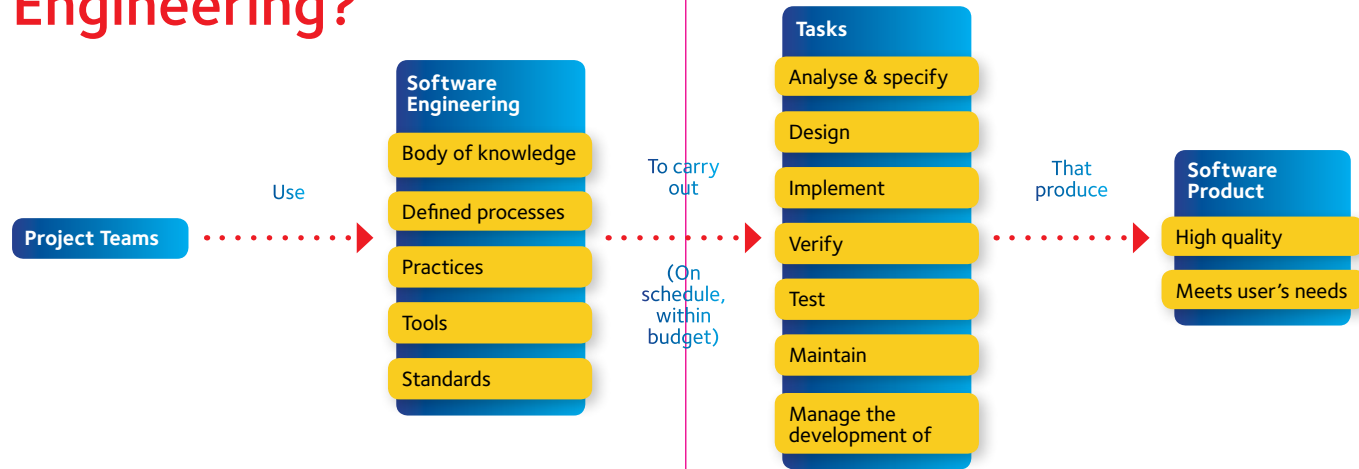


What is Software Engineering?



A career in Software Engineering

the secure path to success in software development

Anmol Khanna

Consultant at Accenture, Australia

"I am responsible for setting a 'Testing Center of Excellence' for a large beer corporation. My work involves analysing client business processes and setting up software testing processes to help the client reduce cost and improve quality of their applications. The projects I have worked on to date have involved determining client requirements and developing cost-effective software by taking an end-to-end view on how the application will work with existing client applications and processes."

Gavin Keeley

CTO, FirstServis

"I am constantly amazed at how organisations are satisfied to let ill qualified people build their software. It is as if a builder hired carpenters to do their electrics, and is, I believe, a major reason for the failures in software projects. For me, there is simply no substitute for a good software engineer when you are building and delivering software. A generic IT degree just doesn't cut it for development roles."



Glenn Wightwick

Chief Technologist, IBM Australia Director, Australia Development Laboratory

"Across our IBM Australia Development Laboratory, we are engaged in developing world-class software in fields including security, web content management, systems management, programming tools and the Linux kernel."

Having access to top software engineering skills is crucial for our business. In our Gold Coast team, we have a number of Griffith University alumni among our software engineers and we value their expertise in programming languages, development methodologies, algorithms and a passion for information and communications technology."

CRICOS code: 00233E

What is Software Engineering?

Software engineering entails the design and implementation of the software systems on which our society depends, from building to biotechnology, games and government, to sports and submarines.

Software engineering is all around you. The software and systems of web sites such as Google (Google Mail), Facebook, Twitter and YouTube require software engineering to sustain a large number of visitors, maintain massive amounts of storage and provide a rapid response time within a twenty four hour service.

Games such as Halo require the work of software engineers to develop software to enable the sophisticated graphics, rapid animation, modelling, rendering, and interaction over the internet, in game-boxes and games. Consoles like Wii, PlayStation and Xbox also require collaboration between computer engineers and software engineers to make them work.

Software engineers are responsible for developing the software that controls critical systems in health, defence, aerospace and many complex and large systems. This may include the software for satellites, submarines, software for robots or the control of industrial processes in chemical plants, mining and water treatment.

The software inside mobile devices such as iPhones, which can be networked by Bluetooth, WiFi and GE networks which integrate phone services with internet services, also demands applications to be developed by software engineers.

What does a Software Engineer do?

- Works on capturing requirements so that software meets and follows strict quality specifications.
- Ensures that the design has desirable properties to minimise faults and makes the software extensible.
- Specifies architectures for the modules that enable solid design principles.
- Utilises design patterns that have proven properties when faced with design and development challenges in a software project.
- Understands diverse programming languages and platforms in order to select the most suitable for the needs of an application.
- Uses project management skills to ensure the development and implementation of a software project meets its budget and timeline.
- Applies techniques for testing and ensures the quality of delivered software.
- Can estimate the size of a software project in order to plan and coordinate resources around a project.
- Works in a team, organises collaborative work and communicates design ideas.

Career Opportunities

Software engineers are highly regarded worldwide. Employment opportunities for software engineers include Computer Systems Officer, Applications Programmer, Design Technician/Specialist (R&D), Programmer, Systems Programmer, Analyst Programmer.

Griffith's Bachelor of Engineering (Software Engineering) will equip you to meet the demands of a rapidly changing software industry.



Tyrone Trevorrow working on the Robotic Dominoes project at the Machine Intelligence and Pattern Analysis Laboratory.

To find out more visit
griffith.edu.au/software-engineering