Computer Networks

COSC 6377

Lecture 1

Fall 2012

August 27, 2011

Course Goals

- Overview of the basics
- Principles and Philosophies
- Read research papers
- Hands-on experience with networked systems

Prerequisites

- Undergraduate level networking course
- Some systems programming
- Familiar with Linux environment
- Access to a Linux environment
  - Use department server
  - Use your own machine

Structure

- Lectures
- Paper discussions
- Homeworks
- Projects
- Exams
- Class participation

Homeworks

- 3-4 homeworks
- Concepts
- Calculations
- Some hands-on work
- Allowed to discuss with other students, but you should turn in your own writeup
- Submit through Blackboard

Projects

- Two projects
- Build a networked system

- Possible to propose your own project
  - Talk to the instructor before P2 is out

Exams

- No final exam!
- The second exam will cover topics not covered by the first exam
- You can bring one sheet of notes
- In-class scheduling
  - Conflicts should be reported by this week

Grades

Exams	40%
Homeworks	15%
Projects	40%
Class Participation	5%

- It is possible to get a C or lower grades
- No incompletes

Readings

- No required textbook
- Recommended texts
  - Computer Networks: A Systems Approach
  - UNIX Network Programming
- Research papers
- Standards
- Wikipedia

Academic Honesty

- The work you turn in should be yours
- Acknowledge
  - Group discussions
  - Internet sources
- Plagarism results in an F

Course Staff

- Instructor: Omprakash Gnawali
- Office Hours: TBA

- TA: Anirup Dutta
- Office Hours: TBA

Communication

- Send questions and answers to Piazza
- Contact TA before contacting the instructor
- Emails MUST have COSC6377 in the subject
- Check course website and Piazza regularly

http://www2.cs.uh.edu/~gnawali/courses/cosc6377-f12/

Some Questions

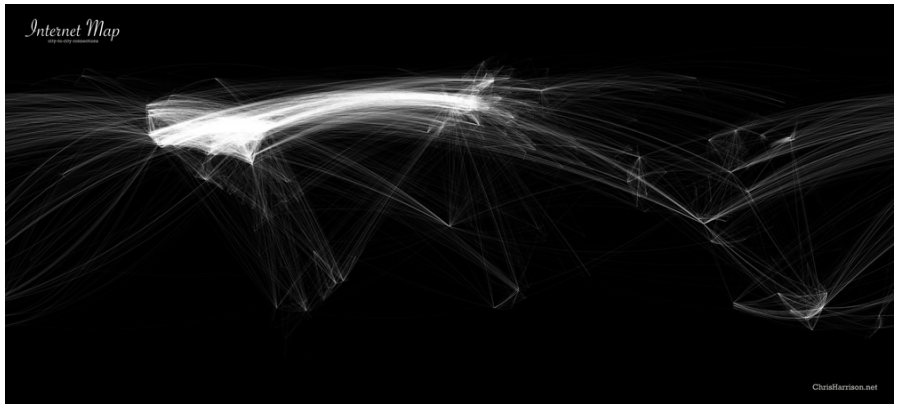
- How difficult is this course?
- What is the workload?
- Will I learn anything useful?
- Any other questions?

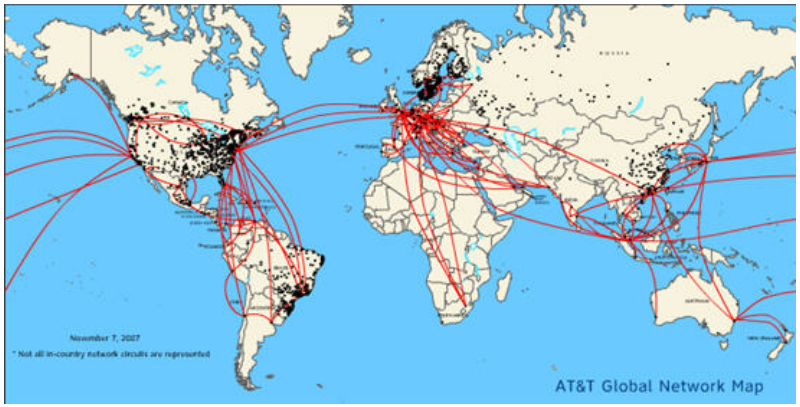
Internet

- What is Internet?
- How did it start?
- How do we use it?
- Where is it going?

Inter-net

- Network of Networks
- Covers the whole world



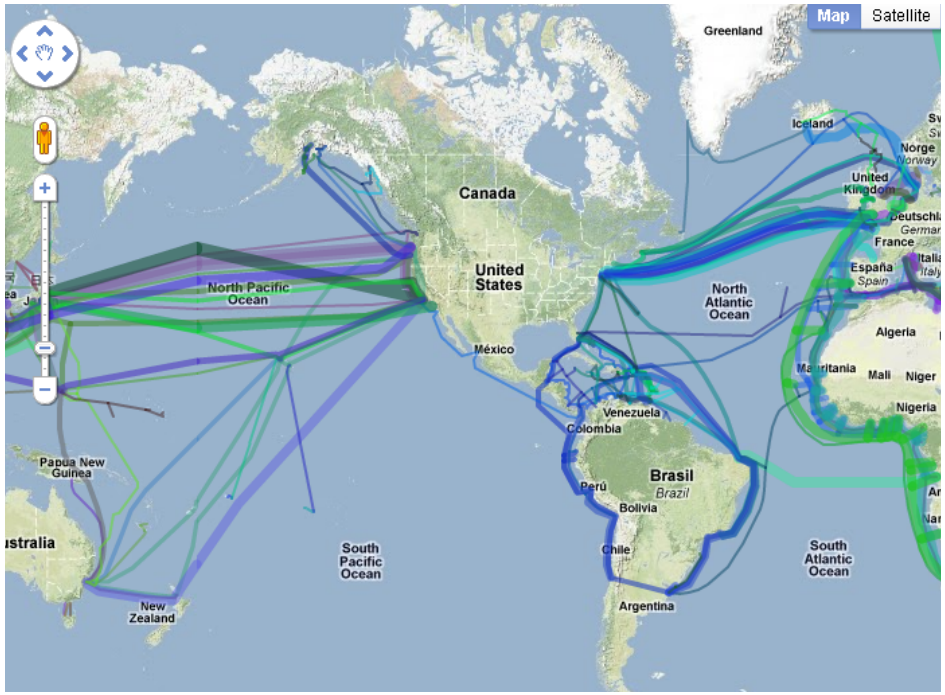


http://www.chrisharrison.net

From: http://www.telepresenceoptions.com/2008/04/att_first_service_provider_to/

Connecting the Networks

- Cables
- Even under the sea



http://www.cablemap.info/

A Brief History

- Packet switching technology
- ARPANET and other research projects
- Commercial Internet by the early 90's
- Core networks still owned by a handful of companies
- Reference
  - http://www.zakon.org/robert/internet/timeline/

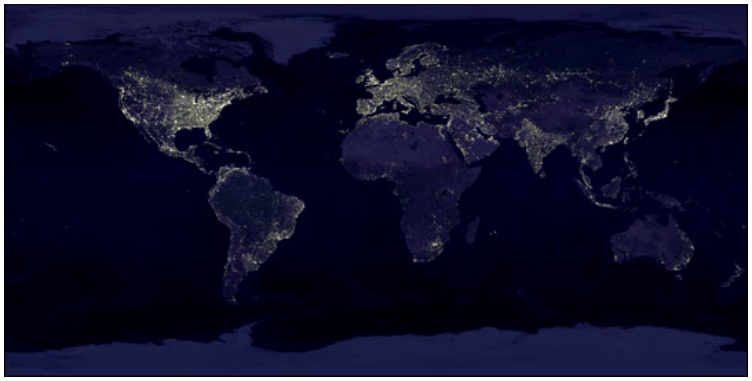
How do we use it?

- Emails/Facebook
- Phone calls
- Government services
- Connect systems and services

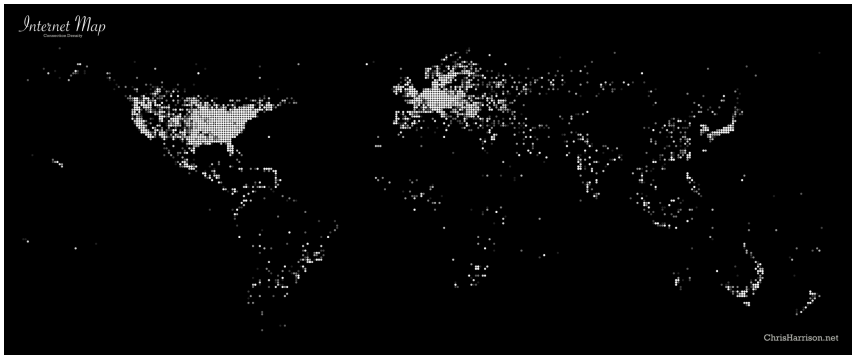
Where is it going?

- More inter-connection
- Internet of Things / Web of things
- More mobile and wireless
- More networked applications

Internet and Us



http://earthobservatory.nasa.gov/Features/Lights/



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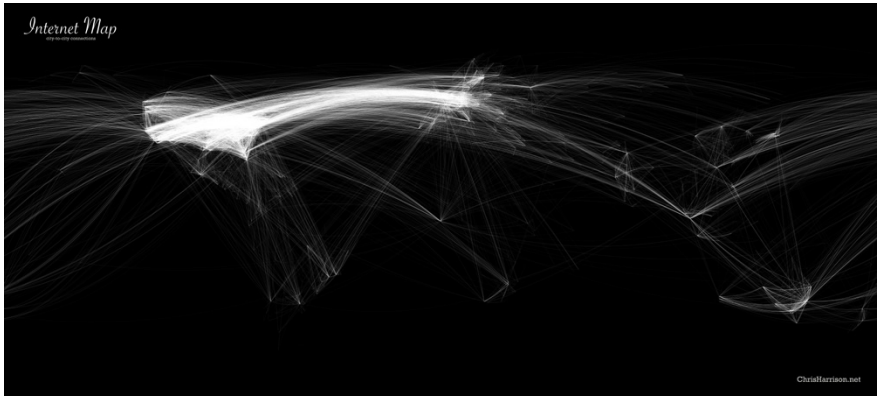

http://www.chrisharrison.net

http://www.facebook.com/note.php?note_id=469716398919

News

Print Email Share Like +1 1

Power struggle: Texas woman uses gun to stop utility worker

by Vicente Arenas / KHOU.com

Recommend 56

Posted on July 19, 2012 at 1:54 PM

HOUSTON – Thelma Taormina didn't want a new electric meter, and she went to great lengths to keep her old one.

When a worker showed up at her northwest Harris County home to install a smart meter, she grabbed her gun.

Gallery

SEE ALL 2 PHOTOS »

http://www.kens5.com/news/Power-struggle-Woman-uses-gun-to-stop-utitlity-worker-163070346.html

Plan for next four weeks

- Review of undergraduate material
- Watch lectures/read slides from COSC4377
  - Cover approx. 5 lectures per week
- Discuss the material in the class
- Grab lectures from: http://www2.cs.uh.edu/~gnawali/courses/cosc4377-s12/

HW0

- Work out the HW submission logistics
- Due next Monday
- Should not take more than an hour of work

- Goal: understand the concept of protocols

HW0

- Program1 (C)
  - Ask the user the courses and credit hours she is taking this semester
- Program2 (Python)
  - Tells the administrator the name of the student and her courses and credit hours for this semester
- We should be able to mix and match Program1 and Program2 written by different students
  - How can we achieve this?