

**ASSESSMENT COVER SHEET**

**SUBJECT: Digital Technologies TOPIC: Flash ActionScript 3.0 Programming Year Level: 10**

**Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_\_\_\_ Date Task Set: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**AC Achievement Standard:**

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| **Task Description: Collaborative Flash Assignment**In this task, you will work as a developer on a team of two to design and implement a computer game that is challenging and exciting and will be the talk of the primary school. |
| **General Capabilities met** | PEDLER7:General Cap:L.pngLiteracy | 🗸 | PEDLER7:General Cap:N.pngNumeracy | 🗸 | PEDLER7:General Cap:ICT.pngICT | 🗸 |
| PEDLER7:General Cap:cc.pngCreative and Critical Thinking | 🗸 | PEDLER7:General Cap:Personal & Social.pngPersonal and SocialCapability |  | PEDLER7:General Cap:EU.pngEthical Understanding |  | PEDLER7:General Cap:Inter Understanding.pngInterculturalUnderstanding |  |
| **Cross-curriculum** **Priorities met** | Aboriginal and Torres Strait Islanders Histories and Culture |  | Asia and Australia’s Engagement with Asia |  | Sustainability | 🗸 |

**Performance Standard / Assessment Criteria**

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|  | ***Design the user experience of a digital system by evaluating alternative designs against criteria including functionality, accessibility, usability, and aesthetics (ACTDIP039)*** | ***Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases (ACTDIP040)*** | ***Implement modular programs, applying selected algorithms and data structures including using an object-oriented programming language (ACTDIP041)*** | ***Plan and manage projects using an iterative and collaborative approach, identifying risks and considering safety and sustainability (ACTDIP044)*** |
| **A** | Highly skilled development of a GUI based on user requirements that is functional, aesthetically pleasing and accessible for the end user. | Accurate use of flow charts and pseudocode to create algorithms to achieve outcomes or solve a problem. | Highly skilled development of an efficient and effective solution to a problem using a programming language. | Insightful and proactive contribution to collaborative work. | Highly skilled development of a well-considered plan to manage collaborative projects. |
| **B** | Skilled development of a GUI based on user requirements that is functional. Aesthetically pleasing and accessible for the end user. | Mostly accurate use of flow charts and pseudocode to create algorithms to achieve outcomes or solve a problem. | Skilled development of an efficient and effective solution to a problem using a programming language. | Consistent and effective contribution to collaborative work. | Skilled development of a plan to manage collaborative projects. |
| **C** | Competent development of a GUI based on user requirements that is functional. Aesthetically pleasing and accessible for the end user. | Generally accurate use of flow charts and pseudocode to create algorithms to achieve outcomes or solve a problem. | Competent development of an efficient and effective solution to a problem using a programming language. | Effective contribution to collaborative work. | Competent development of a plan to manage collaborative projects. |
| **D** | Some development of a GUI based on user requirements that is functional. Aesthetically pleasing and accessible for the end user. | Some basic use of flow charts and pseudocode to create algorithms to achieve outcomes or solve a problem. | Partial development of a basic system using a programming language. | Some contribution to collaborative work. | Partial development of elements of a plan to manage collaborative projects. |
| **E** | Limited development of a GUI based on user requirements that is functional. Aesthetically pleasing and accessible for the end user. | Limited use of flow charts and pseudocode to create algorithms to achieve outcomes or solve a problem. | Limited development of any elements of a basic system. | Limited contribution to collaborative work. | Attempted development of a plan to manage collaborative projects |
|  Strengths &ideas forimprovement | **TEACHER’S COMMENT** *Teacher Signature : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* *Date:\_\_\_\_\_\_\_\_\_\_\_* | **FINAL GRADE:** |

**Year 10 Digital Technologies**

**Collaborative Flash Assignment**

**Task Outline**

This task builds on the knowledge and skill gained from the Choose Your Own Adventure assignment. The following list is a summary of the key concepts explored to date.

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| --- | --- |
| * Designing Flow Charts
* Writing algorithms
* Event Listeners
* Calling functions
* Creating Variables
* Control structures – sequence, selection
 | * Static, Input and Dynamic Text Boxes
* Buttons
* MovieClips
* Moving Characters via Keyboard
* Collision Tests
 |

In this task, you will work as a developer on a team of two, each member being responsible for different routines and aspects of the program. You will also consult with an end user who will be a student from our primary school. This student will become a valuable source of feedback during the development and final implementation phase of your project.

**The Brief**

Using the Agile approach your development team is to design and implement a computer game that is challenging and exciting and will be the talk of the primary school.

The game must include:

* A welcome screen outlining the controls and functions
* A background designed by you
* A main MovieClip object that moves in several directions
* A way of resolving the game (The game ends when the ball touches the base line)

The game may include (extended options):

* A method of scoring
* Different levels with increased difficulty

You are also required to produce appropriate programming documentation to demonstrate the development process and provide an evaluation.

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| **Agile – Definition** |
| Characterised by quickness, lightness, and ease of movement; nimble. 2. Mentally quick or alert: an *agile* mind. |
| The **agile approach to software development** involves the speedy delivery of solutions to the user. Working versions are regularly delivered, each version building on the last. This approach responds well to changing and evolving specifications. Utilising close collaboration with end users, their feedback and needs drive the direction of the development. |

**Year 10 Digital Technologies**

**Game Development Document Scaffold**

**Story Board**

Create a storyboard for your game. You need to sketch each screen as well as the characters in your game. Use the following pages to do this.

**Story Board pg 2**

**Assigning Tasks**

Clearly divide and assign the programming tasks that need to be carried out as per the example below.

|  |  |
| --- | --- |
| **Developers Name** | **Task** |
| Joe | Create background |
| Joe | Create buttons |
| Joe | Program the main character |
| Sally | Create characters |
| Sally | Create Welcome screen |
| Sally | Program the collisions and Score |

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| --- | --- |
| **Developers Name** | **Task** |
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**Data Dictionary**

Create a data dictionary for all objects (MovieClips, buttons, text boxes etc) and variables needed in your game.

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Default Values(s)** |
| btnPlay | Play Button | - |
| score | Keeps track of the score | 100 |
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**Algorithm Development Page 1**

Use flow charts or pseudocode (or both) to describe the algorithms that you will need to use for the routines that you are producing in your game. Eg, moving objects, detecting collisions, getting user input.

Developers Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Routine: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| Date programmed: |
| Evaluation: |

**Algorithm Development Page 2**

Developers Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Routine: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| Date programmed: |
| Evaluation: |

**Algorithm Development Page 3**

Developers Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Routine: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| Date programmed: |
| Evaluation: |

**Create**

Follow your storyboard/designs, flow chart/pseudocode to code create your game. List any changes or problems you encounter below, showing screen shots were appropriate and how you overcame the problem or why you had to make the changes you made.

**Evaluation**

What is the name of our game?

Provide a brief overview of your game.

From observation and discussion with your end user, respond to the following questions.

1. Aesthetics - Does your end user find the UI (User Interface) interesting an appealing? Why is this so
2. Ergonomics – Does your end user find the game intuitive and easy to use? Does the welcome screen give a clear overview of the game and its controls? Justify this response based on your observation and or interview.

**Evaluation Continued**

Complete the following questions from discussion with your development team.

1. What were the most challenging parts of this task for your team? How did you overcome them?
2. What have your learnt about team work?
3. How do you rate the success of your game? Why is this so?
4. If you were handing this project on to another development team for further improvement, what suggestions would you make?