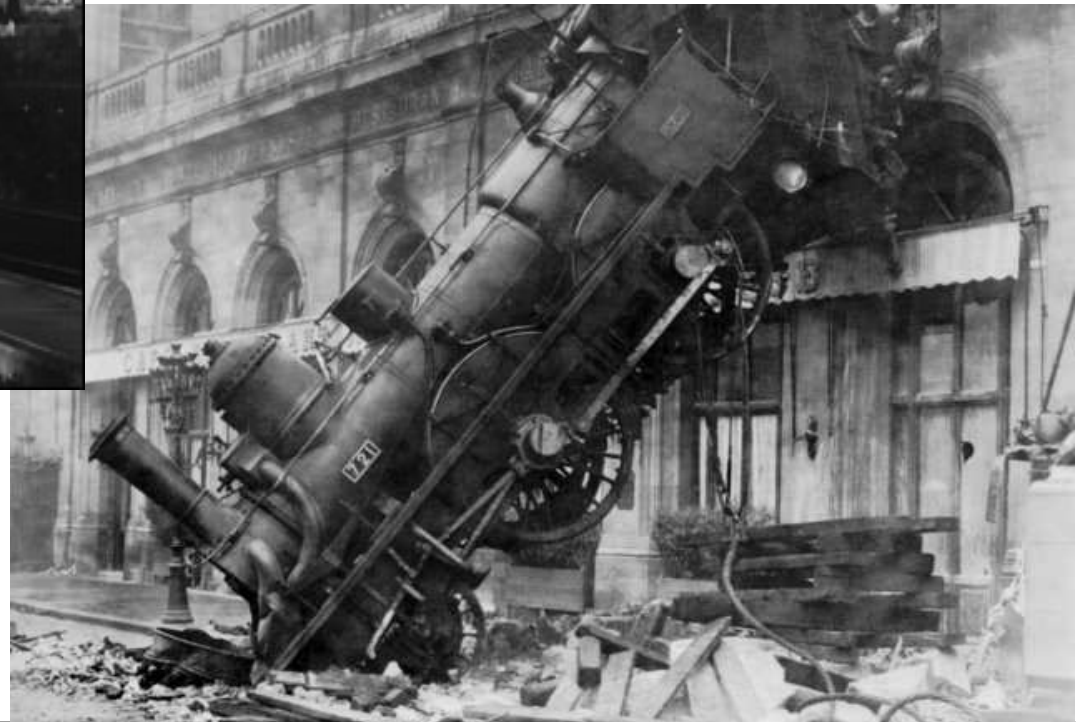# For $101 Million...

could we create the control software for Skytrain?
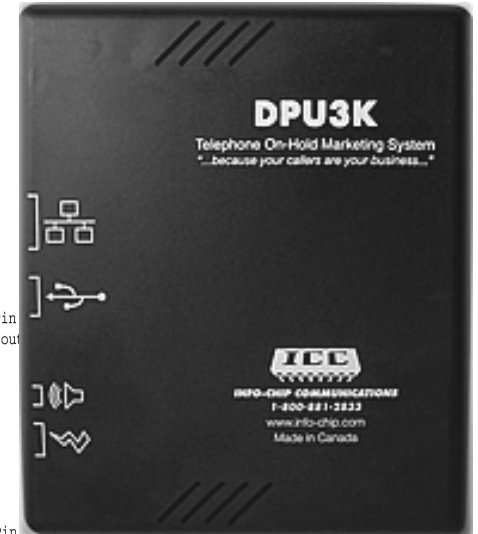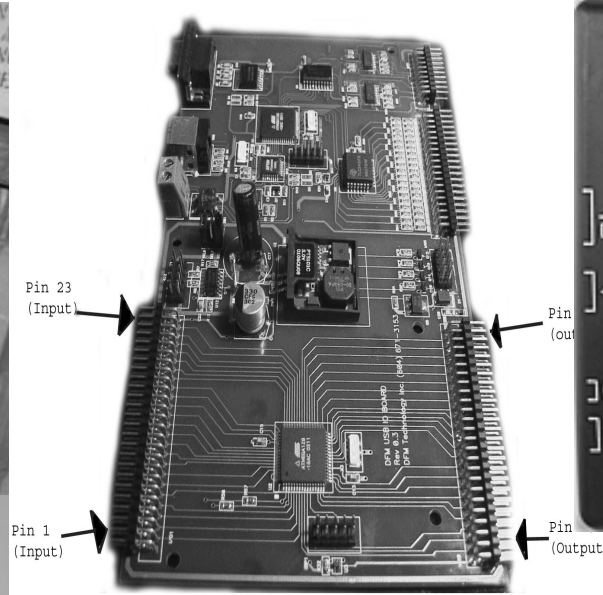
Course's Big Picture

- Course Goals
  - Cover the basics of developing software in a professional environment.
  - Learn to be part of a development team.

- 3 Components of Course

People

Instructor: Dr Brian (Fraser)

- I like questions, and love feedback!

About Me

- Home Town: Surrey!

- Degrees: BSc & PhD from SFU (AI)

- Favourite Video Game:
  StarCraft 2, WoW, Valheim, Mario Kart

- Family: Married with 2 girls (6y & 8y)

- 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.

Students

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

You already known

1) How to program in an object oriented language
   – Know Java? Great!
   – Know C++? You'll have to pick-up basic java quickly; we will have some resources

2) How to develop simple object oriented applications

If you feel you don't know this,
come talk to me today.

What are you worried about?

Discussion

In groups of 3 to 4 people:
- Exchange email address;
- Answer the following:

1. What would be the hardest software system to create?

2. What is the greatest software success?

3. What is the worst thing computers have been, or are being used for?

Layers of Protection

Image Karolina Grabowska [Pexels]

Vaccine Layer

- Vaccinations are critical
  - Vaccines greatly reduce the risk of infection, hospitalization, and death
  - If you are medically able to, please get vaccinated;
    Google "BC Covid vaccine"

Mask Layer

- Masks
  - Masks are optional, but often a good idea.

HOW TO WEAR YOUR MASK

CORRECT:

Cover your nose and mouth completely all the way down under your chin.

Clean your hands before touching the mask, and before and after removing the mask. Don't share your mask with others.

INCORRECT:

DON'T: Wear the mask under your nose.

DON'T: Leave your chin exposed.

DON'T: Wear the mask under your chin on your neck.

DON'T: Let children under 2 years old wear masks.

CommunityCare.com/COVID

COMMUNITY CARE
PHYSICIANS, P.C.

Stay-home Layer

- Stay home when needed
  - Feeling a little sick? Covid, cold or the flu!
    Just stay home and watch the video too!

- If I'm sick, I'll cancel lecture, present remotely, or record a video

Course Design

In-Person Lectures

- Course is optimized for in-person lectures
  - I'll be here teaching during lecture times!
  - Lectures recorded; link on course website

Evaluations

- Assignments and projects heavily weighted
    - Marks can be high because of this practical focus

        Letter grade thresholds are higher than some courses
    - Students must attain an overall passing grade on the weighted average of the quizzes in the course to obtain a clear pass (C- or better).
    - Anything 50% or greater is a D or better (pass)
- **Assignments** (20%) - 3 assignments, first half of semester.
- **Project** (30%) - 3 iterations, last half of semester.
- **Midterm** (20%) - In-person, on paper. Oct 21 during class
- **Final Exam** (30%) - Cumulative; in-person, on paper.

Assignments

- 3 Assignments
  - As1: Learn Java & basic Git (posted)
  - As2: Learn some Android Studio and more Git
    - Due same day as As1
  - As3: More Android Studio & Git
- Details
  - CSIL labs closed to drop-in; can do remotely or on own computer (best)
  - Late: 5% per calendar day; max 4 days late

Project

- 3 Project Iterations
  - Groups of 4, assigned by instructor
  - Students provide input on type of group desired (possibly around location of meeting {Surrey, Burnaby, Online}, or time of meeting).
  - Topic assigned by instructor
  - Peer feedback and evaluation

Guide to Course

Guide to Slides

- ## Slide Colour Guide (often...):
  - Green: headings.
  - Yellow: Highlighted text.
    - This course has quizzes and no final.
  - Blue: Term being defined.
    - Hour: 60 minutes.
  - Sweep-in Text: Blanked out text to keep (almost) everyone awake and hold attention.

- ## Joke:
  - My software never has bugs,..

Lecture & Online Expectation

- Only one thing

  - Texting / Talking
  - Use a positive tone for all communication
    (asking questions, on Piazza forums, with TAs)
  - Anon trolling hurts someone. It won't be tolerated.
  - Students have wide range of backgrounds; respect it

- If sending an email
  - Give a little context (class, your name; topic, ...)
  - Email: If you are sending more than 2 per week on average
    over multiple weeks, then that may be too many.

Getting Help

- Make a habit of asking questions
  - Live lectures: ask a question!
  - Piazza discussion forum: Primary support tool! Post and answer questions anytime! Anon OK.
  - Office Hours: get to know us, ask us stuff!
  - Ask friends in class
  - TA tutoring!

- Start early
  - Give yourself time to learn and solve problems