COHSE

Informed WWW Link Navigation Using Ontologies

University of Southampton

IAM

Dr. Leslie Carr,
Prof. Wendy Hall,
Prof. David De Roure,
Steve Harris, Tim Miles-Board

THE UNIVERSITY of MANCHESTER

Information Management Group

Prof. Carole Goble,
Sean Bechhofer

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Conceptual Open Hypermedia

- improve the quality of linking of WWW documents
  - as readers browse the documents
  - as authors create the documents
- by integrating
  - an ontological reasoning service to represent a conceptual model of document terms and relationships
  - a Web-based open hypermedia link service
- to form a *conceptual open hypermedia system* to enable documents to be linked via metadata describing their contents

Link Creation not just Resource Discovery

Document View

An Architectural Model for Application Integration in Open Hypermedia Environments

E. James Whitehead, Jr.
Department of Information and Computer Science
University of California, Irvine
Irvine, CA 92697-3425
Tel: +1 714 824-4121
E-mail: ejw@ics.uci.edu

REFERENCES

1. R. M. Akscyn, D. L. McCracken, E. A. Yoder. KMS: ypermedia System for Managing ganizations. *Communications of the* 835, July, 1988.
2. R. N. Taylor, E. J. Whitehead, Jr., text for Heterogeneo oftware n *Proceedings of the* ean *Hypermedia Technology* 94-107. Edinburgh, Scot
3. R. Cailliau, A. Luotonen, H. F. ecret. The World-Wide Web. *of the ACM*, 37(8):76-82, August,
4. H. Davis, W. Hall, I. Heath, G. Hill, and R. Wilkins. Towards an Integrated Information Environment with Open Hypermedia Systems. In *Proceedings of the*

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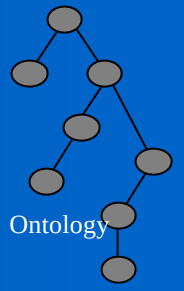
h open hypermedia

Microcosm [7] [4], DeVise Hypermedia [8] [9], HyperDisco [21], Hyperform [20], Chimera [2], SPn/HBn [18][11], HOSS [14], Multicard [17], and Sun's Link Service [16].

COHSE



Ontology

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1. R. M. Akscyn, D. L. McCracken, E. A. Yoder. tributed Hypermedia System for Managing dge to Organizations. *Communications of the* 1(7):820-835, July, 1988.
2. Anderson, R. N. Taylor, E. J. Whitehead, Jr., : Hypertext for Heterogeneous Software ments. In *Proceedings of the European nce on Hypermedia Technology 1994*, 4, pages 94-107. Edinburgh, Scotland, ber 1994.
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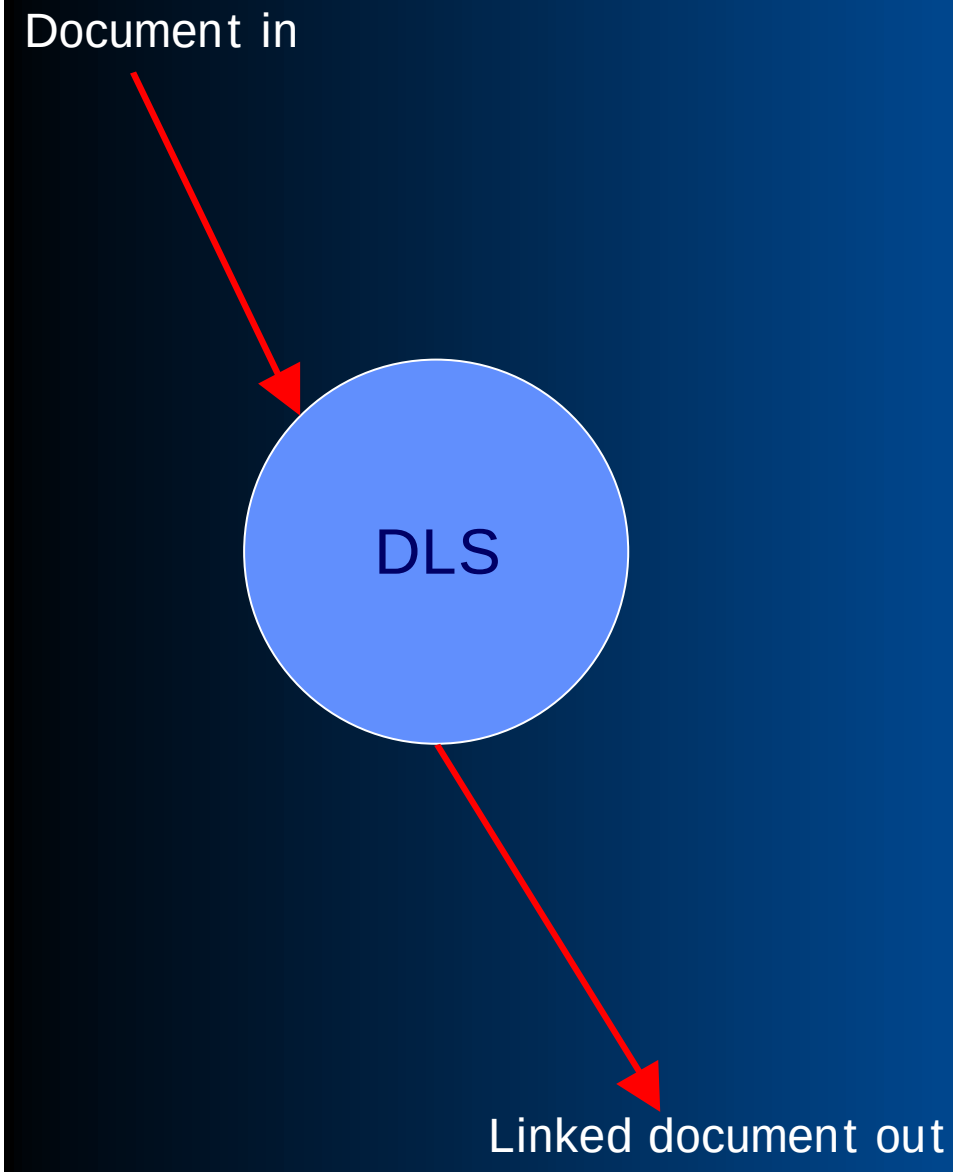
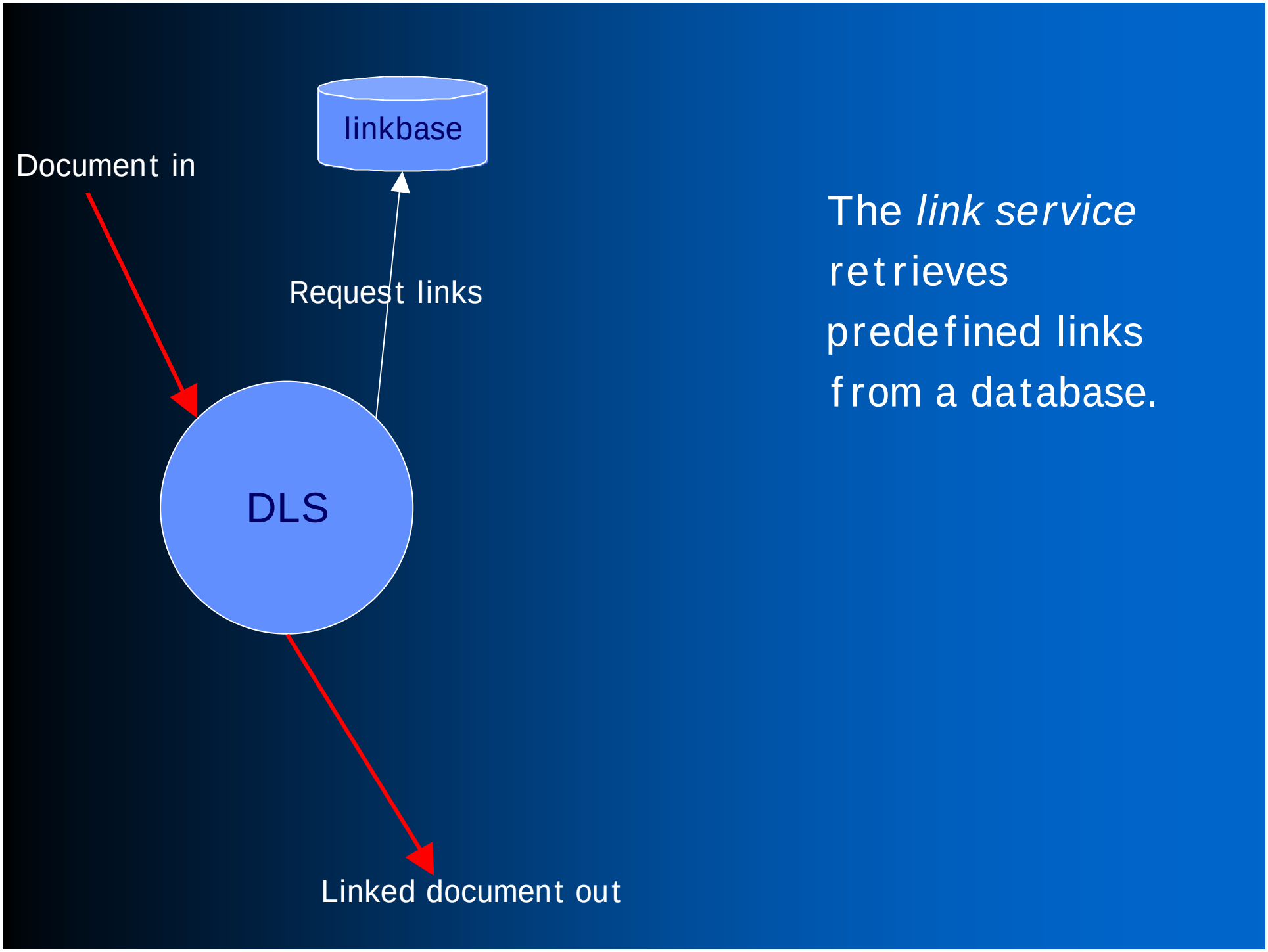
Reader's View

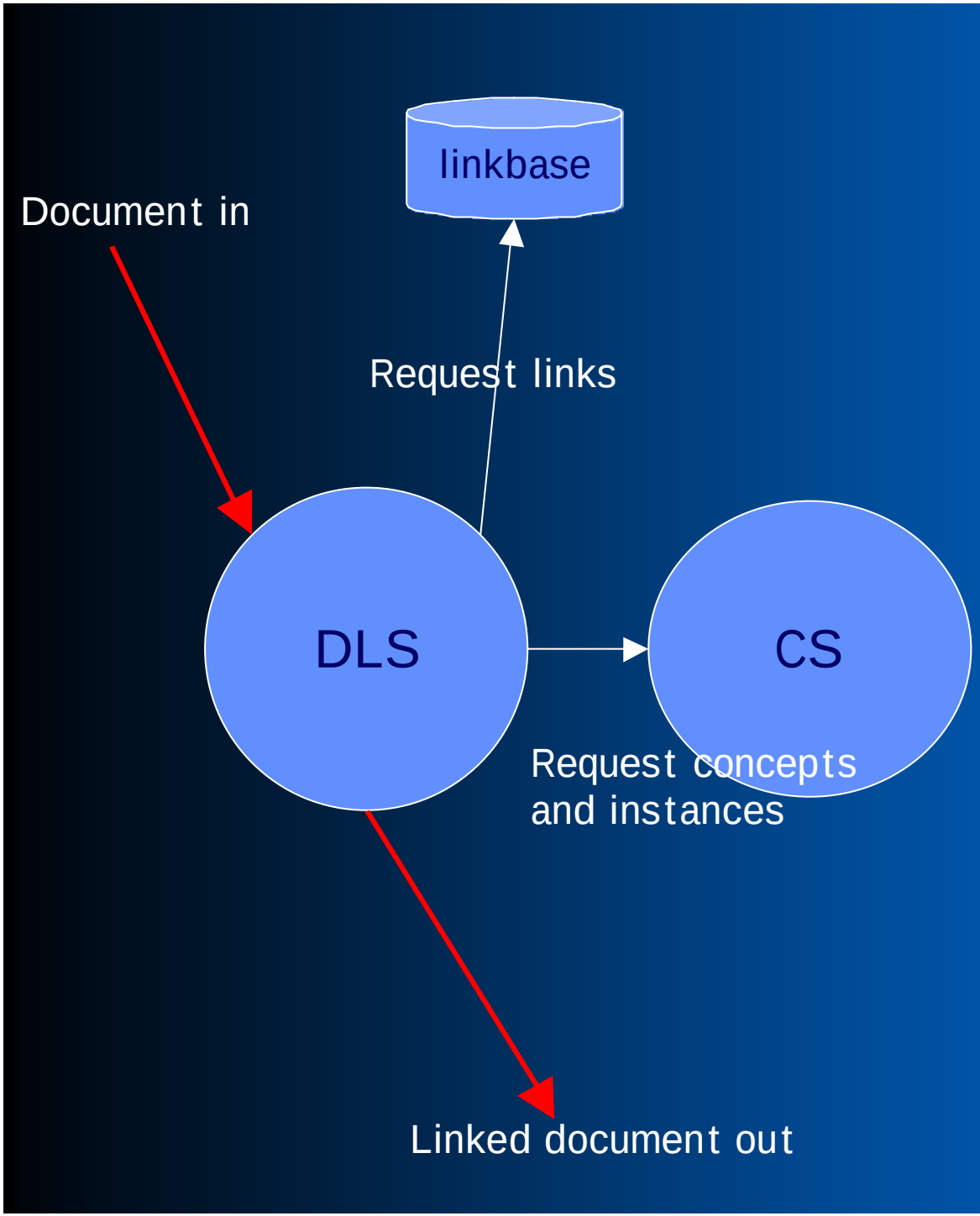
Components of COHSE



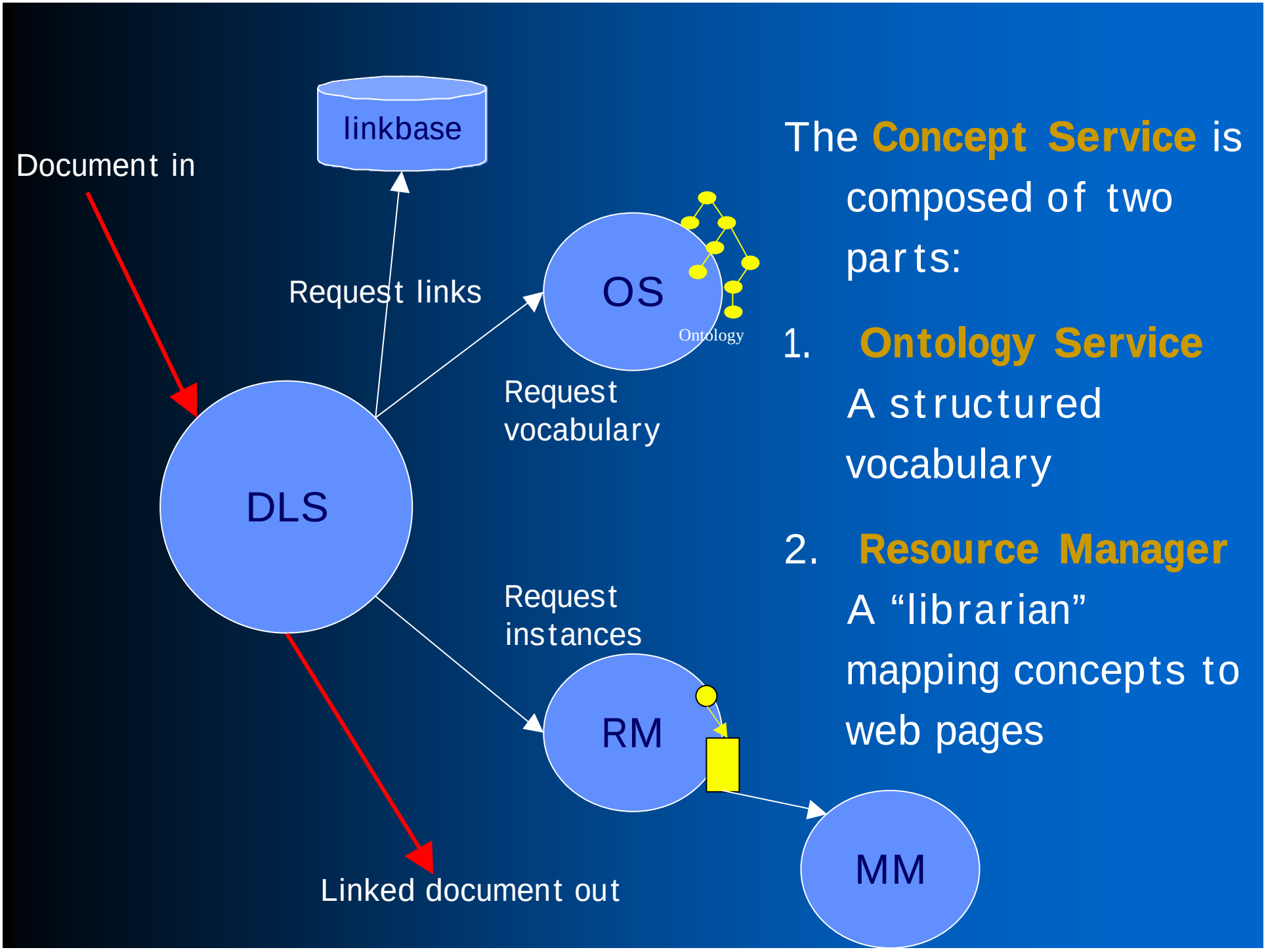
An **O**pen **H**ypermedia **S**ervice uses a *link service* as the basic mechanism for controlling navigation around a set of Web resources.



The *link service* retrieves predefined links from a database.

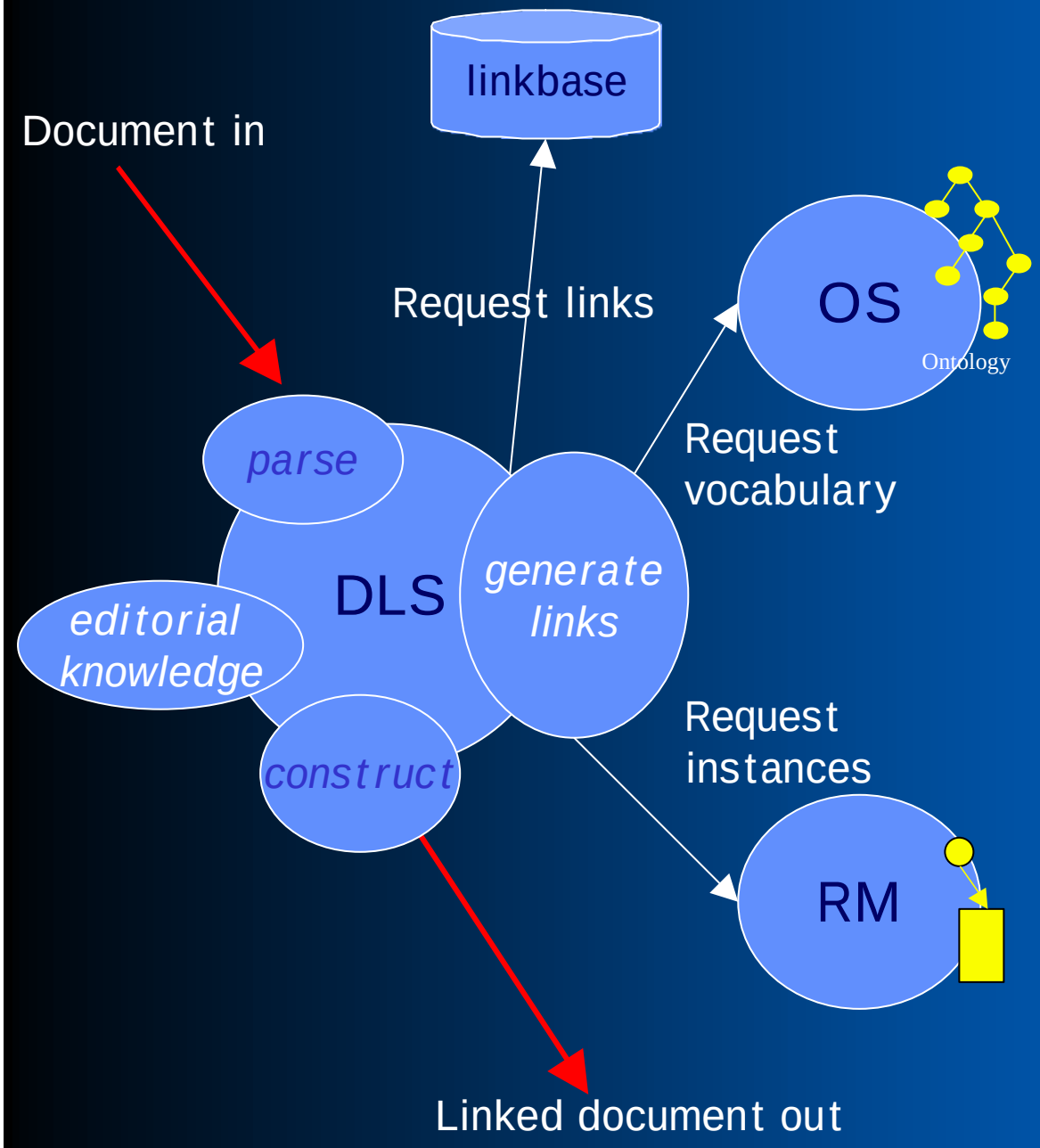


In a **C**onceptual **O**pen **H**ypermedia **S**ervice the link service uses a *concept service* to recognise concepts referred to in the documents and to link them together.



The **Concept Service** is composed of two parts:

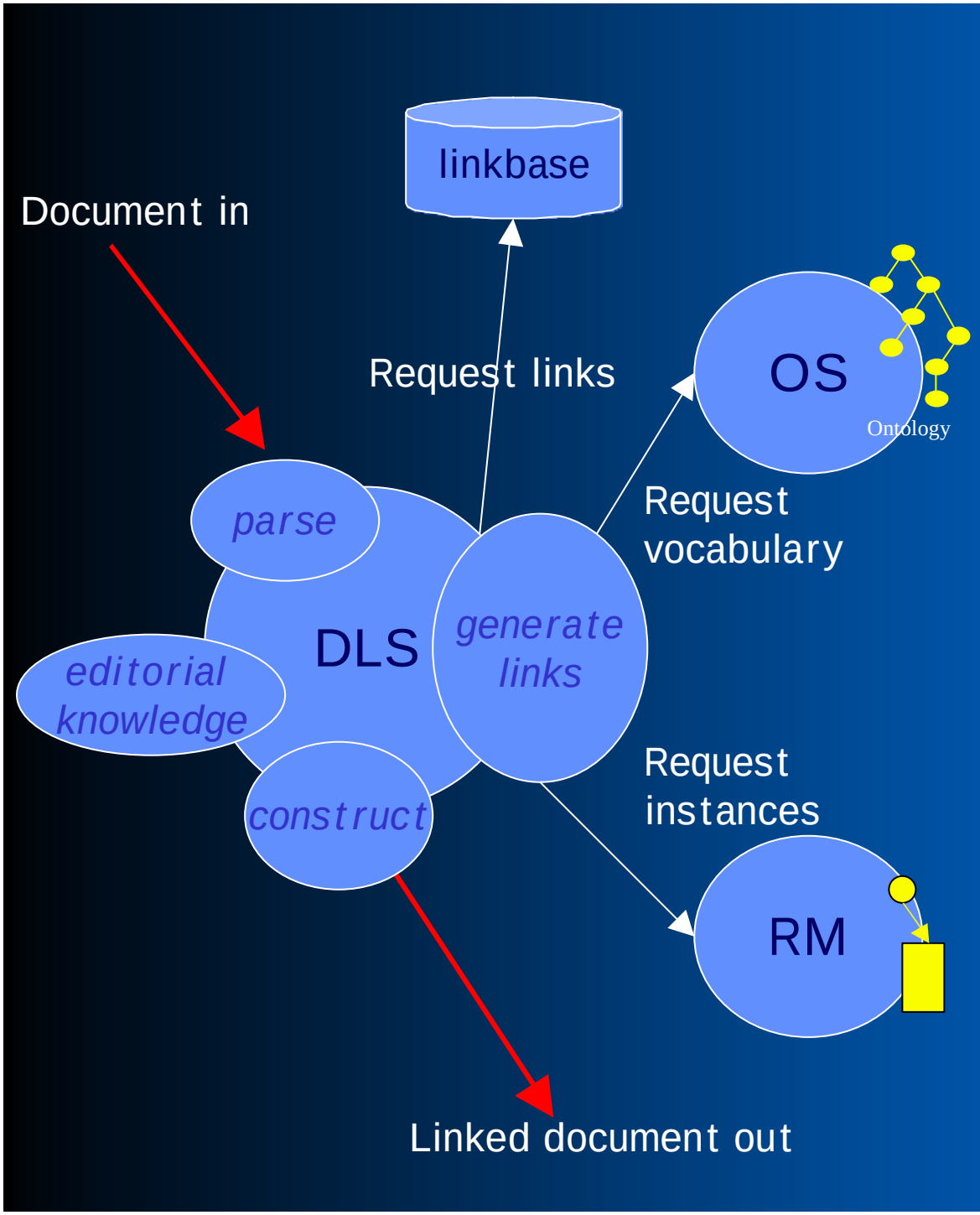
1. **Ontology Service**
   A structured vocabulary
2. **Resource Manager**
   A “librarian” mapping concepts to web pages



The link service is decomposed into

- a ***parser*** that decomposes the page into a DOM
- a ***constructer*** that reforms the DOM into a Web page

...more ->>



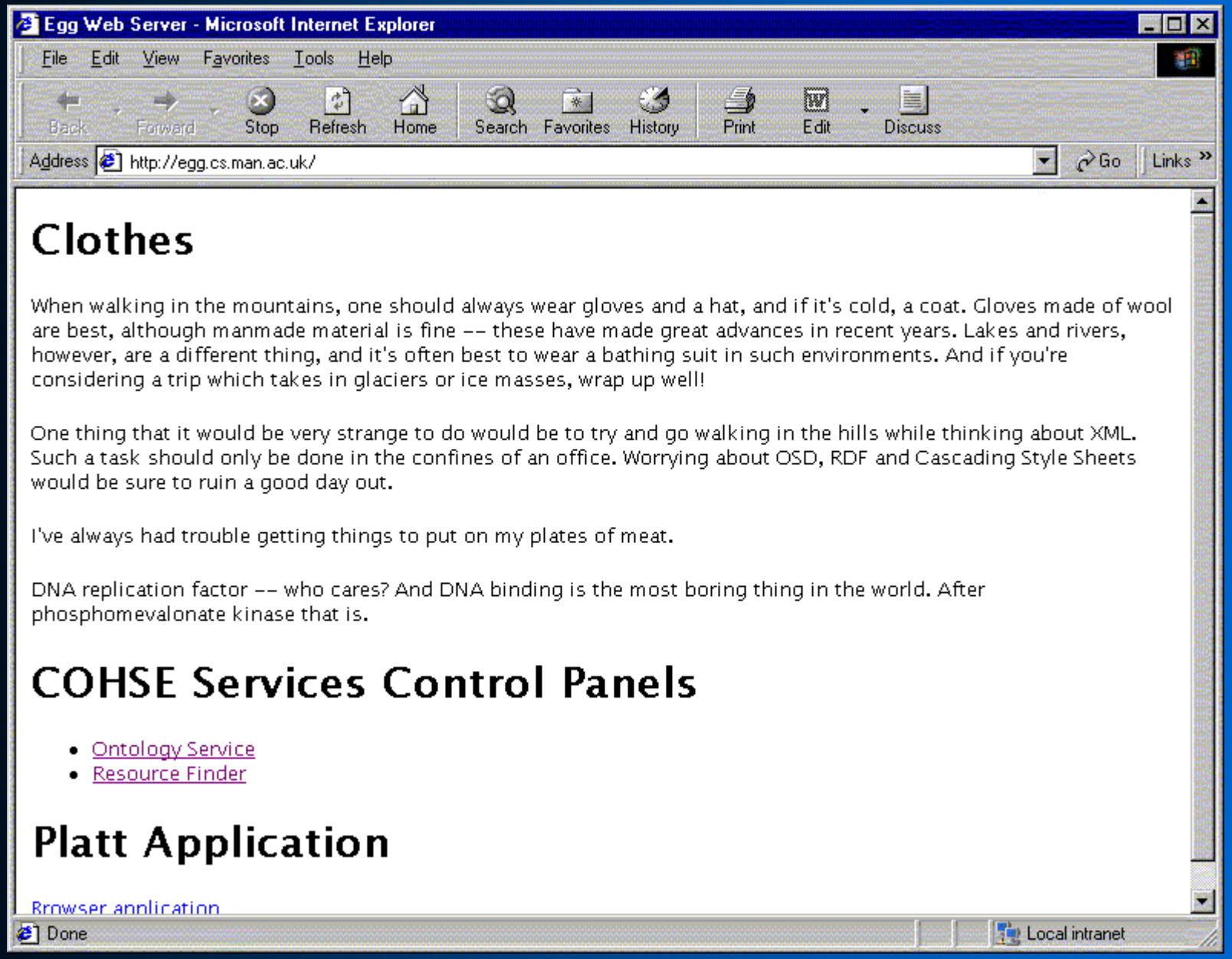
The link service is decomposed into

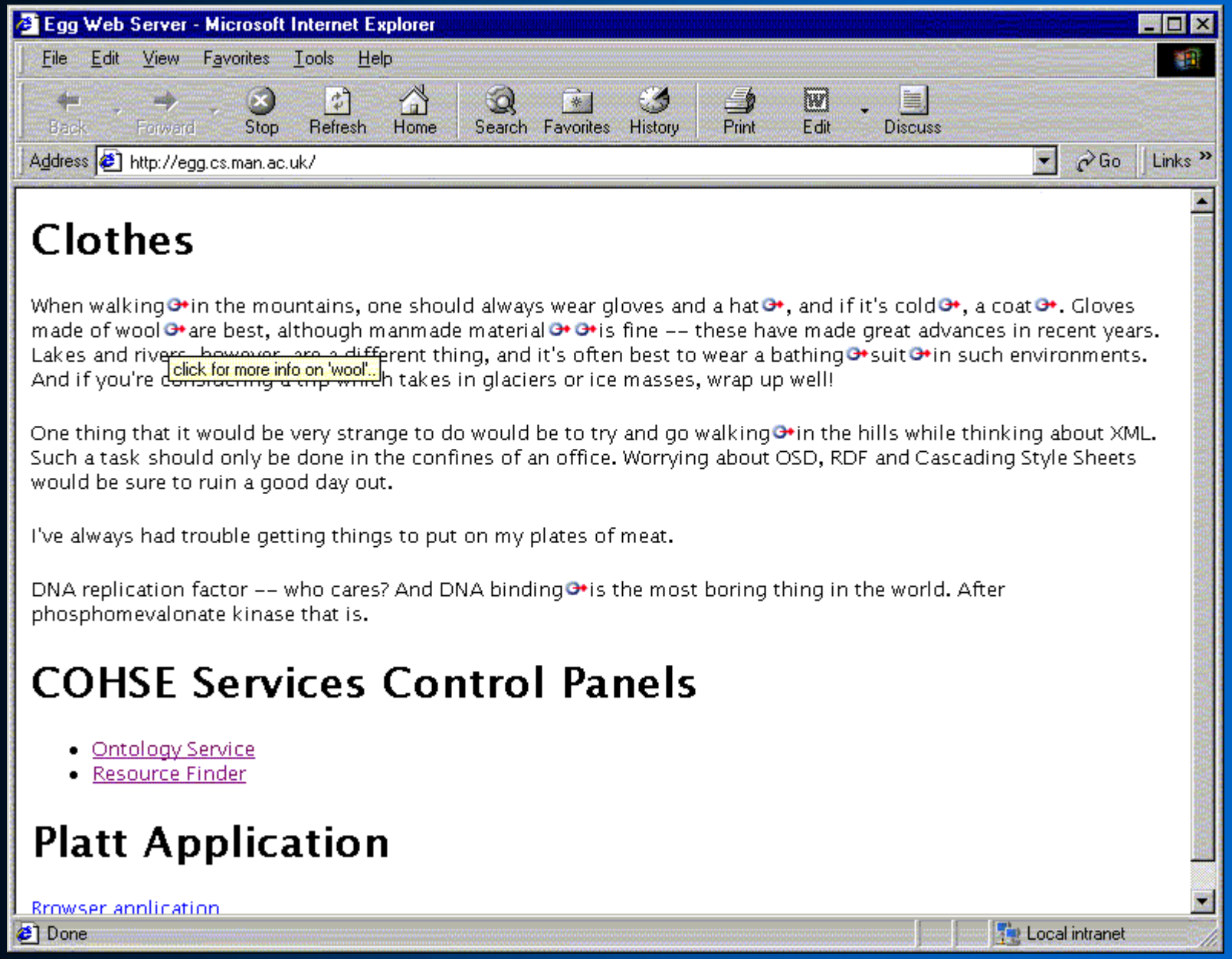
- a ***link generator*** that promiscuously proposes linking opportunities
- an ***editorial component*** that controls the linking opportunities

Current Status

- A survey of metadata based solutions for web resource description (e.g. SHOE, Ontobroker…)
- A set of scenarios articulating the interaction between the conceptual service and the hypermedia service
- Architecture of COHSE
- Two prototypes
- Re-engineered Distributed Link Service
- Demonstrators
- Ontology Inference Layer

progression through prototypes


Egg Web Server - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Print Edit Discuss
Address http://egg.cs.man.ac.uk/
Go Links
Clothes
When walking in the mountains, one should always wear gloves and a hat, and if it's cold, a coat. Gloves made of wool are best, although manmade material is fine -- these have made great advances in recent years. Lakes and rivers, however, are a different thing, and it's often best to wear a bathing suit in such environments. And if you're considering a trip which takes in glaciers or ice masses, wrap up well!
One thing that it would be very strange to do would be to try and go walking in the hills while thinking about XML. Such a task should only be done in the confines of an office. Worrying about OSD, RDF and Cascading Style Sheets would be sure to ruin a good day out.
I've always had trouble getting things to put on my plates of meat.
DNA replication factor -- who cares? And DNA binding is the most boring thing in the world. After phosphomevalonate kinase that is.
COHSE Services Control Panels
Ontology Service
Resource Finder
Platt Application
Browser application
Done
Local intranet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click for more info on 'wool'..
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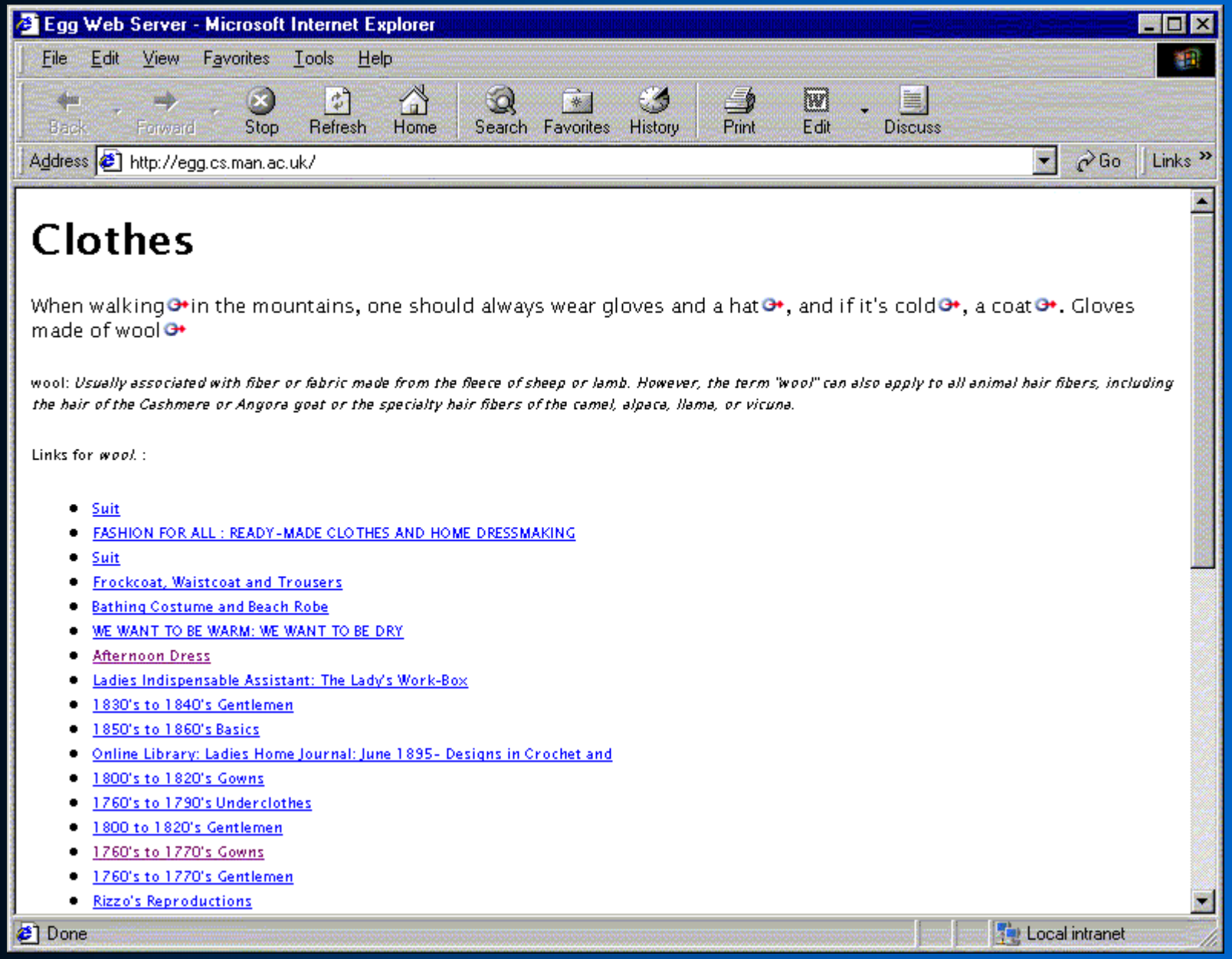
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wool: Usually associated with fiber or fabric made from the fleece of sheep or lamb. However, the term "wool" can also apply to all animal hair fibers, including the hair of the Cashmere or Angora goat or the specialty hair fibers of the camel, alpaca, llama, or vicuna.
Links for wool :
Suit
FASHION FOR ALL : READY-MADE CLOTHES AND HOME DRESSMAKING
Suit
Frockcoat, Waistcoat and Trousers
Bathing Costume and Beach Robe
WE WANT TO BE WARM: WE WANT TO BE DRY
Afternoon Dress
Ladies Indispensable Assistant: The Lady's Work-Box
1830's to 1840's Gentlemen
1850's to 1860's Basics
Online Library: Ladies Home Journal: June 1895- Designs in Crochet and
1800's to 1820's Gowns
1760's to 1790's Underclothes
1800 to 1820's Gentlemen
1760's to 1770's Gowns
1760's to 1770's Gentlemen
Rizzo's Reproductions
Done
Local intranet

Results - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Print Edit Discuss

Address http://egg.cs.man.ac.uk/platt/900305.html Go Links

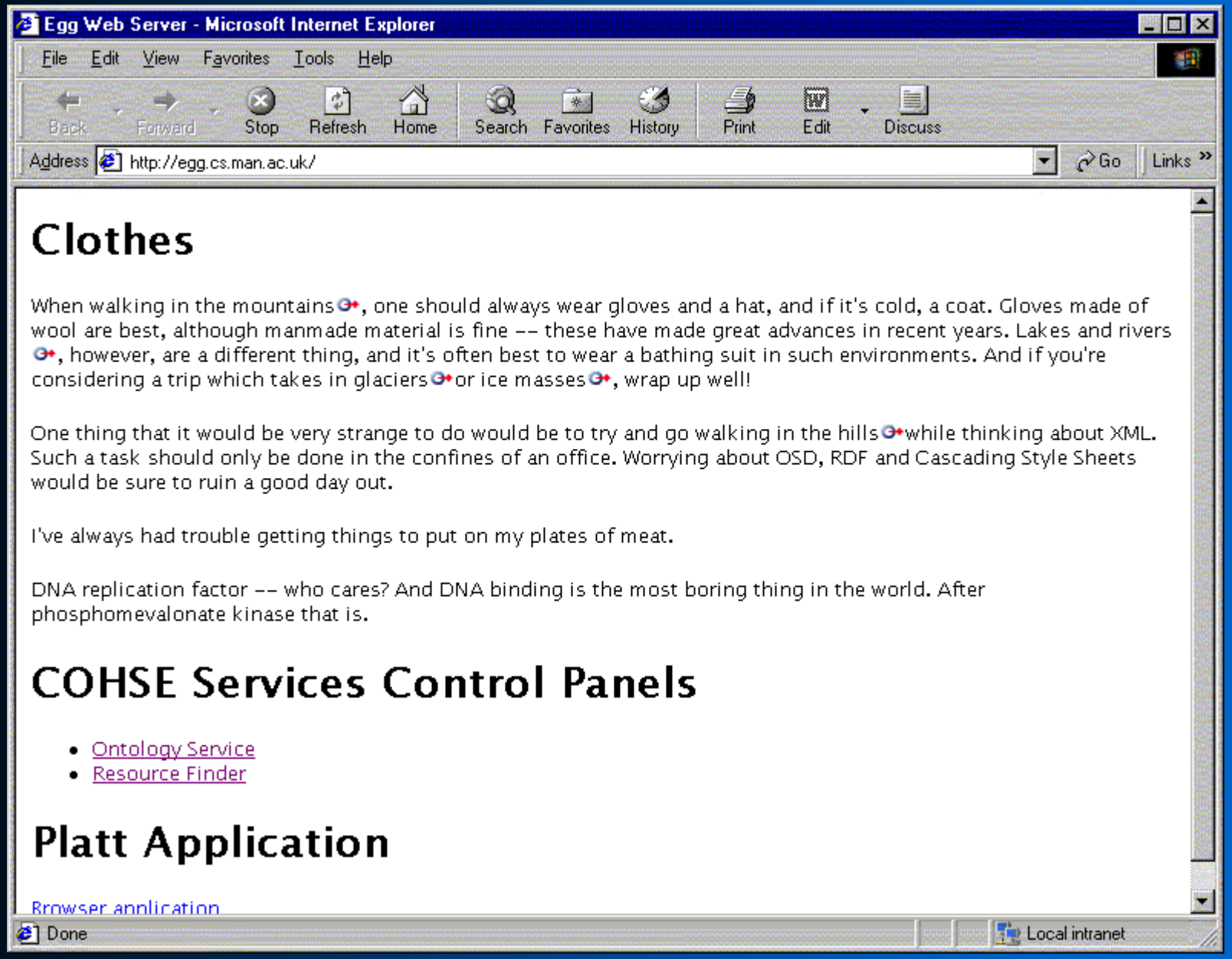
Bathing Costume and Beach Robe

1930-5

The Male Order

This blue all-in-one swimsuit is made of machine knitted wool or jersey, with short leg sections and a label for 'Ellis and Son, Burton on Trent'. Over is worn a cotton towelling beach robe, woven with a geometric black and white pattern. (See suggested items (below) to look at the other outfit in this photo)

Done Local intranet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Concept Service Powered by OIL

- Ontology service: moving from a thesaurus to one employing reasoning capabilities
- Harvesting ontologies from user interactions with web resources
- Ontology Inference Layer
- The FaCT reasoning engine

Open Hypermedia Open Questions

- The Web is not just a knowledge base but a hypertext
  - Support both Navigation and Searching
  - What are the differences between navigation and searching?
- Query vs. Link Following
  - What impact does navigation have on the use of an ontology?
  - Whither the back button?
- Presentation of links
  - User interface to links & Rendering concept-based links
- Authoring opportunities vs reading opportunities
- Serendipitous link discovery without exposing the ontology to the reader in order to capture their information need –
  - Uniformity of the appearance of the hypertext
  - Maintaining the context of the document
- Context & Rhetoric -- Are they still important?
  - History: how did I get here?
  - Confusion if a search pitches you into the middle of a site.

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