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## **Cruisin' Down the Information Superhighway**

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### **I. Background -- Where We Were**

#### **Universal need for information, growing demands and expectations for automated access**

As a public sector entity, the Louisiana Department of Civil Service faces the familiar challenge of efficiently providing access to information to those that we serve. Since we are the central human resources department for the state, our clients include applicants for employment, current state employees, and human resources offices at agencies throughout the state.

The distribution of information to clients and customers has been a central concern of both the public and private sectors for decades. Since the 1960's, automation and the use of computers have been vital components of providing access to information. Until the mid-1980's, we worked in an environment of data processing, rather than what we now think of as information processing. Traditionally, pre-defined data items were stored in large data files, and on-line inquiries or reports were designed to extract the data. As data processing evolved, complex communications networks were set up whereby remote sites of a company could enjoy remote access to this data. These networks were tightly controlled and very private, in that they were for the use of the agency or company only. As agencies shared common needs, their networks were linked together, so that data was shared across agencies. Processing and sharing data in a tightly controlled environment was the paradigm for the distribution of information until the advent of the personal computer in the 1980's.

The Department of Civil Service operated within this paradigm, as did agencies throughout state government. Louisiana had a very sound network of interconnected state agencies, in which the Department of Civil Service participated. This network did a very good job of data sharing throughout state government. Internally, Civil Service was developing automated solutions to problems and was very capable of handling traditional data processing - that is, data items stored in files with on-line inquiry and reports. However, as the central Human Resource agency for the State of Louisiana, we maintained many documents for which our data processing solutions were inadequate. A prime example of this is the State's 3,000 job specifications. These text documents, which describe the various jobs in state government, were prepared using word processing software or text editors. Therefore, these text documents had few or none of the characteristics of data files.

Once we initiated a project to put these specifications on-line, with easy access through the existing state communications network, we were no longer dealing strictly with data. We had to

provide access to a file consisting not of pre-defined data items, but rather of regular text documents of several typewritten pages, each of which was created using word processing software. Our challenge was to develop a system that would provide on-line access to these and other text documents. We researched available software that would run either on our IBM S/38 or on large IBM mainframe computers, and were very disappointed with the results. While this seemed like a relatively simple request, we could not find an acceptable solution.

### **The OPEN system - on-line information but limited printing and format**

In May of 1991, we upgraded our computer system from the IBM S/38 to an IBM AS/400. This was a very natural and easy migration, as the AS/400 was marketed as the replacement for the S/38. Part of IBM's Officevision suite was a text editor developed specifically for the AS/400. This afforded us a new opportunity to attack the text distribution problem. We were able to convert our specifications into the Officevision word processing format, and display them using traditional data processing inquiries. After we had successfully tested the system at the Department of Civil Service, we distributed the information to Human Resource offices statewide as part of a system that we called OPEN - the Online Personnel Information System. The job specifications and the system were a huge success. No longer would agencies have to maintain paper files on over 3,000 unique specifications.

But remember, this was a traditional solution for distributing information: a traditional network, traditional computer terminals, and so on. And while it represented a vast improvement in our capacity to distribute this text information, the system did have a drawback in that it did not provide for formatted printing of text documents. As with most systems, screen prints were permitted, and users found them acceptable for a while. Soon, however, our users began to ask us to enable them to print fully formatted text documents. The software that allowed statewide access to information on the AS/400 had solved almost all of our problems - except printing. The users demanded printing, and we were struggling to find a solution. IBM came out with a new communications product that supported printing, but using it would require us to manage over 100 remote printers on our system with a very small technical staff.

### **Explosion of Internet access and the World Wide Web**

We were still in the process of exploring the available communications software when something new attracted our attention - the Internet. The Department of Civil Service obtained a couple of licenses from Internet service providers, and we were on our way to the Information Superhighway. As we began to explore, it didn't take us long to realize that the Internet handled two things extremely well - text documents and printing. At just about this same time, the state of Louisiana was forming a 13-agency consortium to request Federal matching funds to develop

a Louisiana state government presence on the World Wide Web. We were asked to participate in the consortium due to the valuable information that we provide. The grant application was not accepted, but this did little to slow down progress, as several agencies proceeded with existing funds. These were the humble beginnings of Info Louisiana, Louisiana's government information Web site. This site ([www.state.la.us](http://www.state.la.us)) has links to all state agencies, the Legislature, the judiciary and other public bodies.

### **Pursuit of a Web site -- Hitchin' a Ride**

As we watched the list of agencies with home pages grow, we felt an increasing urgency to establish our presence on the Web, due to our need to get information out to all of our users, especially the Human Resource offices and general public. The problem was that we had neither a web server nor the staff to develop and maintain one. Then, at a meeting of Info Louisiana, we learned that a certain agency which did not yet have its own site did have a page up on another agency's site. This was a revelation for Civil Service: such an arrangement was clearly the answer to our problems, as it would enable us to establish a Web presence quickly and with minimal resources. We entered into a cooperative agreement with the Department of Natural Resources, which graciously agreed to host our Web site until we could implement our own.

Once we made the decision to establish a presence on the Web, we formed a Civil Service Web Site team to develop the site from the ground up and put it into production on the World Wide Web. This team began their project with absolutely no knowledge of the Internet. In fact, neither person on the team, Jean Tozer or Kirk Smith, had seen the Internet before. Therefore, their first step was to establish accounts with a provider and start "surfing" the Net. This allowed them to gain familiarity with the Net, while also allowing them to research other Web sites, giving particular attention to merit system sites.

## **II. Cruisin': Development of the Web Site**

### **Entering the World of the Web**

The first major hurdle the team encountered was HTML (Hyper Text Markup Language), the universal language of the World Wide Web. This language seemed quite daunting at first, but proved to be relatively easy to grasp. HTML initially appears to be quite intricate and involved, but there is a certain visual logic to it. All of its commands essentially format Web graphics and text, dictating how they will appear on screen to the user. Once a formatting decision is made, using HTML is simply a matter of determining which of its commands will execute the format choice. After a brief period the team had developed some fluency in HTML and began developing Web pages for the new site.

Civil Service was also fortunate in that it was assisted in its early Web development stages by very knowledgeable personnel from Natural Resources, who were not only very generous in lending us space on their Web server, but also quite generous with their expertise. Natural Resources at that point already had a presence on the Web and had attained a high level of knowledge in Web site development. Their expertise was extremely helpful, with not only the basics of HTML, but also the mechanics of putting the site into production. This means of establishing a presence on the Web, looking to another agency or entity, for Web technical support, and/or space on a server, is heartily recommended as a way for human resource entities with relatively little resources or expertise to get onto the World Wide Web.

### **Surfing for ideas**

Once these technical concerns were addressed, the team devoted considerable time to deciding what Civil Service information and services would be made available on the site, and how it would be presented. Particular focus was given to Civil Service's main client groups, job applicants and state agency Human Resources professionals and their perceived needs. From this standpoint, it was decided to put on-line job specifications and job announcements at the top of the priority list for the Web site. The job specifications in particular were considered vital: as discussed above, other methods of dissemination had not been totally successful for Civil Service.

### **Site design -- content, content, content**

Considering the potential audience for the site, the team realized that the sophistication level of the audience in terms of both computer equipment and experience would have an incredibly broad range. Because of this, the team opted for an extremely simple style in constructing the site: graphics would be kept at a minimum and the overall style of the site would be friendly and at a relatively low reading level. Effort was also made to make the site readily navigable for the most neophyte user. It was very important that the casual user visiting the Civil Service site not be required to spend any "down time" learning how to use the site; it was hoped that he or she could log in and immediately start accessing the desired data. In fact, Web technology was used to make some of the Civil Service information more accessible and user friendly than in its hard copy incarnation. The Civil Service Special Announcement, a bi-weekly announcement of job vacancies, formerly a long unwieldy document comprising several pages, was converted into a simple chart with clickable hot spots that would ultimately bring the user to much more information about the job openings than was previously available. For instance, when users click on a job title in the announcement, they are brought to a full job specification for the job, whereas on the hard copy we only had space to list the minimum qualifications for the job.

Because the resources of Civil Service were so limited in developing the site, it was important, too, that existing documents be used to whatever extent possible. Actually creating new databases and documents was avoided, which saved the team the time it would have taken to develop totally new content for the site. For instance, the job specifications were not retyped and HTML codes were not manually inserted into them. Instead, the documents were converted into WordPerfect, and then converted into HTML using an HTML editor (HTML Publisher, a free add-on to WordPerfect 6.1).

### **Launching the site**

After the initial learning and decision-making period (approximately two months), Civil Service had developed its initial set of Web pages and went on-line with its site on December 22, 1995. As it was developed, additional content was added, culminating in the addition of the on-line job specifications on July 1, 1996, which, as described earlier, had been heavily requested by both job applicants and human resource professionals. These job specifications, as predicted, proved to be immensely popular, particularly with the state agency human resource contingent. Now they could finally access and print a specification for any state classified job. The incredible amount of good will that accrued to Civil Service for making this particular item available far outweighed the costs of providing it. By January 25, 1997, Civil Service had launched its own server, and was no longer dependent on the generosity of the Department of Natural Resources.

Since the site went on-line in late 1995, many features have been added. Some of the information and services that are available on the site now include: job announcements for both continuously announced and specially announced jobs, job specifications for all classified jobs, downloadable forms - including a standard job application, sample test questions, and general circulars (including important information for both the public and state agencies).

### **Consider the audience**

Over the course of the past year and a half that Civil Service has had a Web site, we have constantly refined our approach, and several valuable lessons which are recounted here for parties with an interest in developing a Web site - perhaps sparing them some of the mistakes we made along the way. We learned, for one thing, that content is much more important than "glitz", such as eye-catching graphics and animated icons. We found that users of sites such as ours were accessing our site because they needed the data it provided, and not for entertainment purposes. Furthermore, intense graphics increase the time needed to load pages, which is a perennial Web problem, particularly for those with less powerful machines. Graphics, for the most part, convey no actual information, and, to quote one Web developer we met, "once you've seen a green button, you never need to see it again."

This was in itself another important lesson: the importance of gauging the level of sophistication of not only the audience's experience but of their equipment as well. A surprising array of users, we found, were dialling into our site, with the expanded availability of the Internet. Not all were what might be thought of as traditional computer users, with all the attendant computer literacy which that might imply. Some dialling in were not very sophisticated users at all; many didn't actually have it in their homes, but had access to the Internet through libraries and local job service offices. Because of this, we strove to make the content and navigability of our site accessible to all, including the lowest common denominator in terms of experience and equipment.

### **“Ownership” of Web documents**

Another valuable lesson we learned was to try to use the documents we already had as much as possible - simply taking them from whatever format they were in, such as WordPerfect or IBM and converting them to HTML, although we found, for example with the Special Announcement, that we could sometimes use the Web technology to actually improve the appearance of the data. In keeping with this approach, we have also learned to allow each division within Civil Service to keep the “ownership” of the document or service. This means that each division retains the responsibility for its documents on the Web, maintaining them for currency and accuracy. This is an extremely beneficial situation, as it puts this responsibility in the hands of those who know the most about the particular data, and also have the biggest interest in its being correct.

### **Advisory Panel**

Civil Service realized very early on in its Web site experience that our site is only valuable to the extent that it reflects the needs of our customers, so we also very quickly learned the importance of establishing mechanisms for input concerning the site. Towards this end we have set up an Internet Committee, comprised not only of members from each division of Civil Service, but more importantly, of members from outside State agencies. We feel this is a very important part of the whole process as it, by allowing for this input, helps the site stay fresh and responsive to our clientele. This committee meets twice monthly and has contributed many important ideas to the Web site.

### **Publicizing the site**

It is also invaluable, we have found, to publicize our site. No matter how useful and easy to use the site is, it does no good if no one is aware of it. To make sure this doesn't happen, we have gone to great lengths to advertise and publicize our site. It is registered with every major search

engine, such as Yahoo! and Alta Vista, and we have listed our Web address on all department correspondence. We also take every opportunity to demonstrate the site to large and small groups. This is perhaps the optimal mode of publicity; it not only allows us to show all the features of the site, but it also allows us to provide some training in its use.

### **III. Easin' on Down the Road: Results, Concerns,Future Directions**

#### **Client Response**

Our Web site has been quite a success for the Louisiana Department of Civil Service. It has gained us immeasurable good will from our customers and allowed us to perform our daily business more efficiently.

In our earliest discussions of the possible uses of a Web site, we hypothesized that it would enable us to gradually wean our client agencies off the hundreds of thousands of copies of paper documents we were mailing to them each year. Much to our delight, our clients were way ahead of us. Within days of launching our web versions of job announcements, job specifications, and other widely distributed documents, a number of our largets clients called us to say they no longer needed to receive paper copies. The Web site offers "instant" distribution as soon as a single original document is posted there -- no copying, handling or mailing costs. The Web lets us get information to our clients faster and at less cost to us.

#### **Expanded Recruiting**

But communication with other state agencies is not the only function improved by the Web site. Our public outreach has also been enhanced. Like most jurisdictions, our staff resources have been dramatically reduced in recent years. Automation has enabled us to compensate for these losses in many areas, and the Web is no exception. We are only able to provide manned job Information and Recruiting Offices in two cities, Baton Rouge, the state capitol, and New Orleans, the largest metropolitan area. Since these two cities are both in the southeastern portion of the state, many applicants and state employees are several hours away from direct access to these offices. By placing our job announcements and recruiting documents on the Web site, we have essentially opened an Information Office inside every PC with Internet access. Since our Web site has gone on-line, we routinely receive inquiries and applications from applicants across the nation who tell us they learned about Louisiana job opportunities from our site.

The downloadable application form on the site has dovetailed perfectly with other developments at Civil Service. We have recently made of all of our written tests available on a walk-in basis.

Now, through our site, candidates can learn of a vacancy, testing requirements, even look at sample test questions, download and complete a Civil Service application, and then simply walk-in to one of our Information Offices and take the test. Through this method, both the candidate's and Civil Service's "job" is made much easier.

### **Equal Access**

The establishment of a Web site has been of unquestionable benefit to our programs. However, we do not deceive ourselves that it is a panacea. One of the most obvious shortcomings is limited accessibility. Although Web access is growing almost as fast as technology is changing, it is by no means available to everyone. For a public jurisdiction, with a responsibility to provide equal access to all segments of the public, this is a serious concern. The Web is a wonderful addition to our array of communication tools, but it is more powerful for some applications than others. For example, its attraction as a recruiting tool for computer programmer candidates is obvious. Its value as a recruiting medium for carpenters is another matter.

Accessibility is undoubtedly growing by leaps and bounds. Recent surveys\* estimate the number of internet users at 47 million. In Louisiana the public library systems have begun to establish some public access. And the new "Web-TV" technology will certainly bring the Web to more and more American homes. But until access is much more widespread, traditional methods of communication must continue to be maintained.

### **Privacy of information**

At present, our Web site is a one-way street -- it gives information out, but takes no information in. In the future, we envision a feature which would enable a job applicant or employee to enter their identifying information and thereby view and eventually update their individual records with us. However, before we approach such features, we must face the issues of privacy of information on the Web. Recently, the Social Security Administration added such a feature to their site. They immediately faced the sound and the fury of citizens concerned that such access was far too easily obtained by persons other than the individual, compromising the privacy of financial and other records.

The struggle over how to maintain privacy of information on the Web is escalating daily. Whether adequate controls can be developed privately, or whether federal intervention will be necessary remains to be seen. We are choosing the road of caution, observing the experiences and strategies of other agencies such as the S.S.A. before venturing into the fray.

**1997 IPMAAC Conference Presentation: *Cruisin' Down the Information Superhighway***

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\*from *Internet Magazine* July 1997, Volume 2, Issue 7, page 32

## **Future Applications**

Our current site includes a number of our most heavily used forms, such as a job application, in a download-able format. This allows users to copy the form into their own computer where they can complete and print it. We have not yet begun to accept these forms over the internet for a variety of reasons.

One consideration is the signature. Most of these documents require a signature testifying to the accuracy of the information provided. The legal value of an "electronic" signature is an unresolved issue.

Another consideration is the logistics of handling electronic documents. Before opening another source of receiving documents, careful planning must be given to how they will be handled. As users begin to submit documents electronically in an instant, they will also begin to expect an electronic and instantaneous response. This is an area we plan to enter, but cautiously.

Ultimately, we look toward using the Web site as a "One-stop Information Shop" where in addition to accessing general information, an applicant or employee can enter their personal identification and view a tailored list of specific job vacancies in their area of interest, complete with specific instructions for applying for each one. This would allow more efficient connections between applicants and vacancies. As public access becomes more widespread and available through sources such as libraries and schools, and private access becomes cheaper and easier through new technologies like Web TV, we expect the Internet to become as routine a part of our world as the telephone, copier or fax machine.



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