



# Chapter 15



## **Knowledge Sharing Systems: Systems that Organize and Distribute Knowledge**



# Chapter Objectives

- To explain how knowledge sharing systems help users share their knowledge, both tacit and explicit:
  - For tacit knowledge – systems utilized by *communities of practice*, particularly those that meet virtually
  - For explicit knowledge - *knowledge repositories*
- To present the different types of knowledge repositories
- To demonstrate how sharing systems serve to organize and distribute organizational and individual knowledge



# Corporate Memory

- Corporate Memory (also known as an organizational memory) is made up of the aggregate intellectual assets of an organization.
- It is the combination of both explicit and tacit knowledge.
- The loss of Corporate Memory often results from a lack of appropriate technologies for the organization and exchange of documents.



# What are Knowledge Sharing Systems

- Systems that enable members of an organization to acquire tacit and explicit knowledge from each other.
- Knowledge markets that must attract a critical volume of knowledge seekers and knowledge owners in order to be effective.




# Requirements for the Success of a Knowledge Sharing System

1. Collection and systematic organization of information from various sources.
2. Minimization of up-front knowledge engineering.
3. Exploiting user feedback for maintenance and evolution.
4. Integration into existing environment.
5. Active presentation of relevant information.



# Barriers to the use of Knowledge Sharing Systems

- Many organizations, specifically science and engineering-oriented firms, are characterized by a culture known as the '*not-invented-here syndrome*'.
- Organizations suffering from this syndrome tend to essentially reward employees for 'inventing' new solutions, rather than re-using solutions developed within and outside the organization.



# Specific Types of Knowledge Sharing Systems

- Knowledge sharing systems are classified according to their attributes
  1. Incident report databases
  2. Alert systems
  3. Best practices databases
  4. Lessons-learned systems
  5. Expertise locator systems

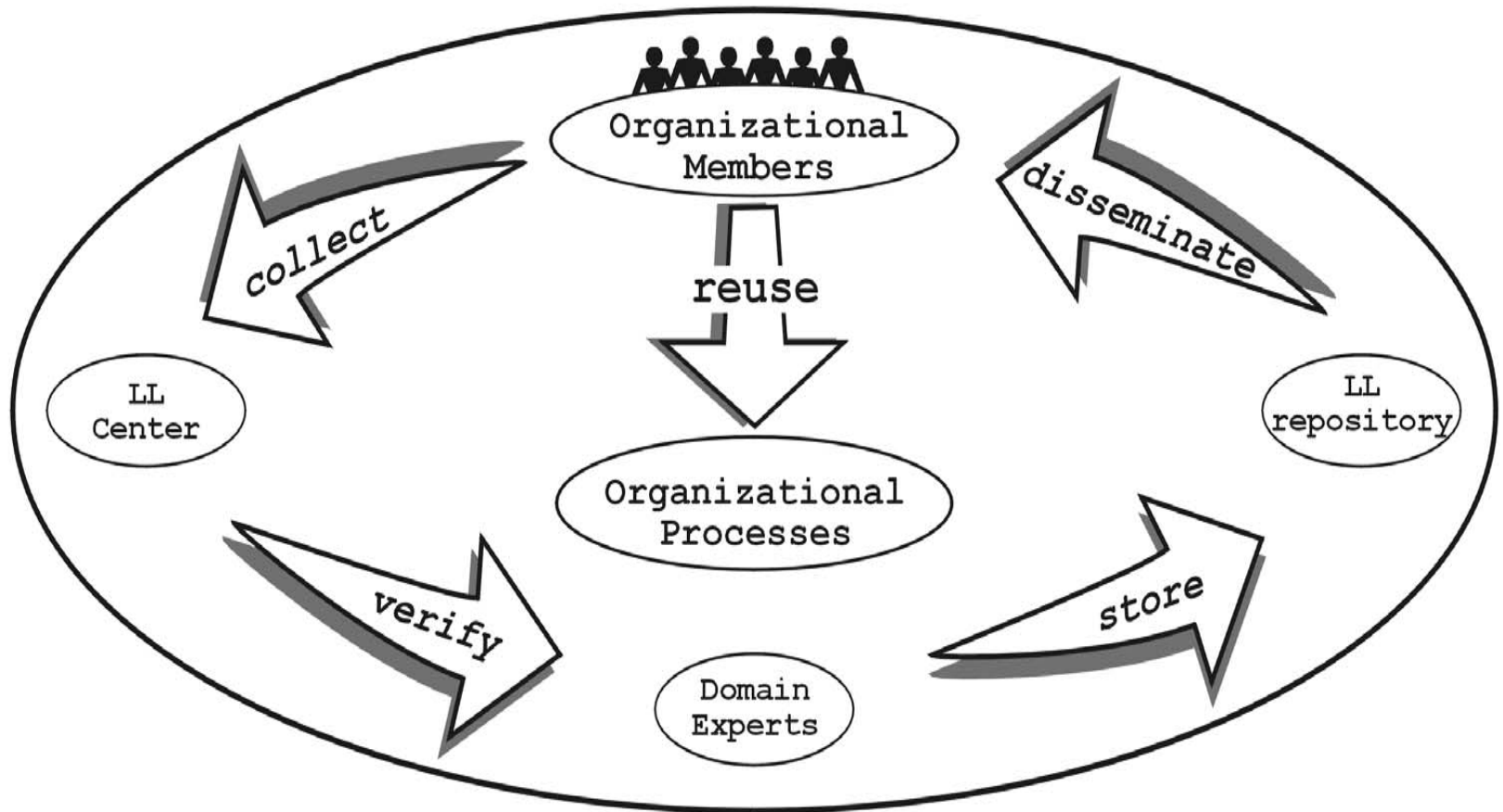


# Types of Knowledge Repositories

Knowledge Sharing System	Originates from experiences?	Describes a complete process?	Describes failures?	Describes successes?	Orientation
Incident Reports	Yes	No	Yes	No	Organization
Alerts	Yes	No	Yes	No	Industry
Lessons Learned System	Yes	No	Yes	Yes	Organization
Best Practices Databases	Possibly	Yes	No	Yes	Industry



# Lesson Learned Process





# Purpose of LLS - to Support Organizational Processes

- *Collect the lessons:*
  - Passive, Reactive, After-Action Collection, Proactive Collection, Active Collection, Interactive Collection*
- *Verify the lessons*
- *Store the Lesson*
- *Disseminate the Lesson:*
  - Passive dissemination, Active casting, Broadcasting, Active dissemination, Proactive dissemination, Reactive dissemination*
- *Apply the Lesson:*
  - Browsable, Executable, Outcome reuse*



# Expertise-Locator Knowledge Sharing Systems

- Goal: to catalog knowledge competencies, including information not typically captured by human resources systems, in a way that could later be queried across the organization to help locate intellectual capital.
- Significant challenge in the development of ELS, knowledge repositories, and digital libraries, deals with the accurate development of knowledge *taxonomies*.
- Taxonomies, also called classification or categorization schemes, are considered to be knowledge organization systems that serve to group objects together based on a particular characteristic.



# Characteristics of Expertise-Locator Systems

ELS Name	CONNEX (HP)	KSMS (NSA)	SPuD (Microsoft)
<b>Purpose of the system</b>	To share knowledge, for consulting and to search for experts	To staff projects and match positions with skills	To compile the knowledge and competency of each employee
<b>Self-Assessment</b>	Yes	Yes, supervisors also participate in data gathering	No, supervisors rate employee's performance
<b>Participation</b>	Only those who are willing to share	Whole personnel	Whole personnel in the IT group
<b>Knowledge Taxonomy</b>	US Library of Congress INSPEC Index Own	Department of Labor (O*NET)	Own
<b>Levels of Competencies</b>	No	Yes	Yes
<b>Data Maintenance</b>	User (nagging)	User and Supervisor	Supervisor
<b>Company Culture</b>	Sharing, Open	Technology, Expertise	Technology, Open
<b>Platform</b>	HP-9000 Unix Sybase Verity	OS/2, VMS, and Programming Bourne shell.	SQL MS Access

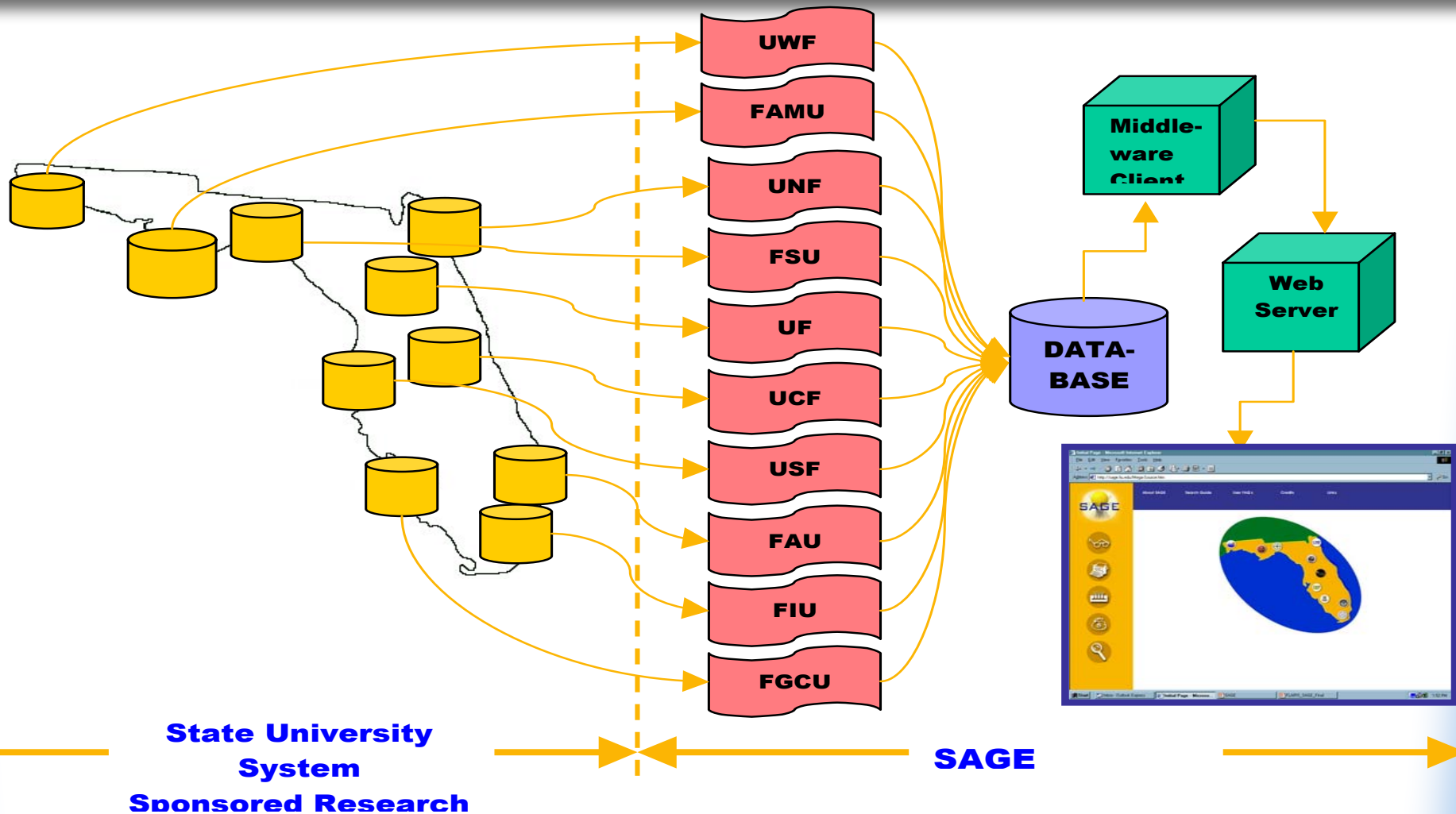


# Case Study - SAGE

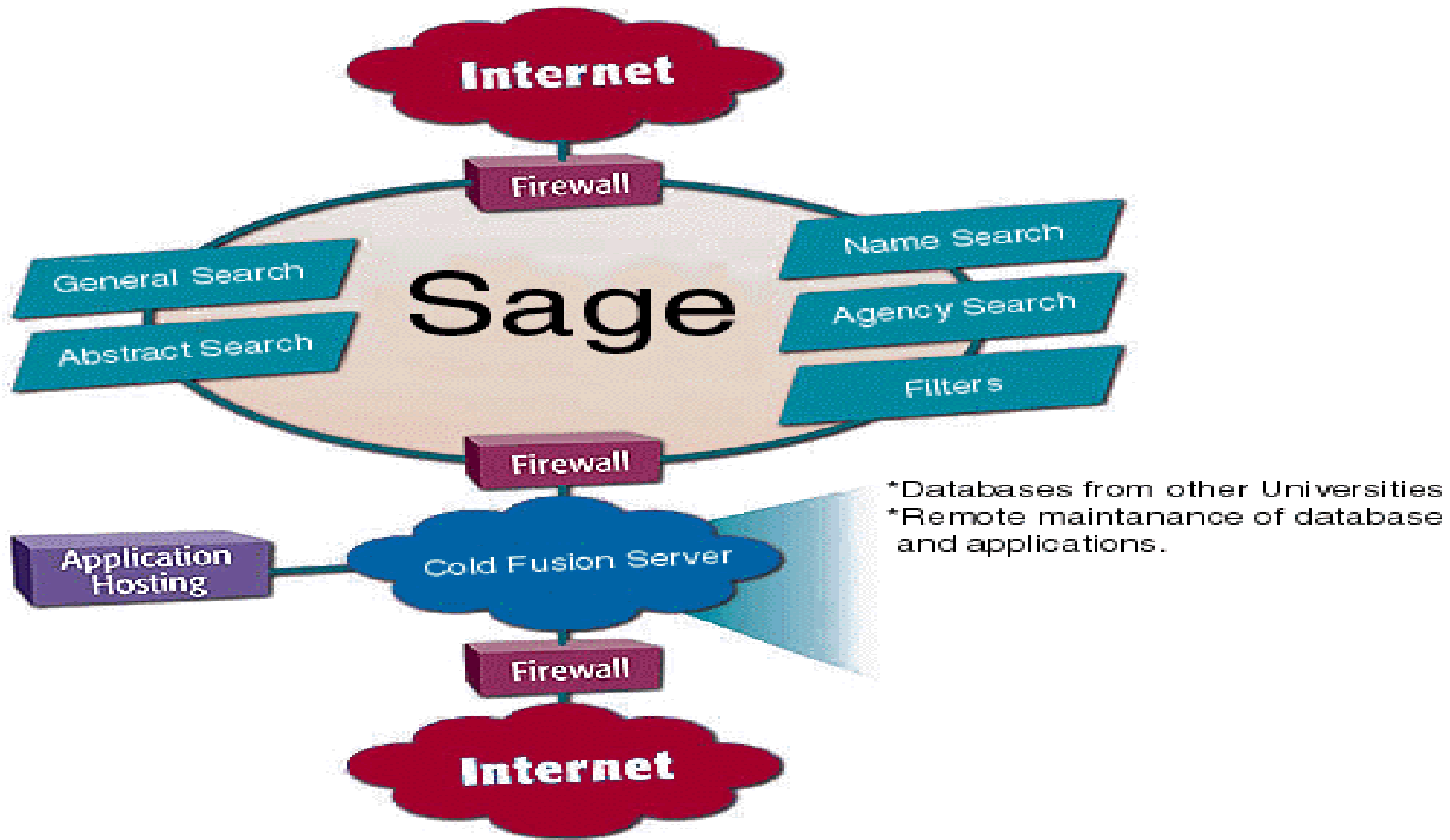
- The purpose of Searchable Answer Generating Environment (**SAGE**) is to create a searchable repository of university experts in the State of Florida.
- [www.sage.fiu.edu](http://www.sage.fiu.edu)



# SAGE Architecture



# Technologies to Implement SAGE



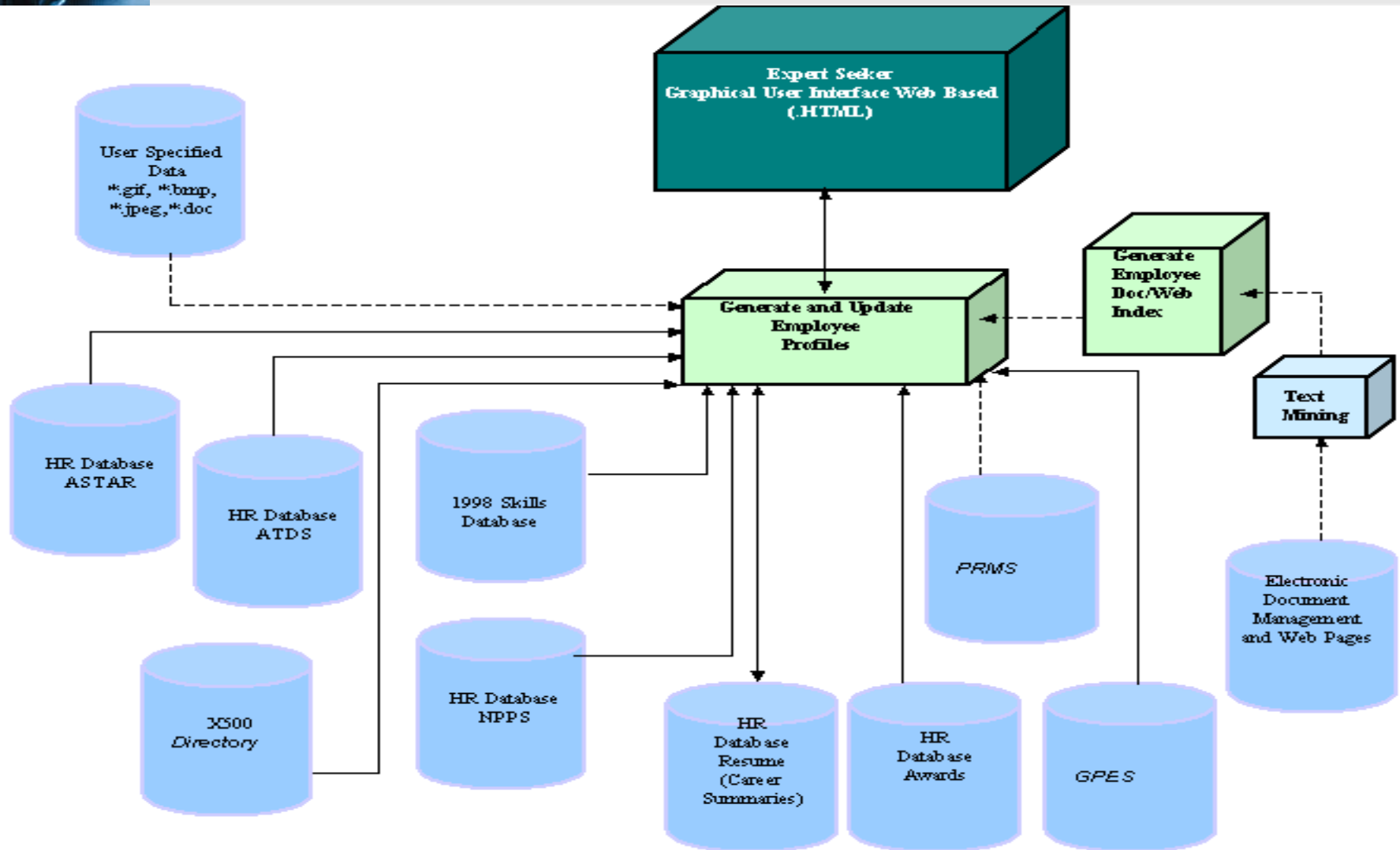


# Case Study – Expert Seeker

- **Expert Seeker** is an organizational expertise-locator KMS used to locate experts at NASA.
- The main difference between **Expert Seeker** and **SAGE** is that the former searches for expertise at NASA (KSC and GSFC), while the latter is on the Web and seeks expertise at various universities.



# Expert Seeker Architecture





# KM Systems to Share Tacit Knowledge

- To create a cultural environment that encourages the sharing of knowledge, some organizations are creating knowledge communities.
- A community of practice is an organic and self-organized group of individuals who are dispersed geographically or organizationally but communicate regularly to discuss issues of mutual.



# Conclusions

In this chapter you learned:

- What are knowledge sharing systems
- Design considerations for knowledge sharing systems
- Specific types of such systems: lessons learned systems, knowledge repositories, and expertise locator systems
- Case studies of ELS:
  - ◆ SAGE Expert Finder, to locate experts in Florida.
  - ◆ Expert Seeker, to identify experts at NASA.
- Communities of practice are important to share tacit knowledge.



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