

**Internal Assessment Resource**

**Digital Technologies & Hangarau Matihiko Level 1**

This resource supports assessment against Achievement Standard 91880

**Standard title:** Develop a digital media outcome

**Credits:** 4

**Resource title:** Creating a 3D character for a movie clip sequence

**Resource reference:** Digital Technologies & Hangarau Matihiko 1.4C Version 1

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| This resource:   * Clarifies the requirements of the achievement standard * Supports good assessment practice * Should be subjected to the school’s usual assessment quality assurance process * Should be modified to make the context relevant to students in their school/kura environment and ensure that submitted evidence is authentic |

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| Date version published by Ministry of Education | December 2017 Version 1  To support internal assessment from 2018 |
| Authenticity of evidence | Teachers/kaiako must manage authenticity for any assessment from a public source, because students/ākonga may have access to the assessment schedule or student exemplar material.  Using this assessment resource without modification may mean that students’ work is not authentic. The teacher may need to change figures, measurements or data sources or set a different context or topic to be investigated or a different text to read or perform. |

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**Teacher/Kaiako guidelines**

The following guidelines are supplied to enable teachers/kaiako to carry out valid and consistent assessment using this internal assessment resource.

Teachers/kaiako need to be very familiar with the outcome being assessed by the achievement standard. The achievement criteria and the explanatory notes contain information, definitions, and requirements that are crucial when interpreting the standard and assessing students/ākonga against it.

**Context/Te Horopaki**

This activity requires students to develop a refined digital media outcome that will address the need to provide 3D characters for a movie clip sequence.

Conceptual development is required to be able to develop and test the media outcome.

The students may have generated this work themselves using achievement standard 91878 *Develop a design for a digital outcome* or they will be provided with sufficient developmental concepts to be able to undertake this standard.

Students will develop their outcome through the application of appropriate digital media tools, techniques and design elements.

**NOTE:**

If the teacher does intend to have students develop a 3D modelled guard unit for a short movie sequence, then they will need to provide students with appropriate final concepts that will allow students to develop a media outcome that will meet the standard required. These design conceptuals could either be teacher developed, or could have been student developed through using 91878 *Develop a design for a digital outcome* (3 credits).

Alternatively, if the teacher does not wish for students to develop a 3D modelled guard unit for a short movie sequence, then they would need to simply provide a different context with final concepts that will allow students to develop an appropriate media outcome, or have had students develop a different design concept through using 91878 *Develop a design for a digital outcome* (3 credits).

***Project based learning and collaboration***

In this resource the project outcome is only a single character that could eventually be used in an animated movie sequence.

This assessment activity may also be carried out collaboratively by a team of students, with each student contributing a unique digital character that could potentially be incorporated into a larger collaborative outcome.

For example, if the class was working collaboratively; students could all be assigned individual characters that they had either developed the design for (91878 *Develop a design for a digital outcome*) or are provided with a design conceptual, and then proceed to develop these for use in the animated movie sequence or for a similar outcome (e.g. game artefacts).

In the case of a group project, each student would be required to show evidence of planning, developing and testing their individual contribution to the project. The group should also show evidence of planning for and testing the integration of all elements to create the final outcome. The teacher will need to adapt the student instructions to suit the approach taken.

*Assess students on:*

* their application of appropriate tools, techniques and design elements in developing their refined digital media outcome
* the extent to which their digital media outcome has iteratively used information from their testing and trialling to ensure the outcome is of high quality
* the extent to which they have addressed relevant implications in the final digital media outcome.

Depending upon the focus of your teaching and learning programme, you may wish to include more detail regarding the tools, techniques and design elements that students should demonstrate in their digital media outcome.

Students should collect a range of evidence as they complete the task. This could include annotated photographs, diagrams, short video clips, or code. Give students guidelines as to how much to collect – quantity does not mean quality.

Although this assessment does not assess format or style of the evidence,you may want to give students guidance on appropriate style and format for their evidence portfolio to assist the ease of generating evidence.

**Note:** This assessment task may be modified to integrate the basic iterative processes with another type of digital technologies outcome, such as a computer program, digital information, electronics, or infrastructure outcome.

**Conditions/Ngā Tikanga**

Where a group approach is used, the teacher needs to ensure that there is opportunity for each student to provide evidence for all aspects of the standard.

The 4 credits for the achievement standard indicates that approximately 40 hours needs to be allocated for teaching, learning (in and out of the classroom) and assessment in a programme of study. Schedule regular progress checks with the students during this activity.

Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards>

**Resource requirements/Ngā Rauemi**

Students will need access to hardware and software necessary to produce and test the digital media outcome.

**Additional information/He Kōrero Atu**

***Before starting:***

Students should consider how they will use digital media to develop a 3D character for a movie clip sequence.

This consideration should include:

* basic supporting research into software that would be appropriate to develop the outcome with
* questions, such as:
  + the tools needed
  + the software tools are available in different packages
  + what software will they have reliable access to
  + what types of testing will the student do
  + will the software selection allow them to carry out appropriate data integrity and testing procedures.

Students who consider these aspects will be more prepared to meet the standard requirements.

***Trialling:***

Students should test and trial the outcome as it is being developed to help refine their outcome. Students should also provide evidence that they have carried out testing and iteratively to improve and refine their outcome. The final outcome should include evidence that the student has recognised and addressed a range of relevant implications.

***Outcome:***

Students may produce an individual 3D modelled character for possible use in a movie clip sequence. **Teachers should ensure the rigour of the outcome is appropriate for Level 6 of the NZ Curriculum** (e.g. has not been produced through a simple tutorial or basic modification of pre-designed templates/tutorial). The digital media outcome that the student is being assessed on should be an original outcome, which has been developed by the student.

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**Student/Ākonga instructions**

**Introduction/Kupu Arataki**

This assessment activity requires you to develop a 3D modelled character for a movie clip sequence.

You are only required to develop the 3D character. You are not required to animate the character.

You are going to be assessed on how well you develop your refined character through the application of appropriate digital media tools, techniques and design elements.

Teacher note: Insert due dates and timeframes

You may carry out this task by working collaboratively with a team of students. In this case, you must contribute a unique digital media artefact or outcome, for example, a unique 3D character that is to be incorporated into the larger cast of characters.

In the case of a team project, you must show evidence of designing, developing and testing your individual contribution to the project. Your team must also show evidence of designing, developing and testing the integration of all elements to create the final outcome.

**Task/Hei Mahi**

The Greater Hong Kong City State franchise are keen to develop a new advertising campaign in New Zealand for a range of autonomous guard units that they have developed. These units are dog-like machines that act as roving surveillance, security and protection devices.

You are required to design, develop and test a refined 3D modelled character that the Greater Hong Kong City State can use to showcase their new guard unit.

To develop the 3D modelled character, you need to:

* Generate design ideas or revisit previous design ideas you generated in another assessment
* Decide on how you or your team can effectively present the 3D model/s to the Greater Hong Kong City State franchise using digital media.
  + What digital media software will you require to meet this task?
  + What are the important features you will focus on to developing your design?
  + What are the starting points?
  + How will you determine the quality required?
  + How will you test the character components to determine success?

Break down your outcome into its components. Identify the different developmental stages that need to be included and add those into your planning. You are not being assessed on your planning, but you may use it to contribute to the evidence in this standard. For example:

* If you are developing the character by separating it into components, you may wish to establish expected timelines for designing, developing and testing.
* If you are working as a member of a collaborative team, plan out who will be responsible for each component and how the components will work together in the final outcome.
* Trial the components, tools and techniques to be included and refine your outcome based on evidence of your testing and trialling.
* You must show evidence that you have trialled and/or tested various components and/or techniques and have selected the ones that will work best for the purpose of the outcome. Carry out testing iteratively to ensure that your outcome functions as intended and to improve and refine the outcome.
* Describe any implications that are relevant to your outcome. Include evidence of how you have addressed these in the process of developing the outcome. For example:
  + How have you addressed ethical or intellectual property issues?
  + How have you ensured that your outcome is usable and functional for your end users?
  + How have you ensured that your aesthetic elements are appropriate for your end users and have enhanced usability?

You are going to be assessed on how well:

* you apply appropriate tools, techniques and design elements in developing your 3D character
* you apply an iterative development process to improve and refine your character
* your 3D modelled character shows evidence that you have considered testing and trialling to improve the quality
* you have described and addressed relevant implications.

**Final Submission:**

* Portfolio evidence gathered as you have completed the task that provides evidence of designing, trialling and testing your outcome.
* The final 3D character.

**Assessment schedule/Mahere Aromatawai: Digital Technologies & Hangarau Matihiko** **91880 – Creating a 3D character for a movie clip sequence**

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| **Evidence/Judgements for Achievement/Paetae** | **Evidence/Judgements for Achievement with Merit/Kaiaka** | **Evidence/Judgements for Achievement with Excellence/Kairangi** |
| Develop a digital media outcome.  The student has:   * used appropriate tools, techniques and design elements for the purpose and end users of the outcome   **For example (partial evidence):**  *The student used appropriate tools from a software package that was selected. They were able to use a range of techniques to develop an outcome. The students were able to select and use appropriate design elements, that when combined met the purpose of the design, and were appropriate for the end users. The student looked at various 3D modelling software platforms and chose the one most appropriate for the project. They have used Blender because it is open source and can be legally used without purchasing. The student could both showcase tool and technique usage through subdividing and joining meshes, the student stitched vertices, and used layers, groups, and hierarchies when organising their scenes. By assigning glossy and reflective materials they were able to use design elements of tone, texture, colour and line etc.*   * applied appropriate data integrity and testing procedures in the development   **For example (partial evidence):**  *The student tested the rendering time and quality of the components and the reflection and flow settings on materials to make sure they looked modern and metallic enough to be appropriate for a guard unit that would rely on an element of intimidation to deter people.*   * describes implications relevant to the outcome   ***For example (partial evidence):***  *The student used some tutorials to support their development,* ***and*** *describes that it is unethical to use copyrighted materials.*  *They have described that colour contrast will affect the effective representation of the character. However, the student may not have chosen the best colour options to address the considerations or could have more fully addressed these considerations.*  *The examples above are indicative samples only* | Develop an informed digital media outcome**.**  The student has:   * used information from testing procedures to improve the quality of the outcome   **For example (partial evidence):**  *The student tested colour modes on the body and legs of the character with various tone and hue pairings and made a selection based upon feedback and testing with a range of users. The student rendered the image and found that it did not display properly, so they researched a solution and updated the model.*   * addressed relevant implications in the outcome   **For example (partial evidence):**  *The student added simple bone structures to the model to allow for the character to be examined in a number of poses. The student was able to show the functionality and aesthetics of the modelling in a 3D environment. The student was able to explain why they developed the outcome the way they did, and that they ensured their outcome would not be offensive despite it being a mechanical dog-like guard unit.*  *The examples above are indicative samples only* | Develop a refined digital media outcome.  The student has:   * demonstrated iterative improvement throughout the development and testing process   **For example (partial evidence):**  *The student has iteratively improved their modelled character menu after testing with users and across a range of devices. They also improved components of the character in stages so that they were able to identify and resolve issues or flaws early in the process. The student was able to test components like colouring, materials and texturing to ensure they would contribute to the final design.*   * used design elements effectively   **For example (partial evidence):**  *The student demonstrated effective use of shape with the use of continuous Geometric-sharp edges to make the guard unit look fierce, this was accentuated by the use of graduation in colour where the student moved gradually from a dark colour to a light colour and gradually from shadow to highlight to make the head of the guard unit appear to extend abruptly from the body.*  *The examples above are indicative samples only* |

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria in the Achievement Standard.