**3.41: Implement complex procedures to develop a relational database embedded in a specified digital outcome**

**Achievement Standard 91633v2**

**Credits: 6**

**Dictionary Database**

Database design and development

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| **Achieved** | **Merit** | **Excellence** |
| Implement complex procedures to develop a relational database embedded in a specified digital outcome. | Skilfully implement complex procedures to develop a relational database embedded in a specified digital outcome. | Efficiently implement complex procedures to develop a relational database embedded in a specified digital outcome. |

# Brief

**Conceptual Statement**

In this task you have been asked to design and implement a relational database that will allow the target audience (students and teachers) to collaboratively contribute to a Te Reo dictionary.

**Design Brief**

Te Reo is an official language in New Zealand and building vocabulary in young students can be facilitated by means of a simple English / Te Reo dictionary. This dictionary should include a search function and should also include vocabulary separated into broad topics such as time, animals, food, school etc. Authorised users should be able to add, delete and edit entries. They should also be able to add, edit and delete topics.

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| Design Specifications **Database Functional Specifications**   * Database should have a workable table structure which includes multiple tables, with at least **two** tables being linked together. * It should allow authorised users to add, edit and delete words from the dictionary * It should allow authorised users to add, edit and delete topics from the dictionary * It should allow users (who do not have access to the admin area) to view the vocab for each topic. It should also allow them to see a word’s definition, translation and an image (or sound file). Users should be able to search for words in either English or Te Reo * If you choose to incorporate images into your dictionary (ie: create an illustrated dictionary), and an image is not available for a given entry, a placeholder image should be used. * Data should be sanitised where appropriate * System should be comprehensively tested to ensure that it works as expected.   **Website Functional Specifications**   * Pages should be designed so that the material is easy to read and understand * The site’s navigation should be intuitive. Users should be prompted to confirm actions which cannot be undone * Site should have two distinct areas, one for users who want to view / use the dictionary and another ‘admin’ area for those with permission to add, edit and delete words / categories from the database. * Forms in site should prevent users from entering invalid data |

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| **Resources**  Please see the ‘Vocab\_list’ spreadsheet for data that could be included in the database. Your database should allow users to add to (and edit) the material. You will need to develop suitable tables for this material and may wish to use Excel’s ‘find / replace’ function to change how topics are managed. Remember that your design **must have** multiple tables, with at least **TWO** being **LINKED** together.  If you wish to make an illustrated dictionary, please use the public domain images in the assessment area / illustrations sourced from Pixabay. You have also been supplied with a place holder image that can be used for entries where no image is available. You are not required to source extra images for this project. In addition, if you are creating an illustrated dictionary, you do not have to use all of the images supplied in the ‘image\_resources’ folder. |

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| **Hand in:**   * An outline showing the initial plan for the database. This could be composed of a series of text boxes showing the tables (and columns) that will be included in the database and indicated how they will be linked together * An outline showing the initial plan for the website. This could be composed of a series of boxes showing the main areas / pages of the site and how they are linked together. * Your website * The sql for your dataase * Evidence of data validation and website testing. This can be in the form of a brief screencast or a series of annotated screenshots. |

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| **Independence**   * For the purposes of this assessment, assistance is support from other students / a teacher. Arguably, if the site is made with help from tutorials / stackoverflow students are demonstrating both initiative and independence. Note that If students are looking up things which are straight forward then they are not working at Excellence level. |

**Complex Database design – Assessment Schedule**

**Student Name**: **Assessor**: **Grade**: N A M E

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| **Specification** | **A** | **M** | **E** | **Comments / Evidence** |
| * Database design includes a workable table structure. | 🞏 |  |  |  |
| * Queries allow for the retrieval and modification of data | 🞏 |  |  |
| * Data can be changed via the website (items / topics can be added, edited and deleted) | 🞏 |  |  |
| * Design elements and formatting techniques have been applied to customise data input and display | 🞏 |  |  |
| * Data integrity and testing procedures have been applied to ensure the outcome meets the specifications | 🞏 |  |  |
| * Data access permissions have been applied (ie: only authorised users can access the admin area) | 🞏 |  |  |
| * Student has shown accuracy in the database design and implementation |  | 🞏 |  |  |
| * Student has shown independence with regard to decision making and the production of the database |  | 🞏 |  |  |
| * Database structure is efficient (no redundant data, has effective validation etc) |  |  | 🞏 |  |
| * Outcome has been produced efficiently (effective use of server side includes, code repetition minimised). |  |  | 🞏 |  |

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| **Overall Completion** | ***Tick ONE box below*** | | | **Comment** |
| * Outcome complete and functions as intended with some errors | 🞏 |  |  |  |
| * Outcome was created skilfully and is fully functional |  | 🞏 |  |
| * Outcome was created efficiently and is fully functional |  |  | 🞏 |