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