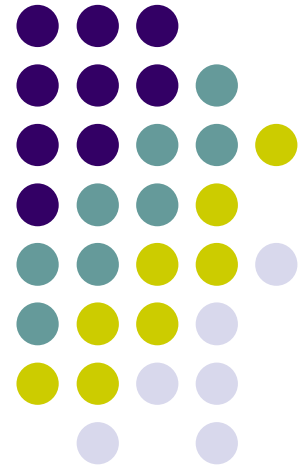
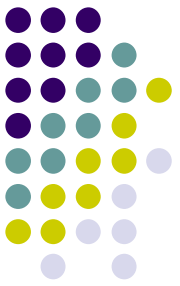


# Current Practices – Online Application Processing

Lee Frier  
State of Alabama Personnel Department  
IPMAAC 27<sup>th</sup> Annual Conference  
June 23, 2003

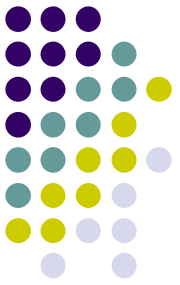




# The Survey Questions

- General information about the personnel department.
  - What type of agency (State, City, or County)?
  - What is the size of your agency?
  - What is the number of employees in your agency?
  - What is the size of the workforce your agency serves?
- What software is being used for online employment application processing?
- How are signatures collected for the online employment applications?

# What computer applications are being used for online employment application processing?



- Sixty-six percent (66%) were developed in-house.
- No clear dominance by any commercial computer application.
- Commercial applications used: Resumix, FrontPage, Quick Hire, PeopleSoft.

<u>Computer Language Used</u>	<u>Database</u>
ASP, JAVA, VB Script, SQL	SQL Server (4), MY SQL (1)
Cold Fusion	Oracle (1)
HTML	No data storage (1)

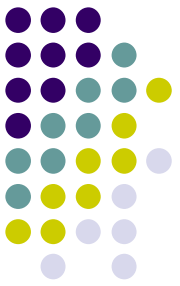


# Digital Signatures

- 54% required a paper signature at the time of the interview.
- 23% allowed the application to sign online and used that as the only signature required.
- 23% allowed the applicant to sign online, but also required a paper signature at the time of the interview.

Conclusion – 77% of the agencies surveyed required a paper signature at some time during the hiring process.

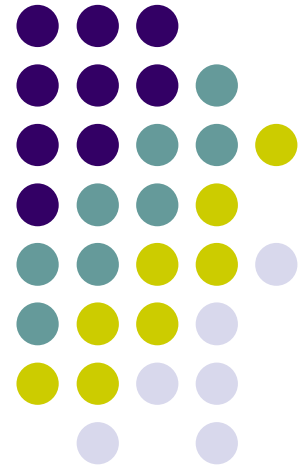
# Problems with Online Employment Application Systems



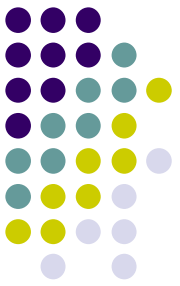
- Interfacing with legacy systems.
- Applicants applying for the same job multiple times during a short time frame.
- Applicants applying for all job openings regardless of the minimum qualifications.

# Technical Questions We Ask Commercial Vendors

And Why They Are Important

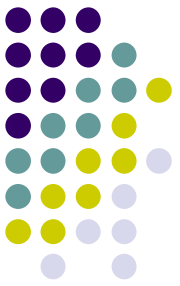


# In what computer language(s) is the computer application written and can it be modified?



- A. If the system is totally proprietary and does not allow for modification, it can be very expensive long term.
- B. Most commercial systems that allow you to take employment applications online are part of larger computer applications that encompass the hiring process. This computer application will probably have to be modified to fit your business rules. If these rules change, the computer application will have to be modified to these rules. If an outside company or consultant has to do this, it can become very expensive.
- C. Most commercial packages offer technical support agreements. These are a yearly cost and can add up over time.

# What database is used and can we build applications against it?



- A. If the database is not ODBC compliant and you want to use the employment application data somewhere else, it will be difficult if not impossible. This would include using the data in a legacy mainframe system.
  
- B. Many states require that different parts of the employment data be sent to different agencies. If your in-house IT team can not extract that data, then you will not be able to use that system.



## Has this application been used in the public sector and is it suitable for the number of applications our agency may receive online?



- A. This will allow you to contact other public sector agencies that have similar issues. Some of the systems out there are not very robust. They were not developed to take the same number of applications that your agency may expect.
  
- B. If you expect to get 50,000 applications a year online, your needs and issues are different than that of an agency who expects to get under 10,000 a year.



# What is the cost?

## **This includes:**

- Installation
- Implementation
- Training
- Data conversion
- System modifications that have to be made to fit your business rules

## **It also includes long term costs:**

- Maintenance
- Technical support
- Licensing fees

# Conclusions



## Technical Issues

- More data is needed to form any conclusions.
- Most computer applications are developed in-house.
- No commercial product is dominating the public sector market.

## Digital Signatures

- Most agencies require a pen and paper signature at some time during the employment process.
- This is not likely to change in the near future.

Current Practices: Online Employment Application Processing in the Public Sector

A paper presented at the  
Twenty-seventh Annual IPMAAC Conference  
Baltimore, MD – June 23, 2003

Lee Frier  
State of Alabama Personnel Department

## **ACKNOWLEDGMENTS**

I would like to thank the state, city, and county agencies that completed the survey. This includes the states that replied to my request and stated that they did not have an online application process. To know that many states do not have the ability to take online employment applications is useful data in itself.

I would like to especially thank Kelly Barto, City of Saint Paul, who did a survey of cities that processed employment applications online in 2002. She provided me with some initial information that helped in the distribution of this survey.

## *Executive Summary*

This paper presents the data collected from a survey sent out to state, county, and city governments concerning their use of online processing of employment applications and digital signatures. Fifteen (15) surveys were completed by public sector departments that were developing or had developed a system for applicants to apply for employment online via the internet. The information resulting from this research is presented in this paper.

## *The Survey*

The survey was developed to examine these following areas:

1. General information about the governmental personnel department.
2. The software application being used for the processing of the online employment application.
3. Methods by which signatures are collected for the online job applications.

More than 40 surveys were mailed out to state, city, and county agencies. Many were identified through previous surveys to have online application procedures. Of these, I received 15 back. Three (3) of the surveys returned were in the development stage of a web employment application system. There feedback was analyzed to determine useable data. Due to the low return rate no conclusions can be made, but it did provide preliminary data.

## *Answering the Two Main Questions*

### **1) What computer applications are being used for online employment application processing?**

Based on the responses I received, there is no clear product dominance of the applications being used for this purpose. A majority of the computer applications were developed in-house (66%). All were client/server based systems. However, at least one did interface with a legacy mainframe system.

Here is a breakdown of the computer languages being used and the database back ends:

<u>Computer Language Used</u>	<u>Database</u>
ASP, JAVA, VB Script, SQL	SQL Server
Cold Fusion	Oracle
HTML	No data storage

Most of the systems stored data in a database. Out of the eight (8) respondents that answered the question four (4) used SQL Server, one (1) used Oracle, One (1) used MY SQL, one (1) used a proprietary database, and one (1) did not store the data collected.

The commercial applications used included Resumix, FrontPage, Quick Hire, and PeopleSoft. There was no commercial application that clearly dominated the field. Many of the commercial applications available were not mentioned in any of the surveys.

## 2) How are signatures collected?

Methods for collecting signatures were the catalyst of the survey. It is also where I received the majority of my data. This data included the agencies that were in the development stages of their computer applications.

From the thirteen (13) surveys that answered this question, here are the results.

Percentage	Type of Signature
54%	Required a signature at the time of interview.
23%	Allowed the applicant to sign online and that was the only signature required.
23%	Allowed the applicant to sign online, but also required a paper signature at the time of the interview.

A majority (77%) require a paper signature at some time in the hiring process. This data is comparable to the data Kelly Barto found in a survey conducted last year.

### ***Problems with Online Employment Application Processing***

One question asked in the survey concerned problems encountered in the development or use of an online system for processing employment applications. These problems dealt with linking the employment application system to a legacy mainframe certification system. It was also mentioned that the easier it is for people to apply, the higher the possibility of certain problems. Examples include an applicant applying for the same position multiple times in a short time frame and an applicant applying for every job listed regardless of minimum qualifications. Finally, if the system is intergraded with other systems, it may require the data entry of all paper applications.

These problems and others discovered during our review of commercial online employment application systems have led questions discussed at every demonstration of a commercial system. These will also provide some design criteria for the system if developed it in-house. In fact these questions, excluding cost issues, led to the development and design of this survey.

Following are technical questions we discuss when we look at commercial applications that have an online employment application feature. An explanation of the importance of these questions is included.

1. In what computer language(s) is the computer application written and can it be modified?

Your IT department will need to know if it can support the application your department is planning to purchasing. If the system is totally proprietary and does not allow for modification, it can be very expensive long term. Most commercial systems that allow you to take employment applications online are part of larger computer applications that encompass the entire hiring process. This computer application will probably have to be modified to fit your business rules. If these rules change, the computer application may have to be changed. If an outside company or consultant has to make these changes, it can become very expensive. Most commercial packages offer technical support agreements. These are a recurring yearly cost and can add up over time.

2. What database is used and can we build applications against it?

If the database is not ODBC (Open Data Base Connectivity) compliant and you want to use the employment application data somewhere else, it may be difficult if not nearly impossible. This would include using the data in a legacy mainframe system. It also includes exporting the data and sending it to other government agencies. Many states require that different parts of the employment data be sent to different federal agencies. If your in-house IT team cannot extract the needed data, then you will not be able to use that system.

3. Has this application been used in the public sector and is it suitable for the number of applications our agency may receive online?

This will allow you to contact other public sector agencies that have similar issues. Some of the existing systems are not very robust. They were not developed to take the same number of applications that your agency may expect. For example, if you expect to get 50,000 applications a year online, your needs and issues are different then that of an agency who expects to get under 10,000 a year.

4. What is the cost?

This includes the cost of installation, implementation, training, data conversion, and any system modifications that have to be made to fit your business rules. It also includes long term costs such as maintenance, tech support, and any licensing fees.

### ***Conclusions***

There was inadequate data to form absolute conclusions on the technical aspects of an online employment application system. There seems to be no dominant commercial product for this purpose. It seems that most public agencies develop these computer applications in-house. This is probably due in some part to the problems and questions outlined above.



The information concerning digital signature seems much more defined. Most agencies still require a paper signature during the hiring process. The law allows us to take electronic signatures and use them as a legally binding signature. However, it seems that the usability of this procedure has not yet developed. The problems of fraud and lying seem to demand the need for a printed legal signature. Identification technology of the future may allow more wide spread use of digital-only signatures. However, the propensity of fraud and the lack of an easy, cost-effective method to identify the person on the other end of the online connection will not allow most agencies to accept only digital signatures.