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Analysis of a data-driven web solution

Introduction

Keeping our web site fresh is one of the keys to bringing visitors back. Certainly, we do not want inaccurate information on our Web site, and we want to provide new content for visitors to improve the overall image of the campus. However, regular site updates can become a labor and skill burden – PWCs are making some changes, and there is a reliance on the Office of Communications for the bulk of the major changes.

In the context of updating our web site, we probably are either updating the same information repeatedly, or you are regularly adding new information that has consistent characteristics. For example, a newspaper Web site requires a frequent infusion of articles, but all those articles have the same general characteristics (e.g. a title, summary, author, and body).

Data-Driven Sites

Databases are great for handling information with consistent characteristics. Using the newspaper example, you would put all your articles in the database, entering the title, summary, author, etc., as separate attributes. You then set up one template file that defines how every article is supposed to look on the Web. This template file contains placeholders for each article attribute, and the publishing software replaces the placeholders with the actual data for an article when the site visitor requests that article.

Pros

There are several advantages to this approach:

- The administration interface lets you update the site with no knowledge of Web development tools or HTML (the language of Web pages).
- You can take advantage of the database engine to do things that would be difficult otherwise, like returning all the articles written by a specific author.
- You can change your template at any time, which automatically updates the appearance of all articles.

- The Web software calculates article links based on the information in the database, so you don't have to worry about broken links.
- New content is available on the public site as soon as you enter it into the administration interface.

Most businesses, universities, and other organizations have the same site update problems as a newspaper, but with different data. The up-front investment in database software and web development can pay off in big savings on time and frustration over time.

Cons

Alas, there is also a downside to a data-driven site:

- There will have to be initial time invested in development. A rough estimate may be 3 months of work in developing the site, if the entire project were to be developed as a whole. Of course, parts of the site could be converted to data-driven as time allowed, and a gradual changeover could take place.
- The maintenance of the website is another factor. It will require at least one full time individual to cover these tasks:
 - Maintenance and patching of the database and web server
 - Helping people provide content
 - Updating the templates and any major changes to the structure of the site (theses should be rare, but it is important that this person can do this)
 - Fixing any bugs or glitches in the process (which may appear of time, as the software is used)
- In speaking of bugs/glitches, there is a need for a person with the technical skills in the area to be available, since these bugs would include analysis of the code running the website, instead of the (relatively) easier analysis of web page errors. The point is, bugs in a data-driven site can take more time and skill to fix, compared to a static web page's errors.

Possible solutions

Solution	Major Pros	Major Cons
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Static pages	No work necessary- pages are already static, nothing has to change	Updating pages, etc, may not be done to the extent that administration wants
Data-driven, developed in house	Significant cost factor – the cost of the site would be the normal pay rate of the employee(s), it would just mean utilizing their time for this instead of their normal job	May not be done as fast as if a solution is purchased. Also, the time and money still has to be paid to the employee(s).
Data-driven, purchasing a solution	Solution may be done faster than if in house. Provider will have support plans to help the process of changeover and maintenance (possibly with an extra fee).	Providers may try to shoe-horn your site into their product, forcing you to compromise. Using on-campus employee(s) for creation allows for more freedom, in a general sense.