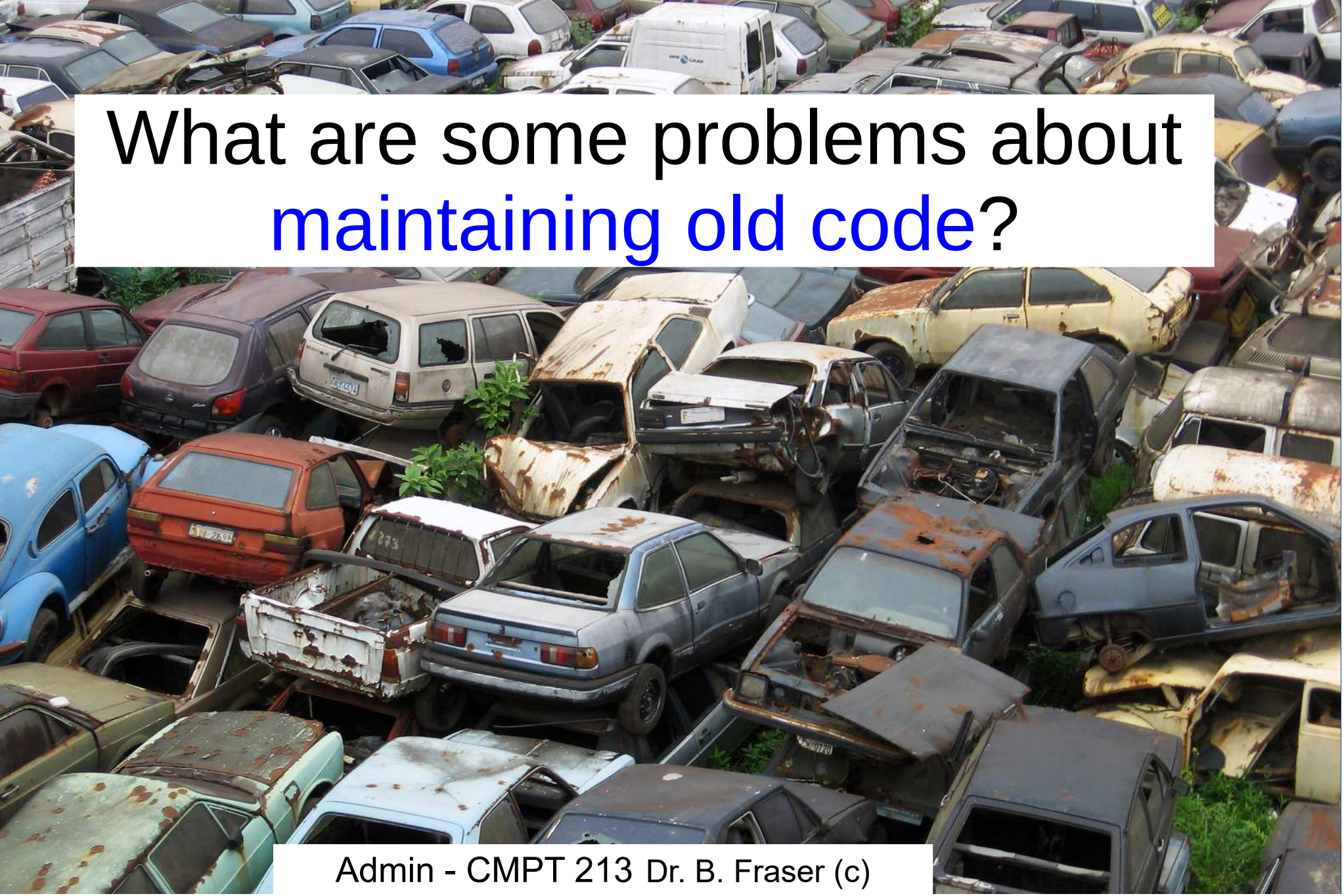
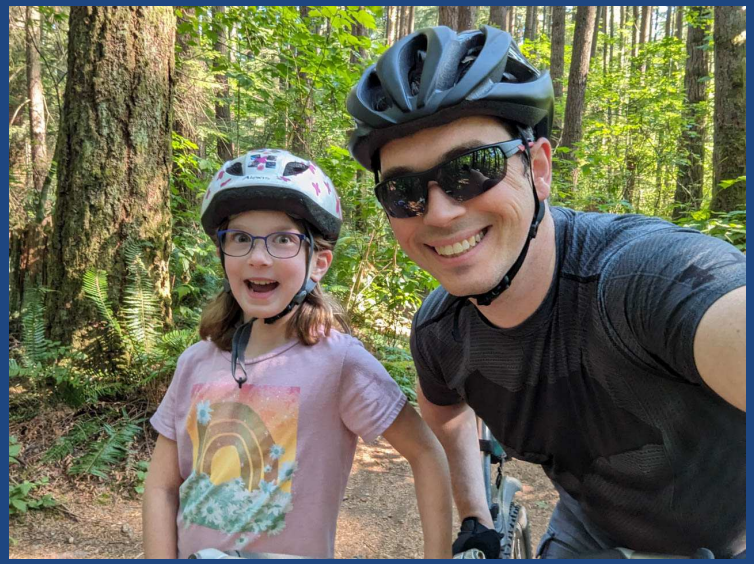
What are some problems about maintaining old code?



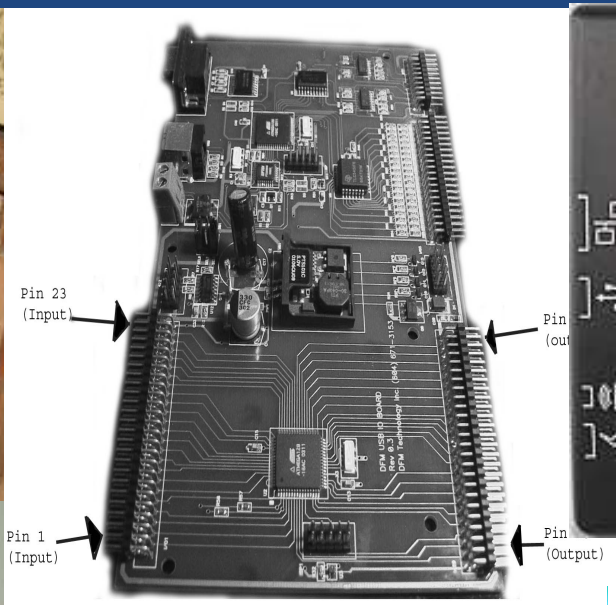
People

Who’s Dr. Brian?



Dr. Brian (Fraser) (he/him)

- I love questions and feedback!



About Me

- Love Teaching: I can help share my excitement for programming, and for making the world a better place.
- Degrees: BSc & PhD from SFU (AI)
- Favourite Video Game: StarCraft 2, WoW, Elite Dangerous, Mario Kart
- Family: Married with 2 girls (8y & 10y)
- I recognize that I am privileged to be in my position with many advantages afforded to me throughout my life.
  - I work to build a positive inclusive experience for everyone.

Course Expectation

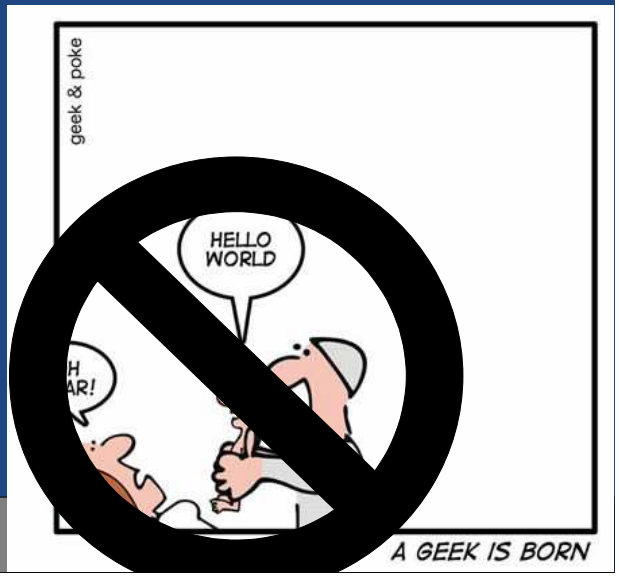
- Only one thing
  - Use a positive tone for all communication (asking questions, on Piazza forums, with TAs)
  - Anon trolling hurts and won't be tolerated
  - Students have wide range of backgrounds; respect it
- If sending a message
  - Give a little context (class, your name, topic, ...)
  - Email: If you are sending more than 2 per week on average, over multiple weeks, it may be too many.

Students

- Who is in:
  - Computing Science
    - Software System
    - CS Major
  - Other:
    - Faculty of Arts & Social Sciences
    - Faculty of Business Administration
    - Faculty of Education, Environment or Health Sciences
    - Faculty of Physical Sciences or Math
    - Faculty of Communication, Art and Technology
    - School of Engineering

Growth Mindset

- Programming is skill a person develops;
  not one they were born with.
  - Nobody was *born* being good at Java.
  - Nobody was *born* being bad at Java.
  - Everyone good at Java has worked hard and learned it.
- Computer Scientists learn helpful dispositions such as:
  - Collaborative
  - Inventive
  - Persistent
  - Meticulous
  - ...



Discussion

In groups of 3 to 4 people:

- Exchange contact info email/Discord/...
- Answer the following:

1. What's the worst code quality you've seen? What made it bad? Did you write it?

2. Why do we write comments?

3. Why do we have both Java and C++?

Course Information

tinyurl.com/briansfu

Guide to Slides

- Slide Colour Guide (often...):
  - Green: headings.
  - Yellow: Highlighted text.
    - This course has one midterm and one final.
  - Blue: Term being defined.
    - Hour: 60 minutes.
  - Sweep-in Text: Blanked out text to keep (almost) everyone awake and hold attention.
- Joke:
  - When C++ is your only hammer..

Course Topics

- Basic Course Goal
  - To learn to write good quality object oriented programs using Java.
  - Become bad-code intolerant
- 3 Components of Course

You already known:

- How to program in an object oriented language.
  - Know Object-Oriented Java?
    - Great!
  - Know Object-Oriented C++?
    - We'll cover the basics of Java very quickly

      (Must read ch1 of text, or online)
    - Advanced topics covered in more depth.
- How to develop simple Object Oriented applications.

- If you don't, please come talk to me!

Basic Info

- https://opencoursehub.cs.sfu.ca/bfraser/grav-cms/cmpt213
  - Notes & Readings
    may have announced in-class quizzes.
  - **Assignments** (30%)
    about 2 weeks to complete
    These take a *lot* of time;
    You will be writing a *lot* of code!
  - **Midterm** (30%)
  - **Final** (40%)
- Review: Readings Ch1, getting help, grade weighting
- Recommended Text
  - *Object-Oriented Design & Patterns*, 3rd ed,
    by Cay Horstmann; Free (LEGIT!) PDF of website

Policies on Website

- **Assignment Late Policy**

  Assignments may be turned in up to 4 days late with 0% penalty. Later than this is 100% penalty (60 minute grace period). Contact the instructor if there are extenuating circumstances.
- **Extensions and Deferrals**

  Request a concession via the Faculty of Applied Science's Concessions form. Doctor's notes are *not* required if sick. Extensions only considered for circumstances beyond the student's control; plan to submit assignments on time.
- **Academic Honesty**
  - The MOSS tool will be used to check the originality of all electronic submissions.
  - SFU's Academic Honesty policy is crucial to earning credit in this course. Violations of the policy will be taken seriously and reported to the department and university.
  - Explanation of penalties applied for academic dishonesty.
- **AI Policy**
  - Students may use AI tools (such as GitHub's Copilot, or ChatGPT) to *support* their programming.
  - You must do the high-level design yourself and be able to write all submitted code on your own (even if you used help from the AI).
  - You should use the AI to code no more than a few lines at a time: do not have it write all lines of code.
  - You must add a comment to any functions that you used the AI's help to write more than 5 line of code.
  - Code written exclusively by, or with the help of an AI system is still governed by the academic honesty policies of the course and university. If a significant number of lines of code, or detailed/critical code is found not to be the student's work, then that work will get a zero. If the copied code was not cited correctly (from either a human or AI source) then it will be considered a case of academic dishonesty and the entire assignment may get a grade of 0 and a report on file with the university.
  - Note that AI tools are not available during exams, and exams make up the bulk of the percentage for the course.

Keys to Success

- Slides:
  - Posted online, BUT key points blanked out.
  - Take notes for the blanks and the extra things I say.
- Keep up on reading
- **Do assignments to be proficient with material.**
  - Can’t learn to drive by just reading a book; Likewise with programming!
- Ask Questions!