CSC 302
Computers and Society

- Instructor: Clark Savage Turner
- Office: 14-211, Phone: 756 6133
- Office Hours:
  - Tuesday 12:10 - 3 pm
  - Thursday 2:10 pm - 4 pm
    - and by appointment
- Email: csturner@calpoly.edu
  - don't count on email (or on cellphones!)
  - watch for spam filtering (use calpoly accounts)
- Web: www.csc.calpoly.edu/~csturner

Texts

- **Required:**
  - Baase, **A Gift of Fire**
  - Petroski, **To Engineer is Human**
- Recommended:
  - Johnson, Computer Ethics
  - Yourdon, Death March
  - Landaur, The Trouble with Computers
- Very important to writing (and grade in 302)
  - Turabian, A Manual for Writers
  - Strunk and White, The Elements of Style

Discuss current computing ethics issues

- Try this:
  - Go to a LUG meeting
  - Read 2600 magazine
  - Read (usenet) comp.risks
  - Peruse Slashdot (www.slashdot.org)
  - Read the business section of the newspaper
  - Listen to NPR
  - Bring your own work experience
  - Make friends with local hackers

Assignment and Reading

- Reading:
  - Baase, Chapter 1, “Unwrapping the Gift”

Assignment (cont'd)

- Prepare 1 page "future alumnus" report
  - give me a vision of what you hope to achieve in the 10 years beyond graduation.
    - where will you live?
    - what will you be doing?
    - what will you have achieved?
  - Include a photo at the top
  - due on Wednesday, week 1

Prerequisites

- Prerequisites for CSC 302
  - completion of GE area B (science and math)
  - junior standing
- Make sure you are on the roll, that you know the drop dates (and “new” rules)

General Course Themes

- Review course description from catalog
  - Check webpage:
  - "Social, ethical, political and technological implications and effects of computers in the modern world. Examination of the benefits and side-effects of computer applications and automation. Case study review and analysis. Satisfies GE Area F (Technology) requirement."
- See relationships between technical and social realms
  - we are often in a very serious business

Grading

- Requirements TBD, website for details
- Goals: (How to get an A, B, C, D or F)
  - *consistent* efforts to
    - develop communication skills
      - writing effectiveness (spelling, grammar, clarity and style)
    - develop research skills
    - develop critical thinking
    - look at computing in a situated context
      - a broad view of computing as a human activity

Grading (cont'd)

  - become familiar with Codes of Ethics
  - become familiar with current topics in computers and society
- Not necessary (or possible!) to reach "correctness"
  - must be satisfied with rough methods for ethical analysis
    - compare this with software "formal" correctness
      - there are NO computer scientists who think we can "prove" a program of significant size "correct"

Grading (cont'd)

- Perspective on grades
  - evaluation is part of life
    - but not all of it :-)
- Sex, drugs, money have no influence on my grading :-)
  - Ben and Jerry's "Cherry Garcia" ice cream is as close as you can come
    - but I keep a good stock to retain immunity to this powerful influence :-)

Software / Computing

- What are YOU doing here?
  - Why do we have to study computing in a social context?
    - Who pays for this?
    - Who suffers costs / enjoys benefits?
    - Who has “authority” to direct, restrict, guide?
  - What are the issues of consequence?

Ultimate Goals for CSC 302

- Go to the website to view “course goals”
- Navigate the website a bit

Why am I your Professor?

- ham radio, lone backpacker
- B.S., in “math” from King’s College
- M.S. in “pure math” from Penn State
- Went to Maine, taught at Bowdoin College
- Law School in Portland, Maine, J.D.
- UCI to study CORPS, then Software Engineering
  - Therac-25 case, 1987
- Married a psychologist 1987 because I could not afford one - took two years to practice law in NY

So Why am I here?

- Finished Ph.D. in Software Engineering at UC Irvine 1999.
- Applied to Cal Poly without intent to come
  - impressed with faculty and students
  - I'm here for 6 years now

Why are You Here?

- Get a very brief introduction of each student

Thoughts regarding Case Studies

- How do we proceed?
  - Look at the FACTS (undisputed)
  - Find the ISSUES (what are the questions inherent in the story?)
  - List the STAKEHOLDERS and their interests
  - Look at extant ARGUMENTS (what do other rational people and the stakeholders think about the issues?)

Karl Popper's falsifiability criterion (epistemology)

- Any respectable scientific theory must be falsifiable, subject to showing it is untrue
  - "God is love" is not falsifiable
    - not a perjorative criteria
    - there are different ways of "knowing"
  - "Turner is 51 years old" is falsifiable
    - so it can be "tested" for its truth objectively

Underlying Questions and Definitions

- What is “computing”
- What is “society”
- Who cares?
  - why should anyone care anyway?
- What is digital “privacy”
- What is a “hacker”
- What is a “system” - “emergent behavior?”
- Digital vs. Continuous technologies
- Software: meet a “contract” or “solve a problem?”

Baase text

- WHY did she write this book?
  - what is her “pedigree”?
- What is in the Preface, the TOC, the Appendices, the Index, the cover photo, reviews on the back side?
  - note chapter structure
    - notes, books and articles, organizations and websites

Baase Chapter 1, anything of interest?

- "Issues"
  - Unemployment
  - Alienation and customer service
  - Crime
  - Loss of Privacy
  - Errors

Baase, Chapter 1

- "Themes"
  - Old problems in a new context
  - Adapting to new technology
  - Global reach of the "net"
  - Tradeoffs and controversy
  - Distinguish personal choice, business policy and law
  - negative and positive rights

Baase, Chapter 1

- "Benefits"
  - the www in general: communication
  - autos and trucks
  - education and training
  - crime fighting
  - health and medicine
    - medical devices
    - patient records
    - diagnoses
    - telemedicine

Baase, Chapter 1

- Tools for Disabled (ADA stuff?)
- Automation in manufacturing
- Identification, sensors and tracking
- Reducing paper and trash

Written Assignment for Monday, 4 April

- Modified Questions from Baase:
  - Page 30, exercise 1.8, "topic related to computing issues" ***in your own major*** "that interests you and has social or ethical implications…."
  - Page 31, assignment 1.22, "information relating to" ***computing in your major***. "Give the URL…."
  - Read the IEEE/ACM Software Engineering Code of Ethics
    - linked from my webpage
  - optional (extra cr.) see 1.31 for journaling

Reading Assignment for Monday, 4 April

- Chapter 2: 2.1 - 2.3
- For *Wednesday*, finish the chapter, 2.4-2.6
- Begin reading Petroski, Chapter 1 for the week