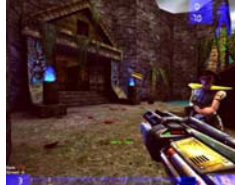


Software Engineering



- What is Software Engineering?
- What kind of jobs do Software Engineers do?
- What is going on in the CS Department?



What is Software Engineering?



Software engineering is about **designing and building** software systems that are:

- Robust
- Maintainable
- Easy to use
- Run efficiently



Examples:

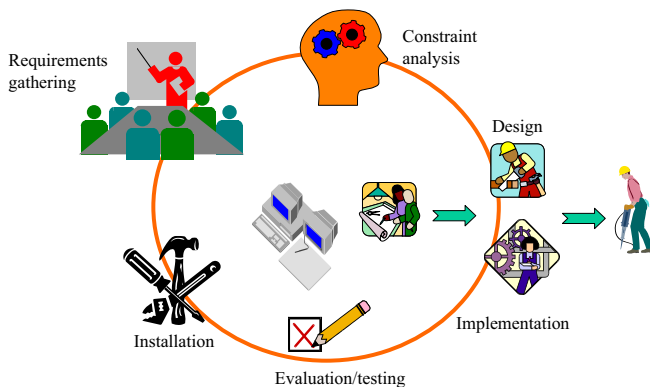
- Banking systems – internet, telephone, EFTPOS, ATM, etc.,
- University – payroll, nDeva, Cecil etc.
- Car navigation systems



Software Life Cycle



Software Engineering includes the whole life cycle of software.



Why consider SE?



- Lots of interesting work
- Mix of people & technology skills
- High demand for people with SE skills:
 - The industry is huge worldwide
 - Excellent range of job opportunities
 - Good salaries
- Can combine with interests in other areas

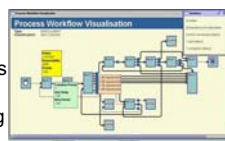


SOFTWARE ENGINEER
- BEST JOB IN AMERICA. CNN Money Magazine and Salary.com researched hundreds of jobs in America taking into consideration factors such as salary and growth prospects. Software Engineer rated #1.
Why?
Money Mag says software engineers are needed in every part of the economy, it's one of the fastest growing titles in the U.S., and telecommuting is widespread.

Careers in SE



- Software engineers don't just write programs.
- They meet clients, discuss the clients needs, and design solutions.
- Software engineers work in many application areas such as banking, health informatics, architecture, medicine, telecommunication and global positioning systems.
- Jobs for software engineers are available both within New Zealand and outside New Zealand.
- There are new and exciting jobs to choose from, in large multinational companies, government departments, consultancies, and start up companies.
- The common starting salary is \$40,000-50,000.
- Many are earning in excess of \$60,000 within a few years of graduation.



Expertise in the CS Department



- Coping with semistructured data
- Information transformation
- Adaptive and multi-device user interfaces
- Formal methods
- Enterprise applications
- Performance engineering
- Robotics
- Embedded systems
- Domain specific languages
- Software architecture development and evaluation



Courses in the CS Department



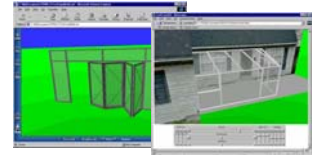
- Many of the courses in Computer Science have an SE flavour
- Teaching you how to program, CompSci 101
- Teaching you about data structures and what is the best structure to use, CompSci 105, CompSci 220
- Program Design and construction, CompSci 230, CompSci 280
- Programming and software architecture, CompSci 334, CompSci 335
- Software Tools, measurement, different contexts, CompSci 732, CompSci 702, CompSci 734

Sample SE Project



"My partner and I are developing a proof of concept solution for a smart house. We are in the process of developing software that will allow you, the average NZer, to control devices in your house such as the heater, remotely from the internet. With our software, you could turn the heater on in your house an hour before you get home in winter! The main aim of our software is to be extremely usable for the average NZer with very limited computing skills."

-Lynn Barneto



Sample SE Project



Other students are developing a system on a PDA to be used to assist soccer referees.



For more details



- Look at

<http://www.se.auckland.ac.nz/research/>

- Email me at

gill@cs.auckland.ac.nz