Bridges To Computing

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Careers in Computing
How computer science can help you realize your goals.

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What are your goals?

- "If you want to live a happy life, tie it to a goal." - Albert Einstein

- “Goals that are not written down are just wishes.” - Henry Ford

Take a moment and ask yourself:
- What are your goals (large and small)?
- What are your dreams?
- What do you want out of life?

Now, write at least 5 of those things down.
- Examples: Get a new XBOX 360, own a Home, visit Italy, go skydiving, find a solution to the Global Warming problem.
What is your plan?

- “You need a plan to build a house. To build a life, it's even more important to have a plan.”  
  - Zig Ziglar

- “Always have a plan, and believe in it. Nothing worthwhile happens by accident.”  
  - Knox, Chuck

- What careers interest you? Why? Remember, a career is NOT the same as a job.

- Now, write down 3 careers that interest you.  
  ◦ Examples: Firefighter, Lawyer, Accountant
Tools & Skills

- "A hammer is an extension of the fist. But a computer is an extension of the brain."

- Different careers will require different tools and different skills.
  - Some skills are "transferable"; useful in more than one career.

- How many of the careers you listed will involve using a computer?
  - How many of the careers you listed require computer expertise?
Many people are computer “users”.

They:
- Are proficient with "popular" software products (Internet Explorer, MS Office, Email Apps.)
- Don’t really understand how computers work.
- Basically just push the buttons.
- Cannot create their own hardware and/or software solutions to problems.
Computer Expertise

- World needs people with computer expertise.

- People who:
  - Know how computers work.
    - Understand Computer Hardware
    - Understand Operating Systems & Networks.
    - Understand Programming Languages.
  - Are capable of creating software and hardware solutions to problems.
Industries Need Computer Experts

- **Medicine:**
  - MRI, Genetic Engineering, Drug Development.
  - Expert Systems (Sapphire).

- **Military/Law Enforcement/Rescue Services:**
  - Robotics
  - GPS/GIS

- **Energy:**
  - Simulation programs.
  - Alternative Energy (Smart Grids).

- **Finance/Law:**
  - Expert Systems.
  - Cryptography.
Careers in Computing (1)

- Technology careers are among the best paying and the most in-demand careers in the world.

  - **Computer Engineer:**
    - Think of your favorite "tech gadget". You can thank computer engineers for creating it.

  - **Software Engineer/Developer:**
    - Every operating system, office application, interactive website and computer game was created by software engineers.
Careers in Computing (2)

- Information, Database and Network Managers:
  - Every career, occupation or industry that uses computers requires people with these skills.

- Computer Scientist:
  - Computer Scientists devise new ways to use computers and develop effective ways to solve computing problems.
50 Best Paying Careers (Forbes 2009)

- Computer Science
  - 18 Computer and Information Systems Managers $53.95 $112,200
  - 30 Computer and Information Scientists, Research $47.10 $98,000
  - 31 Computer Hardware Engineers $46.83 $97,400
  - 39 Computer Software Engineer, OS $44.44 $92,400
  - 50 Computer Software Engineers, Applications $41.07 $85,400

- Computer Expertise Required for almost all top 50.
  - 09 Chief Executives $76.23 $158,600
  - 29 Financial Managers $47.76 $99,300
  - 33 Nuclear Engineers $46.68 $97,100
  - 36 Mathematicians $45.75 $95,200
  - 38 Aerospace Engineers $44.48 $92,500

- Only other field that is comparable to computer science as far as high-paying jobs is the medical field.
The Bridges Program (1)

- There is a shortage of scientists and engineers in this country.

- The world has a lot of problems that will not be solved without scientists and engineers:
  - Cancer, Aids, H1N1
  - Global Warming, Energy Shortages
  - Food and Water Shortages
The Bridges Program (2)

- Scientists and engineers NEED computers, and they NEED people who can build hardware and software solutions to problems.

- The Bridges program is about providing the world with those people.
What we want for you.

- Our goals:
  - Put you on the path to becoming computer experts.
  - Introduce you to the vast array of computer technology fields available to you.
The End