Unwrapping the Gift: The Computer

CSCI3250+3251
Computers and Society + Engineering Practicum
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This lecture is loosely adapted from Chapter 1 of "A Gift of Fire"

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Computer and Technology

- Computer technology
  - The ***most significant*** new technology since the beginning of the Industrial Revolution
- Powerful technology creates ***powerful problems***
- Understand and cope with the effects of these issues

The Pace of Change

- 1940s: The first electronic computers
- 1947: Transistor was invented in the Bell Labs
- 1958: ***Integrated circuit*** was invented
- 1969: ARPANET connects four university computers
- 1970: The first memory chip was unveiled
- 1981: The first IBM personal ***computer***
- 1985: Microsoft announces ***Windows***
- 1990: Tim Berners-Lee created HTML
- 1998: ***Google*** was founded
- 1999: Wi-Fi started becoming common
- 2005: ***YouTube*** was founded
- 2007: Apple released the first ***iPhone***
- …

Change and Unexpected Developments

- New technologies come into reality every day
  - Smartphones and mobile devices
  - Social networking
  - Artificial intelligence
  - Robots and self-driving vehicles
  - Internet of Things
  - Tools for disabled people
    - See: https://www.youtube.com/watch?v=RNp4OpToAdQ

Change and Unexpected Developments

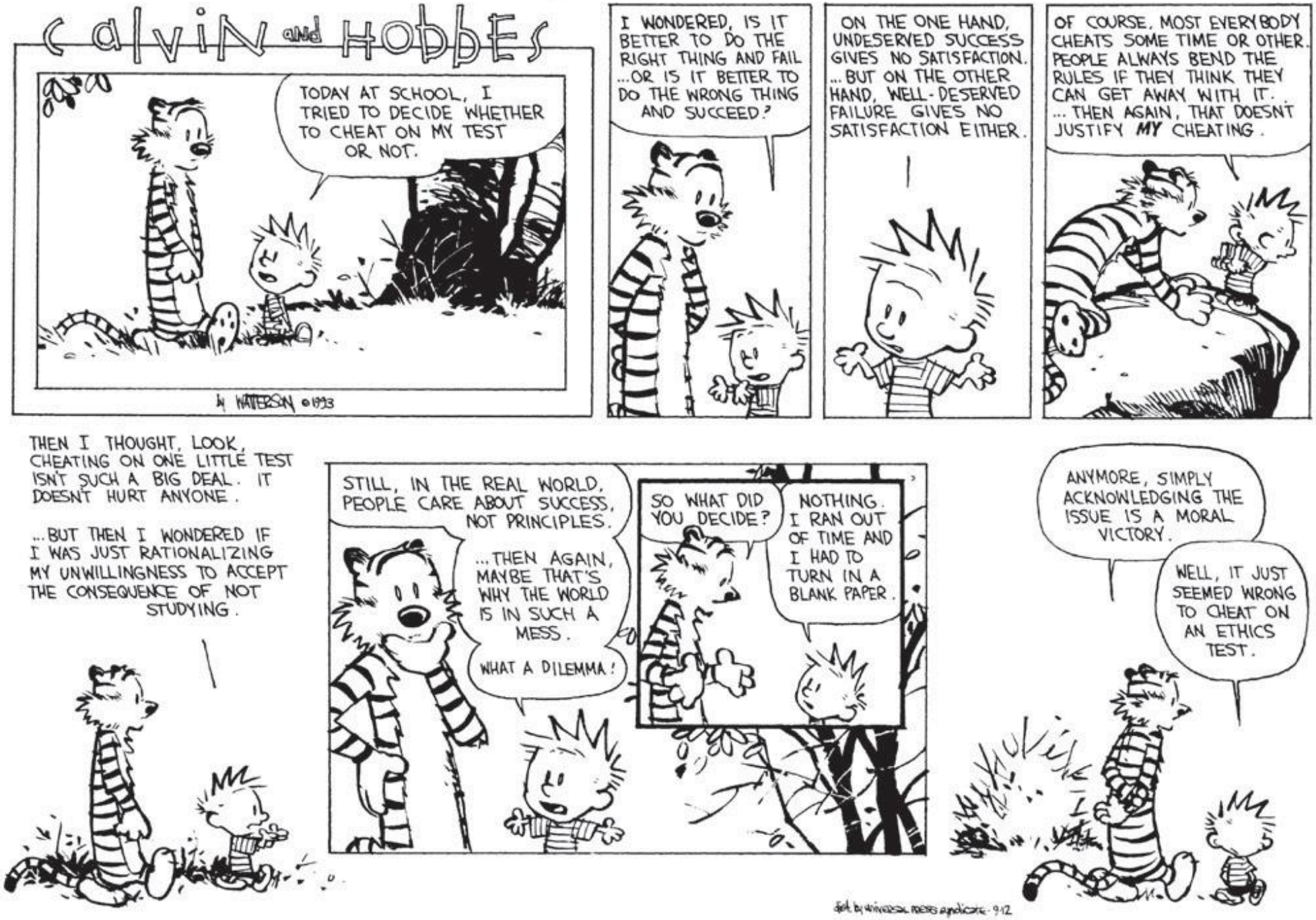
- What other examples can you think of?
- Do they bring more convenience or inconvenience?
  - Appreciate the benefits, while acknowledging the drawbacks

Computer and Social Issues

- How to look at these issues?
  - Old problems in a new context
  - Adapting to new technology
  - Resistance from established interests
  - Varied sources of solutions to problems
  - The global reach of the Net
  - Trade-offs and controversy
  - Perfection is a direction, not an option
  - Differences between personal choices, business policies, and law

Ethics and Etiquettes

- Ethics: do the ***right*** thing
  - To enhance human dignity, peace, happiness, and well-being
- ***Discovering*** vs ***Inventing*** Right and Wrong
  - Deontological ethics 義務倫理
  - Utilitarianism 功利主義
  - Natural rights 天賦人權
  - Social contracts 社會契約
- There is no simple answer


Calvin and Hobbes
TODAY AT SCHOOL, I TRIED TO DECIDE WHETHER TO CHEAT ON MY TEST OR NOT.
by WATTERSON ©1993
I WONDERED, IS IT BETTER TO DO THE RIGHT THING AND FAIL ...OR IS IT BETTER TO DO THE WRONG THING AND SUCCEED?
ON THE ONE HAND, UNDESERVED SUCCESS GIVES NO SATISFACTION. ...BUT ON THE OTHER HAND, WELL-DESERVED FAILURE GIVES NO SATISFACTION EITHER.
OF COURSE, MOST EVERYBODY CHEATS SOME TIME OR OTHER. PEOPLE ALWAYS BEND THE RULES IF THEY THINK THEY CAN GET AWAY WITH IT. ... THEN AGAIN, THAT DOESN'T JUSTIFY MY CHEATING.
THEN I THOUGHT, LOOK, CHEATING ON ONE LITTLE TEST ISN'T SUCH A BIG DEAL. IT DOESN'T HURT ANYONE.
...BUT THEN I WONDERED IF I WAS JUST RATIONALIZING MY UNWILLINGNESS TO ACCEPT THE CONSEQUENCE OF NOT STUDYING.
STILL, IN THE REAL WORLD, PEOPLE CARE ABOUT SUCCESS, NOT PRINCIPLES.
...THEN AGAIN, MAYBE THAT'S WHY THE WORLD IS IN SUCH A MESS.
WHAT A DILEMMA!
SO WHAT DID YOU DECIDE?
NOTHING. I RAN OUT OF TIME AND I HAD TO TURN IN A BLANK PAPER.
ANYMORE, SIMPLY ACKNOWLEDGING THE ISSUE IS A MORAL VICTORY.
WELL, IT JUST SEEMED WRONG TO CHEAT ON AN ETHICS TEST.
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Checkpoint Question

A car company offers as an option a system that will ***detect a pedestrian in the path of the car***, warn the driver, and brake the car if the driver does not respond. The option costs US$2000. If someone buys the car, does the person have an ethical obligation to buy the optional system to protect pedestrians? Why or why not?

Answer in CSCI3250 Slack: https://tinyurl.com/y88v85qb