. Currently these includes *Luwak*, a news management system, and an Institute calendar.

The .CIO group is developing an online directory for faculty and staff bios, however it does not have the depth and breadth of our current system. They agreed that I should continue working in ColdFusion to develop web applications to meet our needs.

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**News Links**

**Department Level**
Today I am using a script provided by the .CIO group that automatically pulls news links from the news.rpi.edu web site into department web sites. This is a great tool since it enables departments to reflect the latest news automatically.

**School Level**
Since I often write news articles and integrate the SoE newsletter into our *Luwak* system, I will continue to manually copy news articles into our system. Eventually the goal for *Luwak* will be a true syndicated system, eliminating the need to copy/paste from other news web sites.

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**Online calendars**

Currently the .CIO group is moving towards that ability to spin off School and Department calendars from the Institute calendar system. My hope is they will have this ready by Spring '06, at which time I will migrate our current calendars over, thereby eliminating the need for duplicate data entry.
Engineering database ::

maintaining current information across engineering web sites

Currently there is no unified database system functioning at the Institute level that will enable us to develop relational data, serving multiple SoE web sites. Therefore, we will need to continue to expand the engineering database.

Expanding the reach of the engineering database

A fundamental component of the SoE web site is the engineering database. I designed it in a way to try and maximize the relationships that exist between faculty and staff, what research they are affiliated with, what labs and/or research centers they work in and more. We are at a point in development where we can begin to maximize these relationships by developing new departmental web sites. Department sites inherently require more detailed data (i.e. course descriptions, faculty publications, research topic descriptions...etc.) all of which can be cross-referenced in a more meaningful way.

Getting faculty and staff Buy-in

Before embarking on the development of the departmental web sites, I should mention that when I developed the SoE web site the faculty response to logging onto the database and modifying their information was mediocre at best. Although I had invested significant time creating a web front-end to the database, it was not being utilized. I feel that a large part of this apathy was not because faculty and staff don’t care about their web information, rather because faculty and staff seem to identify with their department first, then the School.

Since there is data-crossover between the SoE web site and the department web sites, improved faculty and staff interest in keeping departmental information current and accurate will inherently improve the quality of the SoE web site. In fact, I noticed a significant interest in the engineering database while developing the Chemical and Biological Engineering web site. I foresee similar involvement with other departments.

Each department should have a web administrator. Someone who is detailed oriented, comfortable with online tools, and able to make content decisions. Currently, roles and skills sets are varied. Staff contacts are:

- CEE- Kim Robitaille
- DSES-Anuj Goel
- BMED-Lorrie Citrella
- MANE-Sue Miller
- CHME-Rose Primett
- ECSE-Melissa Reardon
- MSE-Pat Connell
Building department web sites

There are three essential parts for developing and sustaining a department web site.

Accurate content: getting the message right

The first part is verifying the accuracy and priority of content. Based on my experience, I have found that drafting pages based on current resources, then putting them out for review seems to work best.

Maintenance

The second part is maintenance. Ideally this will be done by a competent web site administrator. Someone who is detailed oriented, comfortable with online tools, and able to make content decisions. This person needs to “own” the department web site, constantly looking for opportunities to keep the site current, free from errors and professional. I would suggest this role be documented in this person’s PMT. This will validate the importance of this responsibility and enable them to prioritize web site duties amongst others.

Quarterly department meetings

Finally, to help validate and support the role of the departmental web administrator, starting this fall, I will be offering quarterly meetings. These quarterly meetings will serve as the venue for training and updates, along with giving me the chance to get department feedback.
Budget Considerations

New Hardware
We should plan to replace our servers for the next fiscal year. I met with the dotCIO group and typically new servers cost approximately $6,000 ea. If possible, we should plan for 2, one development and one "live". Proposed hardware budget: $12K

Re-assigning our old servers
I would suggest we take one of our current servers and make it a dedicated photo server. This will allow me to centralize dept/school photos and be able to share them with the campus community with minimal cost.

Better, more meaningful web reporting
Currently we simply track click rates on eng.rpi.edu. In the past, I have run log reports with tools like Funnelweb but they require significant time to process the data into something more useful. We need a faster, better way to understand where our users are coming from, what pages they are spending time on and what technology they are using. Ideally this would be accessible in real-time through services like MS FastCounter Pro which runs $200/yr.

Training
I have registered for a 2-day training seminar on July 11 and 12, 2005 that covers the new version of ColdFusion that we will be upgrading to at the end of June (upgrade cost $420). The cost for this training is $900.
Conclusion: The Big Picture

Deeply robust and effective web sites are a result of powerful data systems, combined with interesting and informative content.

As the School’s in-house photographer, videographer, writer, graphic designer and programmer I have limited my activities to the public web sites of the School. Occasionally I will also step in and design presentations and printed documents for the school.

Eventually I see web-based projects that will serve other audiences, however for the next year I will focus my energy on getting all SoE official web sites current and more importantly sustainable with the department administrator’s help.