

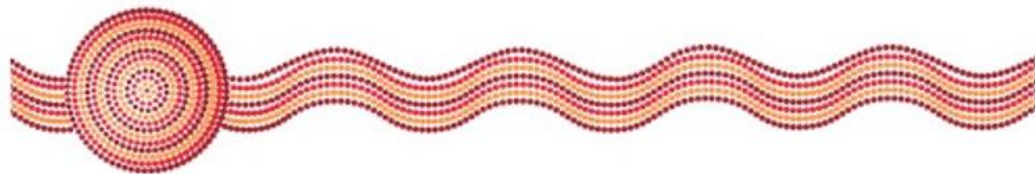
VCE Applied Computing 2025–2028

Video 13

Background to Unit 4 Outcome 2
Software Development

Acknowledgement of Country

The VCAA respectfully acknowledges the Traditional Owners of Country throughout Victoria and pays respect to the ongoing living cultures of First Peoples.



VCE Applied Computing 2025–2028

Video 13

Background to Unit 4 Outcome 2
Software Development

Purpose of this presentation

- Overview of Unit 4 Outcome 2 Software Development
- Major changes to Unit 4 Outcome 2
- Outcome statement
- Key knowledge
- Key skills
- Assessment task

Unit 4 Outcome 2



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Changes to Unit 4 Outcome 2

- Threat modelling principles
- Frameworks
- Updated assessment task (SAC)

Unit 4 Outcome 2

From the outcome statement

Respond to a teacher-provided case study to analyse an organisation's software development practices, identify and evaluate current security controls and threats to software development practices, and make recommendations to improve practices.

Unit 4 Outcome 2 – Key knowledge

- goals and objectives of medium and large organisations
- advantages and disadvantages of developing software in-house or externally

Unit 4 Outcome 2 – Key knowledge

- types of vulnerabilities and risks within insecure development environments, including:
 - use of application programming interfaces (APIs)
 - malware
 - unpatched software
 - poor identity and access management practices
 - man-in-the-middle attacks
 - insider threats
 - cyber security incidents
 - risks present from software acquired by third parties
 - ineffective code review practices
 - combined development, testing and production environments

Unit 4 Outcome 2 – Key knowledge

- security controls used to protect software development practices and data stored within applications, including:
 - version control and code repositories
 - robust identity and access management
 - encryption
 - code review
 - regular updates and patches to software
 - separated development, testing and production environments

Unit 4 Outcome 2 – Key knowledge

- threat modelling principles, including:
 - defining security requirements
 - identifying and mitigating threats
 - confirming threats have been mitigated
- criteria for evaluating the security of software development practices within an organisation

Unit 4 Outcome 2 – Key knowledge

- key legislation and industry frameworks that affect how organisations develop software and control the security and communication of data, including the:
 - *Copyright Act 1968* (Cwlth)
 - Essential Eight
 - Information Security Manual (ISM) (Guidelines for Software Development: Development, testing and production environments; Secure software design and development; Application security testing)
 - *Privacy Act 1988* (Cwlth) (APP 1, 6, 8, 9, 11)
 - *Privacy and Data Protection Act 2014* (IPP 1, 2, 4, 5, 9)

Unit 4 Outcome 2 – Key knowledge

- ethical issues that arise when developing software, including:
 - ineffective security practices
 - use of artificial intelligence during development
 - intellectual property
 - copyright issues

Unit 4 Outcome 2 – Key knowledge

- mitigation measures to reduce or eliminate threats, vulnerabilities and risks within organisations and development environments
- strategies for improving the security of software development practices, including:
 - onboarding/induction practices and developer training focused on secure development
 - development of risk management plans.

Unit 4 Outcome 2 – Key skills

- analyse and describe an organisation's software development practices
- propose and apply criteria to evaluate the effectiveness of the current software development practices
- identify and describe vulnerabilities and risks based on current practices
- identify and discuss the possible legal and ethical consequences to an organisation for ineffective software development practices, and how these could be resolved
- recommend and justify improvements to organisations and their development environments to enhance secure software development practices.

Unit 4 Outcome 2

Contribution to final assessment

- School-assessed Coursework for Unit 4 will contribute 10 per cent to the study score.
- Total marks – 100

Unit 4 Outcome 2

Assessment task

The student's performance will be assessed using one of the following:

- structured questions
- a report in written format
- a report in multimedia format.

The case study scenario needs to enable:

- an analysis of the organisation's software development practices
- an evaluation of the current security controls and threats
- recommendations to improve practices.

Task time allocated should be 100–120 minutes.

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