Summary

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Computer Fluency

Fluency means that you are able to **adapt to new applications** and use computers efficiently.

We have studied the ***skills***, ***concepts***, and ***capabilities*** of IT.

- Although the detailed skills may be forgotten or change over time, the fundamental concepts and capabilities allow us to learn new skills as required.

Remember, the key to being an expert user is using your past knowledge to understand how to use new systems.

- No one remembers all details and skills.

Computer Fluency
Skills, Concepts, and Capabilities

Skills are the **ability to use computers** today to solve your problems.

- You have learned new applications: Excel, Access, HTML editors, Word, GIMP, and the ability to learn new applications.

Concepts are the **fundamental principles** that apply to many situations. They are the ***building blocks of future learning***.

- Key concepts: how the Internet (TCP/IP) works, how a computer works (Fetch/Execute cycle), key components of programming (HTML/JavaScript), information representation, security

Capabilities are ways to ***expand your thinking***.

- **Thinking algorithmically**, reasoning, debugging, designing, creating, **searching and representing information**.

The Big IT Ideas

The big IT ideas essentially boil down to two things:

- ***Information must be properly represented on computers to be useful.***
  All information is represented as bits, so knowing **the context** is essential for understanding the meaning.

- ***Programs encode algorithms to solve problems.***
  Algorithms represent intelligence on how to solve problems and provide the computer with the context and capability to perform all its advanced functions.
  - ⇨ Computer programming is the **art and science** of solving problems on the computer.

Computers in Society

By understanding the technology, we have a better perspective on the role and influence of computers in society.

Like all technologies, information technology can be used for positive change and negative actions.

As users, and even designers, we have a role to play in shaping the effect of technology on this world. Displaying good ethics and protecting privacy is as important as building complex computer systems.

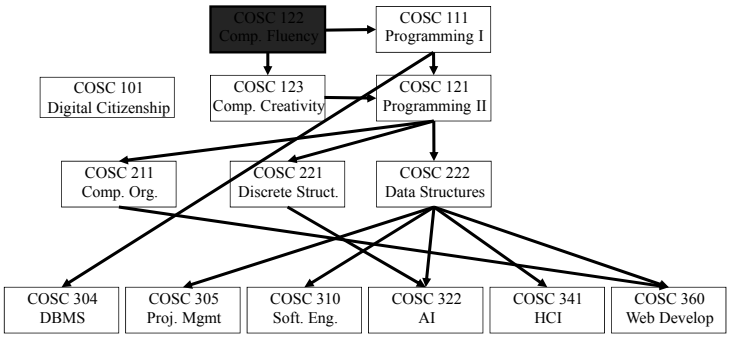
Lifelong IT Learning

This course has prepared you for lifelong IT learning.

Computer systems and technology ***will*** **change** (the **skills**), but it is the ***attitude*** that is most important.

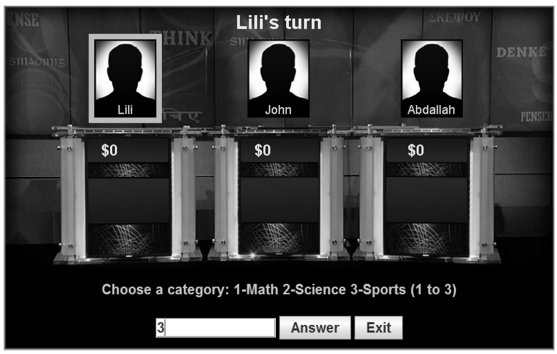
- How much information in the course will you remember?
- How much do you *need* to remember to apply the concepts?
- As an expert user, you are confident and ready to:
  - ⇨ **Learn new systems** with confidence by applying gained knowledge, experience, and **fundamental** concepts.
  - ⇨ **Ask for help** (when needed) by **understanding key terminology** and **components of computers**.
  - ⇨ **Evaluate new systems that may improve your productivity**.
  - ⇨ **Protect yourself in the digital world** by understanding the role, benefits, and issues of computer systems.

Want more?
Where to go from here?



Example Object Oriented Programs

COSC 111 Project



COSC 121: Project

Build a computer simulator from scratch

Example Object Oriented Programs

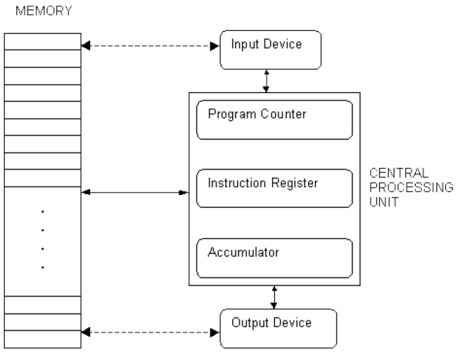
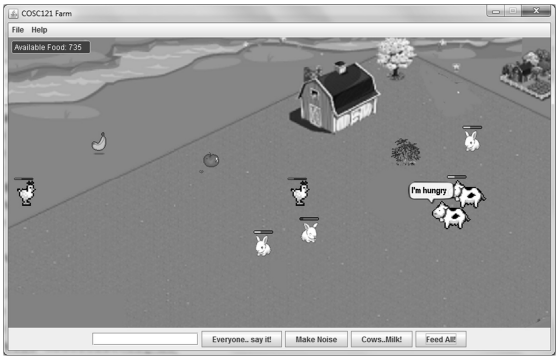


Figure 2 Computer Structure for COSC 121 Project

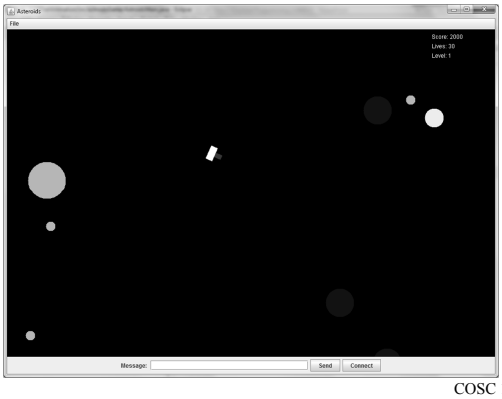
Example Object Oriented Programs

COSC 121



Example Object Oriented Programs

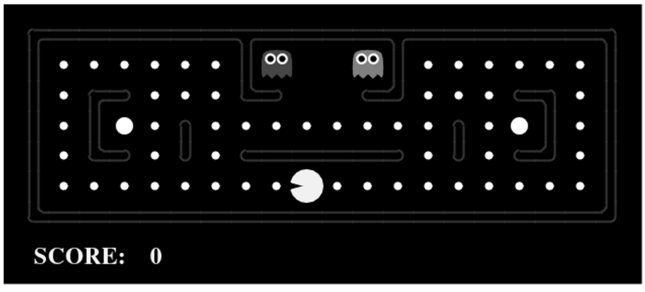
COSC 123



Example Object Oriented Programs

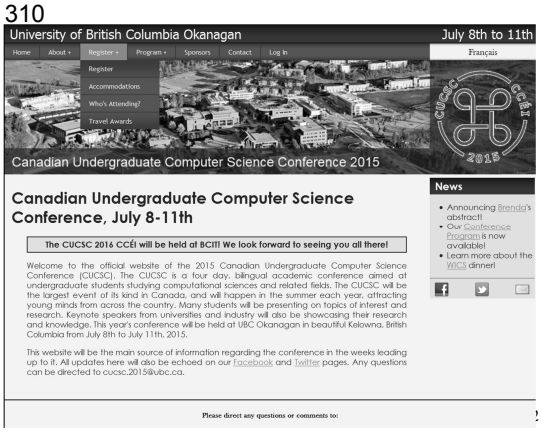
COSC 123

- In-class practice
  - ⇨ *only part of the game is implemented*



Example Web Development + DB

COSC 310



Example Web Development + DB

COSC 310

Example Web Development + DB

COSC 310

Example Web Development + DB

COSC 310