Slide 1

## Administrivia

- One more thing to do for course — "project". Described online as Homework 4. Proposal (short e-mail) due by next Monday; report (and anything else) due the following Monday.
- About grading, syllabus proposed about 400 points for homeworks, 100 for project, 50 for attendance. I would like to revise as follows:

  200 points total for homework (120 points for homeworks so far, plus 80 for project), 50 points for attendance.

  Acceptable?

Slide 2

## E-Mail Basics

- "Mail system" consists of four components:
  - Mail user agent (MUA) — e.g., `mutt`, `pine`, Mozilla?, Outlook.
  - Mail transport agent (MTA) — e.g., `sendmail`, possibly plus support agent.
  - Delivery agent.

  (See Exhibit A, p. 538. Later Exhibits B and C also useful.)

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## What's in a Mail Message

- Envelope — invisible to end users.
- Headers — some added by `sendmail`.
- Body — text, but may include text that MUAs recognize as "attachments".

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## Aliases

- System aliases in `/etc/aliases`.
- Aliases defined by MUA.
- Forwarding using `.forward` file. (Can also use this mail to duplicate messages, put in file, run through program.)

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## Mail System Configuration

- For `sendmail`, configuration is — well, originally `/etc/mail/sendmail.cf`; now usually `/etc/mail/sendmail.mc`. Many, many details.

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## Automated Processing of E-Mail

- Standard Unix tool for processing mail is `procmail`. Can save messages to different folders, forward, copy, reply automatically, etc., based on sender, subject, etc.
- To filter incoming mail through `procmail` (for individual user) — define `.procmailrc` (`man procmailrc` for more information). For Linux systems, that's all. Others require setting up `.forward` to route incoming mail through `procmail`.

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## Security and Spam

- Many security considerations related to e-mail — routing e-mail to a program may be a problem, relaying is almost certainly a risk (off by default now).
- Many approaches to spam filtering. `spamassassin` and `spambayes` installed on Sol; more information at `http://www.cs.trinity.edu/lab-news.cgi#2004.09.02`.

Slide 8

## Web Hosting Basics

- How does the Web work? Client/server architecture using HTTP (HyperText Transport Protocol).
- Web "server" can be anything that listens on port 80 and responds correctly to incoming requests. (A book I used to use for teaching Java had a simple one fitting on one page!) `apache` is used a lot in Unixworld.
- CGI (Common Gateway Interface) allows any program that does stdin/stdout I/O to provide "on the fly" content.

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## Minute Essay

- What (if anything) would you like for me to try to talk about next time? we didn't talk about printing, interoperability with Windows, or probably many other things . . .