

VCE Applied Computing 2025–2028

Video 11

Background to Unit 3 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.



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Video 11

Background to Unit 3 Outcome 2
Software Development

Purpose of this presentation

- Overview of Unit 3 Outcome 2 Software Development
- Major changes to Unit 3 Outcome 2
- Software tools
- Outcome statement
- Key knowledge
- Key skills
- Assessment task

Unit 3 Outcome 2

Changes to Unit 3 Outcome 2

- Brief
- File management
- Ideation techniques
- Updated assessment task (SAT)

Unit 3 Outcome 2

Software tools

Students are required to use the following software tool:

- Unified Modelling Language (UML) tools to create use case diagrams
- An appropriate tool for documenting and modifying project plans
- Appropriate tools for ideation and generating designs

Unit 3 Outcome 2

From the outcome statement

- Document a problem, need or opportunity, formulate a project plan, document an analysis, and generate design ideas and a preferred design for creating a software solution.

Unit 3 Outcome 2 – Key knowledge

- reasons why individuals and organisations undertake software development projects, including:
 - increasing productivity and efficiency
 - reducing costs
 - identifying opportunities to address gaps in the market
 - meeting organisational objectives or needs
- features of a brief that documents a problem, need or opportunity, including:
 - problem/need/opportunity outline
 - proposed users
 - programming languages to be used
 - feasibility
 - originality

Unit 3 Outcome 2 – Key knowledge

- features of project management using Gantt charts, including:
 - identification of tasks
 - sequencing of tasks
 - time allocation
 - dependencies
 - milestones
 - critical path
 - monitoring and documenting the progress of projects

Unit 3 Outcome 2 – Key knowledge

- methods for collecting data to determine needs and requirements, including:
 - interviews
 - observations
 - surveys
 - reports
- characteristics of functional and non-functional requirements
- constraints that influence solution development, including:
 - economic
 - legal
 - social
 - technical considerations

Unit 3 Outcome 2 – Key knowledge

- characteristics of solution scope, including:
 - version/solution boundaries
- analytical tools for depicting the relationships between users, data and systems, including:
 - context diagrams (Level 0) with the components of a system, and entities and data flows
 - data flow diagrams (Level 1) with the components of processes, entities, data stores and data flows
 - use case diagrams with the components of a system boundary, actors, associations, relationships (includes and extends) and use cases

Unit 3 Outcome 2 – Key knowledge

- purpose and features of software requirements specifications, including:
 - defining requirements
 - constraints
 - scope
 - user characteristics
 - technical environments
 - analytical tools depicting existing processes and systems

Unit 3 Outcome 2 – Key knowledge

- key legal requirements relating to the intellectual property and ownership and privacy of data used, including:
 - *Copyright Act 1968* (Cwlth)
 - *Privacy Act 1988* (Cwlth) (APP 1, 3, 6, 8, 9, 11)
 - *Privacy and Data Protection Act 2014* (IPP 1, 2, 4, 5, 7, 9, 10)

Unit 3 Outcome 2 – Key knowledge

- file management techniques, including:
 - the use of naming conventions
 - version control
 - backups (full, incremental, differential)
 - security
 - disposal

Unit 3 Outcome 2 – Key knowledge

- ideation techniques and tools for generating design ideas, including:
 - mood boards
 - brainstorming
 - mind maps
 - sketches
 - annotations
- criteria for evaluating design ideas and the efficiency and effectiveness of solutions

Unit 3 Outcome 2 – Key knowledge

- design tools for generating solution designs from design ideas, including:
 - data dictionaries
 - mock-ups
 - object descriptions
 - input-process-output (IPO) charts
 - pseudocode

Unit 3 Outcome 2 – Key knowledge

- characteristics of user experience (UX) and how these affect software design, including:
 - affordance
 - interoperability
 - security (authentication and data protection)
 - usability

Unit 3 Outcome 2 – Key knowledge

- design principles that influence the appearance and functionality of the user interface/s of the software solution, including:
 - alignment
 - balance
 - contrast
 - space
 - text formatting
 - usability
 - navigation.

Unit 3 Outcome 2 – Key skills

- document a problem, need or opportunity using a brief
- create, monitor and modify project plans using software
- select and use a range of methods to collect data
- apply analysis tools to determine solution requirements, constraints and scope
- document an analysis as a software requirements specification
- generate design ideas using appropriate ideation techniques and tools
- develop evaluation criteria for design ideas and the efficiency and effectiveness of the software solution
- produce detailed designs using appropriate design principles and tools.

Unit 3 Outcome 2

Contribution to final assessment

School-assessed Task for Unit 3 Outcome 2 and Unit 4 Outcome 1 will contribute 30 per cent to the study score.

Unit 3 Outcome 2 – Assessment task

A brief outlining the proposed solution and a project plan (Gantt chart) indicating tasks, times, milestones, dependencies and the critical path

AND

Analytical tools that depict the interactions between systems, users, data and networks

AND

An analysis that defines the requirements, constraints and scope of a solution in the form of a software requirements specification

AND

A folio of design ideas and evaluation criteria

AND

Detailed design specifications of the preferred design.

Time allocated should be at least 8–10 weeks of class time.

Contact

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