22:010:622
Internet Technology and E-Business

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OVERVIEW

- Complete student introductions?
- Discuss BlackBoard/Syllabus/Timetable problems/questions/concerns
- Presentations
- Conclude last week’s material:
  * T1, OC3
  * DoCoMo
- Wireless Networked Digital Devices
INTRODUCTIONS

- Name
- Rutgers ID #
- Home Town or Country
- Undergraduate Degree and School
- Work Experience
  - Firm
  - Job
- Computer Skills: Internet Skills
- Hobbies and Interests
BLACKBOARD

- gillett@everest.rutgers.edu
- www.rci.rutgers.edu/~gillett
- www.fom.rutgers.edu
- Login
- prg622-40_03
- Course Information
- Announcements
- Discussion Boards
- Etc.
SYLLABUS

- Memorandum
- Contact Information
- Description
- Grading
- Assignments
- Participation
- Examinations
- BlackBoard
- Academic Integrity
- Withdrawal Policy
- University Closings
- About the Instructor
TIMETABLE

- Preliminary at this stage
- Shows
  - Dates
  - Topics
  - Readings
  - Deliverables!
Presentations

- Prepare an 8-10 minute presentation:
  - Introducing yourself
  - Discussing your interests in this course and your pre-existing skill set
  - Demonstrating one or more Web Sites, e.g.:
    - Personal Web Site
    - Business Web Site
    - A site you have found especially interesting or valuable
Some Loose Ends . . .

- T1
- OC3
- DoCoMo
T1

- Dedicated line
- Usually fiber optic (could be copper)
- 24 digitized voice channels or 1.544 Megabits / second of data
- 192,000 bytes / second – 80 times normal residential modem
- Much more reliable than telephone lines
- $1,000 - $1,500 per month
At one time, the main dedicated lines were either T1 or T3

- T3 is equivalent to 28 T1 lines
  - 43.232 Megabits / second
OC3

- Now there is a much wider range of choices
- We will learn more about this later
- OC3 lines are each equivalent to 84 T1 lines
  * 155 Megabits / second
- $40,000 - $60,000 per month
- OC192, by comparison, is equivalent to 64 OC3 lines
  * 9.6 Gigabits / second
DoCoMo

- DoCoMo mostly owned by NTT
- Cellular has several US standards: TDMA, CDMA, PCS, and GSM
- QualCom’s patent on CDMA (Code Division Multiple Access) hold up against Motorola’s Attack 1/23/2001
  - Not True in Europe (GSM) or Japan (I-Mode)
- I-Mode works on a Persistent Link on the Internet!
- What does this require?
  - Effectively Packet Switching of Radio Signals (constant roaming)
  - Charge for Service
DoCoMo

- Subscribers pay about $0.04 to send about 250 characters of text
- 450,000 new subscribers a month
- W-CDMA for using I-Mode using other methods
- Japan is a small Island
- 3G service (FOMA) has not been so successful
  - * Only about 150,000 subscribers
- NTT DoCOMo issued 50 Billion Yen bonds in January 2003
- Moody downgraded rating to ‘negative’
Wireless Networked Digital Devices (Zimmerman)

- Will the Internet converge with Cellular and/or Radio and TV?
- This paper focuses on PDAs
  - Apple’s Newton
  - Palm Pilot
  - Wearable Computers
- Bandwidth Bottlenecks in the Airwaves
- Distance issues, others
Wireless networked digital devices: A new paradigm for computing and communication

- T.G. Zimmerman
- IBM Systems Journal Volume 38 No. 4