



National Certificate of Educational Achievement  
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

## **Exemplar for Internal Achievement Standard**

### **Digital Technologies Level 2**

This exemplar supports assessment against:

**Achievement Standard 91892**

**Use advanced techniques to develop a database**

An annotated exemplar is an extract of student evidence, with a commentary, to explain key aspects of the standard. It assists teachers to make assessment judgements at the grade boundaries.

New Zealand Qualifications Authority

To support internal assessment

	<p>Grade: Excellence</p>
<p>1.</p>	<p>For Excellence, the student needs to use advanced techniques to develop a refined database.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• iterative improvement throughout the design, development and testing process</li> <li>• presenting the data effectively for the purpose and end-users.</li> </ul> <p>Full samples of student evidence are available in our online Learning Management System, Pūtake.</p> <p>The student has shown iterative improvement by trialling and testing alternative ways of making database components or adding new features. Iterative improvement involves employing deliberate cycles and focusing on the reliability and functionality of the database, resulting in its substantial improvement. For instance, the student included trialling and improving of the interface, data tables, queries, and input and output forms.</p> <p>The student has effectively presented their data. For example:</p> <ul style="list-style-type: none"> <li>• there are no grammatical/typographical errors</li> <li>• the layout demonstrates effective application of design principles</li> <li>• the selection/sorting features of the database are obvious</li> <li>• there are customised presentation displays for various queries, to better display the data.</li> </ul>

	Grade: Merit
2.	<p>For Merit, the student needs to use advanced techniques to develop an informed database.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• using information from testing procedures to improve the quality of the database</li> <li>• structuring, organising and querying the data logically</li> <li>• addressing relevant implications.</li> </ul> <p>Full samples of student evidence are available in our online Learning Management System, Pūtake.</p> <p>The student has thoroughly tested the database and made significant improvements to its operation as a result. This extends beyond correcting errors in the database, as the student has tested and revised the interface, tables, queries, input/output forms, and has improved functionality and layout.</p> <p>The student has logically structured, organised and queried the data. For instance, the database is easy to use, the output display is in a logical, easy-to-read order, and it includes queries to make it easy to filter and extract required data.</p> <p>The student has shown how their database addresses at least two relevant implications. This could include how they have addressed privacy concerns and met end-user considerations.</p>

	Grade: Achieved
3.	<p>For Achieved, the student needs to use advanced techniques to develop a database.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• designing the structure of the data</li> <li>• using appropriate tools and advanced techniques to organise, query and present data for a purpose and end-users</li> <li>• applying appropriate data integrity and testing procedures</li> <li>• explaining relevant implications.</li> </ul> <p>Full samples of student evidence are available in our online Learning Management System, Pūtake.</p> <p>The student has provided a database plan which includes the data structure (e.g. tables that will be used and how the data in these tables will be linked), planned queries, datatypes and formatting. They have used at least two advanced techniques from the list in Explanatory Note 4.</p> <p>The student has used appropriate tools and advanced techniques to organise, query and present data for a purpose and end-users. For example, they have:</p> <ul style="list-style-type: none"> <li>• used appropriate data types and data formatting</li> <li>• written a custom query to filter and/or sort data</li> <li>• created a form that allows users to add to the database</li> <li>• used mathematical and/or wildcard operators.</li> </ul> <p>Data integrity and testing shows that the database functions as intended, and that the data are relevant for the intended purpose and end-users. Evidence includes testing to show that data in the database are correct. For instance, validating data before they are added to the database (therefore avoiding obviously invalid material, e.g. blank records), and testing to show that adding material works correctly (e.g. that various queries return expected results).</p> <p>The student explained at least two identified relevant implications for their database, e.g. privacy concerns and intellectual property requirements. They have explained what the relevant implication is, why it is relevant to their database, and how they might address the implication in the database.</p>