

User Interface Design Principles

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CMPT370
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Review of last time

- An excerpted **history** of GUIs, cont.
 - Sutherland, Engelbart, PARC, Apple, MS
- GUI **toolkits**
- **Events** and **callbacks**
- **FLTK** and **Fluid**
 - **BankInterest** example
 - Template lab write-up
- Getting started on **carmel**

Human-computer interface

- WIMP/GUIs are just one kind of an interface between humans and computers
 - Input and Output
- Automated bank machine touch-screen
- Touch-tone keypad
- Voice recognition, speech synthesis
- Car steering wheel and pedals
- Head tracking / eye tracking
- EEG
- Other possibilities?

Some UI design principles

- Know your **users**: programmers? Man-on-the-street? Grandma?
- Be **consistent**: names, colours, layout, parts of speech
- Use **metaphors** carefully: desktop, canvas
- Use multiple **levels** of complexity
 - Let the user tradeoff **safety** for **control**
- Always show the current **state** of the program:
 - Waiting for password? Processing? (progress)



A few UI case studies

- Casino Royale web site
- Blender3D

TODO

- Lab0 due midnight tonight
 - FLTK orientation, tutorials
 - No write-up needed
 - Upload ZIP/tarball to eCourses
- Lab1 due this Thu 18Jan
 - Design + implement your own FLTK program
 - Lab write-up
 - Should be somewhat “useful”