




<p><b>Assessment Task</b></p>	<p><b>Task title: Network Security for Esports</b>  <b>Purpose:</b> Students will investigate the hardware components required to host an Esports tournament. They will investigate the network security requirements of the tournament and design network maps of the set up. Students will also account for cyber-safety during the tournament and document their approach to this.</p>				
<p><b>Achievement standard - Year 9/10</b>          By the end of Year 10, students <b>explain the control and management of networked digital systems and the security implications of the interaction between hardware, software and users.</b> They explain simple data compression, and why content data are separated from presentation.</p> <p>Students plan and manage digital projects using an iterative approach. They <b>define and decompose complex problems in terms of functional and non-functional requirements.</b> Students design and evaluate user experiences and algorithms. They design and implement modular programs, including an object-oriented program, using algorithms and data structures involving modular functions that reflect the relationships of real-world data and data entities. <b>They take account of privacy and security requirements when selecting and validating data.</b> Students test and predict results and implement digital solutions. They evaluate information systems and their solutions in terms of risk, sustainability and potential for innovation and enterprise. They share and collaborate online, establishing protocols for the use, transmission and maintenance of data and projects.</p>					
<p>Relevant aspects of the Achievement Standard </p>	<p>Relevant content descriptions </p>	<p>Relevant elaborations </p>	<p>General Capabilities</p>		<p>Alignment to task</p>
<p><b>Knowledge and Understanding</b></p> <p><b>explain the control and management of networked digital systems and the security implications of the interaction between hardware, software and users</b></p>	<ul style="list-style-type: none"> <li>Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (<a href="#">ACTDIK034</a>)</li> </ul>	<ul style="list-style-type: none"> <li>explaining how an operating system manages the relationship between hardware, applications and system software</li> <li>comparing the similarities and differences of two common operating systems</li> <li>identifying how changes to the configuration of an operating system change the operation of hardware and software components in a networked digital system</li> <li>explaining the role of hardware and software components in allowing people to interact with digital systems, for example using a mouse or touch pad or screen, speech, accelerometer</li> <li>investigating the operation and use of robotic process control systems</li> <li>explaining encryption of data as a means of protecting data, for example secret keys and 'exclusive or' (XOR) and hashing algorithms to digitally sign data</li> </ul>	<ul style="list-style-type: none"> <li>Literacy</li> <li>Numeracy</li> <li>Critical and Creative Thinking</li> </ul>	<p>ICT</p> <p>Applying social and ethical protocols and practices when using ICT</p> <ul style="list-style-type: none"> <li>Apply digital information security practices</li> </ul> <p>Investigating with ICT</p> <ul style="list-style-type: none"> <li>Locate, generate and access data and information</li> </ul> <p>Managing and operating ICT</p> <ul style="list-style-type: none"> <li>Understand ICT systems</li> <li>Manage digital data</li> <li>Select and use hardware and software</li> </ul>	<ul style="list-style-type: none"> <li>Considering software and hardware requirements for the tournament</li> <li>Network map to plan the network setup and topology of the tournament</li> <li>Network requirements</li> </ul>
<p><b>define and decompose complex problems in terms of functional and non-functional requirements</b></p>	<ul style="list-style-type: none"> <li>Analyse and visualise data to create information and address complex problems, and model processes, entities and their relationships using structured data (<a href="#">ACTDIP037 - Scootle</a>)</li> </ul>	<ul style="list-style-type: none"> <li>using visualisation software tools to identify patterns and relationships between sets of data and information, and support abstract reasoning, for example representing data using histograms, network diagrams and maps</li> <li>summarising data using advanced filtering and grouping techniques, for example pivot tables in spreadsheets and aggregation functions in databases</li> <li>automating calculations, for example using absolute cell referencing to automatically extend formulas, and automating arithmetic calculations using built-in functions such as trigonometry, compound interest</li> <li>simulating simple, iterative processes, for example modelling compound interest or ecological models using a spreadsheet</li> <li>documenting the attributes of complex objects and processes using a data dictionary</li> <li>interpreting schemas that represent relationships between entities and querying data across tables, for example using foreign keys to represent relationships and joining tables in structured query language (SQL) SELECT statements</li> </ul>	<ul style="list-style-type: none"> <li>Literacy</li> <li>Critical and Creative thinking</li> <li>Personal and Social Capability</li> </ul>	<p>ICT</p> <p>Investigating with ICT</p> <ul style="list-style-type: none"> <li>Select and evaluate data and information</li> <li>Define and plan information searches</li> <li>Locate, generate and access data and information</li> </ul> <p>Creating with ICT</p> <ul style="list-style-type: none"> <li>Generate solutions to challenges and learning area tasks</li> <li>Generate ideas, plans and processes</li> </ul>	<ul style="list-style-type: none"> <li>Mind map of the tournament needs</li> <li>Written descriptions of the functional and non-functional requirements</li> </ul>
<p><b>take account of privacy and security requirements when selecting and validating data.</b></p>	<ul style="list-style-type: none"> <li>Create interactive solutions for sharing ideas and information online, taking into account safety, social contexts and legal responsibilities(<a href="#">ACTDIP043</a>)</li> </ul>	<ul style="list-style-type: none"> <li>investigating legal responsibilities of organisations regarding the storage, communication and disposal of personal and organisational data, for example the Australian Privacy Principles as they apply to intellectual property</li> <li>applying techniques to make ethical decisions when faced with dilemmas about security and ownership of data, for example selecting an action that results in the greatest benefit for the most number of people; avoiding the use of photos of deceased persons from Aboriginal and Torres Strait Islander communities</li> <li>creating an interactive web-based project that provides enterprising opportunities and complies with accessibility requirements, for example using fragments of a web language to create dynamic content that supports interactivity</li> <li>creating online interactive solutions for working with others by combining or modifying online software tools to support project work</li> </ul>	<ul style="list-style-type: none"> <li>Ethical Understanding</li> <li>Literacy</li> <li>Critical thinking</li> <li>Aboriginal and Torres Strait Islander Histories and Cultures</li> </ul>	<p>ICT</p> <ul style="list-style-type: none"> <li>Select and use hardware and software</li> <li>Generate solutions to challenges and learning area tasks</li> <li>Apply personal security protocols</li> </ul>	<ul style="list-style-type: none"> <li>Considering network security and data storage requirements for a tournament</li> <li>Cyber-safety plans for the tournament</li> </ul>