





# Information Dissemination Over the Web: Limits and Constraints

Lawrence I. Charters

July 2003









An aerial photograph of a boat's wake in the ocean. The water is dark green and blue, with white foam from the wake churning in the foreground. The horizon is visible in the distance under a grey, overcast sky. A small, distant boat can be seen on the horizon to the right.

**Web Metrics:  
Measuring Where  
You've Been**





Mozilla/5.0 (Macintosh; U; PPC Mac OS X; en-us)  
AppleWebKit/85 (KHTML, like Gecko) Safari/85

<http://website.bnetwork.com/neatsites.html>

"www.umd.edu"

:privacy.html

8172







# Stateless Transactions







# Stateless Transactions (cont.)

- Not suited for constantly changing information
  - EKG, EEG
  - Ultrasound
  - Navigation, sporting events





**Latency**



# Transaction Speed

- Web servers disseminate information -- eventually
- Set up to share information equally
- No clear protocol for saying how old the information might be
- Still obstacles to sending video, sound



# Transaction Speed (cont.)

- Not suitable for heart rate, blood pressure, temperature (except as trends)
- Touch, taste, smell, emotions are beyond the capabilities of any computer technology.
- No protocol for determining who has greatest need for information
  - Example: Sept. 11 and first responders



**Accuracy**





# World Wide Web of Lies

- Fierce competition on WWW
  - Health consumers shop for surgeons, physicians
  - Health consumers shop for health care advice
  - On the World Wide Web, every page of health care advice has **equal** standing



# World Wide Web of Lies (cont.)

- Inadvertent lies
  - Just as navigation beacons in the wrong place cause accidents....
  - Web pages that can't be found, or that are out of date, or that are misleading can cause problems, too.



# Accuracy is complex

- Is it correct?
- Is it complete?
- Is it in context?
- Is it attributed?
- Is it available?
- Is it protected from tampering?



# Security





# You Can. Should You?

- Post employee schedules on Web sites?
- Post patient appointments on Web sites?
- Post student grades on Web sites?
- Post surgical schedules on Web sites?
- Post insurance information on Web sites?
- Post electronic patient records on Web sites?



# Evil. Helpful. Opportunistic

- Crackers break into computers because they can.
- Spies (commercial and government) break into computers because "that's where the data is."
- Employees allow unauthorized access because they are being helpful.



# Additional Questions





**With the Web, you can  
tie things together**





**But is the result real  
or artificial?**





**And will you be able  
to interpret the results?**



<http://homepage.mac.com/lcharters/sini.pdf>

