Reading

5. Practical arrangements
4. Student comments and discussion
3. A look through the program
2. Why study computer networks
1. Introduction to networks introduction

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Introductory Lecture
Lecture 0
What changes do you foresee?

in changes coming from networked computing. Libraries are information storage and access centers. They can

What does that mean for libraries?

No: social factors surrounding the technology still have to catch up.

next few years.

Yes: technological change in the area is likely to be slower in the

is the majority of the impact behind us?

Which of the one is more impressive?

networks

The improvement in the throughput of telecommunications

The increase in computer power

nomography changing people’s lives

Since about the last 20 years, there have been two major tech-
The networked computer will be the tool of choice for the 21st century. Libraries.

This trend is set to continue until all current information is stored on computer networks.

Why study computer networks?
should decide what the content is.
But this is all on discussion. This is your course and so you

technical point of view.
This course, as from the course outline, deals a lot with the

computer network / information network

There is a lot at stake. Discuss.

in the 21st century.

Whoever controls the computer networks will control information

Money and power

back seat.

none invented by a librarian. Librarians have been sitting in the

– e-book
– questionnaire
– newspaper
I. Introduction to Computer Networks

2. Internet History and Standard Setting

3. LAN and Ethernet

Who makes decisions on and about the Internet?

"Consensus and nothing else. (David Clark)"

"We select kings, presidents, and voting. We believe in tough for it."

"War is the inventor of all things. (ancient Greek saying)"

Important Preliminary Topics

In fact, we can do some of that today if we have time. It is an overall network can have. We will also introduce the notion of a protocol model. We discuss different layers that a framework of computer
TCP is a protocol that allows for communication between different computers on a network. It is used to transport data and ensure its delivery reliably.

DHCP is a way for machines to find out what their IP address is. It's a stateless protocol, meaning that each machine is assigned a unique IP address from a pool of addresses available on the network. This system makes it easier for devices to connect to the network and communicate with other machines.

TCP is more difficult to grasp than IP. TCP makes IP reliable. In practical situations, once basic IP works, we can usually get the TCP base application running (except when there is a firewall).

Therefore, we will not talk so much about TCP.

This will follow on from the previous lecture to talk more about this.

TCP and IP

The IP number identifies a machine on the Internet. In this

DHCP is a way for machines to find out what their IP address

5. IP protocol

6. DHCP and TCP

managed.

because we will discuss how these numbers are constructed and
as well.

is the protocol used on the web. Maybe we should discuss HTML

9. http

is the protocol that defines electronic mail transport.

Two important applications for TCP/IP, at least historically, are

8. telnet and rlogin and smtp

bind is a popular software that implements DNS.

human-friendly names to ip numbers.

the domain name system. DNS is a protocol that associates

7. DNS and bind
II. Network Security

We will also try it out.
This route will deal with technical aspects of this protocol. We've the Internet into a copypaste machine for printed music and poem.

12. Authentication and digital signature

Evything on a network can be viewed. How do we keep things secret?

on the Internet.

We will discuss elements of cryptography and how they are used.

be secure against disclaimers by the signing party.

yet. Digital signatures must not only be unforgeable, but also

This is a difficult problem on which there are no good solutions.
Dynamic HTML: constructing interactive web pages.

Network applications

OAI metadata harvesting: ‘(‘ but tough

Z39.50: ‘(‘

Addition protocols

essentially a share class.

13. Conclusions
December is an option.

Propose to teach on all holidays, including Thanksgiving. 20

24 October: Thomas in Japan

Next week: Thomas in Russia

Calendar

the basis for the written

minutes on that topic. Hint: the presentation topic could form

topic that is related to the class content, and deliver 20 to 30

For the student presentation, a student and instructor choose a

Student presentation 20%

Essay 20%

Midterm exams 60%

Assessment

Assignment:

answer from the material in the previous class.

next one. One of two questions that have a straightforward

Mini-exams at the start of each class, except this one and the