Mo Cap Animation Project

**Motion capture** (Mo-cap for short) is the process of recording the movement of objects or people. It is used in military, entertainment, sports, medical applications, and for validation of computer vision and robotics.

In filmmaking and video game development, it refers to recording actions of human actors, and using that information to animate digital character models in 2D or 3D computer animation.

In many fields, motion capture is sometimes called **motion tracking**, but in filmmaking and games, motion tracking usually refers more to **match moving**.

**Storyboards** are graphic organizers in the form of illustrations or images displayed in sequence for the purpose of pre-visualizing a motion picture, animation, motion graphic or interactive media sequence.

The **storyboarding process**, in the form it is known today, was developed at the Walt Disney Studio during the early 1930s, after several years of similar processes being in use at Walt Disney and other animation studios.

**Plot**: is the literary element that describes the structure of a story. A plot diagram is an organizational tool, which is used to map the significant events in a story. By placing the most significant events from a story on the plot diagram, you can visualize the key features of the story. The basic triangle-shaped lot structure was described by Aristotle in 350 BCE. Aristotle used the beginning, middle and end structure to describe a story that moved along a linear path, following a chain of cause and effect.

**STEP ONE: REVIEW** the attached existing **Storyboard** for a commercial production.

**STEP TWO: WRITE** your own **Plot Diagram** and outlining the major events in your Mo Cap Animation **Storyboard** (Short Story animation or commercial) **NOTE**: No offensive subject matter - this is a Catholic school. Mo Cap recording has limitations: **no facial gestures or hand gestures** can be recorded with the Microsoft Kinect scanner – only arms, torso and legs gestures.

**STEP THREE: STORYBOARD** your plot using the attached storyboard paper. Your **storybook** must follow the following **PLOT FORMAT** if you are telling a Short story in your animation.

1) Introduction of characters
2) Rising Action
3) Climax
4) Denouement/Resolution

Get approval from the teacher before your start drawing your Mo Cap Animation Storyboard.

**STEP FOUR: Mo Cap** your actions using the **Unity** software and **Mo Cap plug in** and **Microsoft Kinect scanner** and then **ANIMATE** your various components in **Unity**. Consider: Movement, Pacing, Length of shots.

**STEP FIVE: REFLECT** on your project once it's finished by answering the following questions:

1) What aspect of your work do you find most successful and why?
2) What aspect of your work do you find least successful and why?
3) If you could do this project again, what changes would you make to improve it?
Storyboard for a Commercial Production
The commercial's goal was to show device that informs about the freshness of the food or beverage.
<table>
<thead>
<tr>
<th>Achievement Criteria</th>
<th>Level 0</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
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</thead>
<tbody>
<tr>
<td><strong>Thinking/Inquiry</strong></td>
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<tr>
<td>Concept &amp; Meaning:</td>
<td>Work does not meet assignment s expectation s for this category. Incomplete.</td>
<td>Concept is slightly unclear and/or weak. Meaning or ideas conveyed are below expectations for student's grade level. Applies some of the elements &amp; principles of design while composing work.</td>
<td>Concept is clear and valid. Meaning or ideas conveyed are on par with student's grade level. Applies considerable elements &amp; principles of design while composing work.</td>
<td>Concept is clear and strong. Meaning or ideas conveyed are above expectations for student's grade level. Applies substantial elements &amp; principles of design while composing work.</td>
<td>/2</td>
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<tr>
<td>Mo Cap Animation</td>
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<tr>
<td><strong>Knowledge/Understanding</strong></td>
<td>Work does not meet assignment s expectation s for this category. Incomplete. Incomplete.</td>
<td>Work demonstrates limited effectiveness in demonstrating the process of following procedures and skill development.</td>
<td>Work demonstrates some effectiveness in demonstrating the process of following procedures and skill development.</td>
<td>Work demonstrates considerable effectiveness in demonstrating the process of following procedures and skill development.</td>
<td>/5</td>
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<tr>
<td>Creativity &amp; Originality:</td>
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<td>Commercial/Short Story:</td>
<td>Incomplete.</td>
<td>Incomplete.</td>
<td>Incomplete.</td>
<td>Incomplete.</td>
<td>/10</td>
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<td><strong>Application/Creation</strong></td>
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<td>Process: Demonstration of Skill Development &amp; Following Procedures including Clean Up</td>
<td>Student demonstrates limited effectiveness in demonstrating the process of following procedures and skill development.</td>
<td>Student demonstrates some effectiveness in demonstrating the process of following procedures and skill development.</td>
<td>Student demonstrates considerable effectiveness in demonstrating the process of following procedures and skill development.</td>
<td>Student demonstrates superior effectiveness in demonstrating the process of following procedures and skill development.</td>
<td>/2</td>
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<tr>
<td>Completion (Plot Diagram, Storyboard, Mo cap, Animate)</td>
<td>The submitted work appears obviously incomplete. Much more effort could have been included: time has obviously been mismanaged.</td>
<td>The submitted work appears slightly incomplete. Some additional effort could have been included: time has been slightly mismanaged.</td>
<td>The submitted work appears mostly complete. Minimal effort additional effort could have been included and time has been managed well.</td>
<td>The submitted work appears totally complete. No additional effort could have been included: time has been managed in an exemplary manner.</td>
<td>/5</td>
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<tr>
<td>Detail</td>
<td>Work demonstrates limited detail.</td>
<td>Work demonstrates some detail.</td>
<td>Work demonstrates substantial detail.</td>
<td>Work demonstrates exemplary detail.</td>
<td>/5</td>
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<tr>
<td><strong>Communication</strong></td>
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<td>Clarity: Commercial/Short Story Beginning, Rising Events, Climax and Resolution</td>
<td>Work demonstrates limited degree of clarity in the chosen theme.</td>
<td>Work demonstrates some degree of clarity in the chosen theme.</td>
<td>Work demonstrates considerable degree of clarity in the chosen theme.</td>
<td>Work demonstrates high degree of clarity in the chosen theme.</td>
<td>/2</td>
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<tr>
<td>Reflection Questions</td>
<td>Work demonstrates vague/incomplete.</td>
<td>Answers are somewhat clear and complete.</td>
<td>Answers are clear and complete.</td>
<td>Answers are clear &amp; exemplary.</td>
<td>/31</td>
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A1. The Creative Process: apply the creative process to create a variety of art works, individually and/or collaboratively:
A1.1 use a variety of strategies, individually and/or collaboratively, to generate ideas and to develop plans for the creation of art works (e.g., in small groups, use brainstorming, research, concept webs, and/or mind maps to generate original and imaginative ideas; filter their ideas to select a suitable one to serve as the basis for their art work; use notes and/or thumbnail sketches to help them develop clear and flexible plans that show attention to detail; revise their plans on the basis of peer- and self-assessment)
A1.2 use experimentation, reflection, and revision when producing a variety of art works in each of the following areas: drawing, sculpture, painting, printmaking, and mixed media (e.g., experiment with a variety of materials/media, techniques, and tools to find ones that are appropriate for their planned art work; reflect on their preliminary work and on feedback from their peers before revising their art work)
A1.3 document their use of the creative process in a portfolio (e.g., include evidence of their conceptual, creative, and technical skills; include thumbnail sketches, checklists, and/or graphic organizers to show evidence of experimentation, reflection, and revision), and refer to this portfolio to reflect on how effectively they have used the creative process.

A2. The Elements and Principles of Design: apply elements and principles of design to create artworks for the purpose of self-expression and to communicate ideas, information, and/or messages;
A2.1 use various elements and principles of design to create art works that express personal feelings and/or communicate emotions to an audience (e.g., create a mixed-media self-portrait that uses colour, line, and shape in the style of Frida Kahlo to convey their personality and elicit emotions from the audience)
A2.2 apply elements and principles of design as well as art-making conventions to create art works that communicate ideas, information, or messages, and/or that convey a point of view on an issue (e.g., use colour, line, shape, contrast, and emphasis when creating a graffiti piece that addresses an issue in their local community; incorporate symbolism to communicate a message about an environmental issue)

A3. Production and Presentation: produce art works, using a variety of media/materials and traditional and/or emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others.

3.1 explore and experiment with a variety of materials/media, including alternative media, and traditional and/or emerging technologies, tools, and techniques, and apply them to create art works
A3.3 demonstrate an understanding of a variety of ways in which art works can be presented to reach different audiences

B1. The Critical Analysis Process: demonstrate an understanding of the critical analysis process by examining, interpreting, evaluating, and reflecting on various art works;
B1.1 identify and describe their initial reactions to a variety of art works, and explain the reasons for their reactions (e.g., the aspects of the work and/or their personal experiences that contributed to their first impressions of its mood, subject, intent)
B1.2 identify and describe the elements and principles of design used in their own art works and the works of others, and describe their effects (e.g., how line, colour, and shape are used to create emphasis, mood, and/or movement)
B1.3 explore and interpret a variety of art works, both historical and contemporary, to identify and describe their purpose and style, the materials used, and the meanings the works convey
B1.4 use a variety of strategies (e.g., peer- and self-assessment, formal critiques, feedback and reflection following public displays) to identify and reflect on the qualities of their own art works and the works of others, and evaluate the effectiveness of these works

B2. Art, Society, and Values: demonstrate an understanding of how art works reflect the societies in which they were created, and how they can affect personal values;
B2.1 identify and describe the function of various types of art works
B2.2 identify and describe ways in which various art works reflect the societies in which they were created (e.g., with reference to the use of available materials, cultural influences, the depiction of current events or issues important to that society, the purpose of the work, the views and beliefs of audiences at the time)
B2.3 identify and describe ways in which creating and/or analysing art works has affected their personal identity and values (e.g., with reference to their self-concept, their awareness of stereotypes, their approach to fashion, their attitudes towards objects associated with particular cultural groups, their ability to express their emotions)

C1. Terminology: demonstrate an understanding of, and use correct terminology when referring to, elements, principles, and other components related to visual arts;
C1.1 use appropriate terminology related to elements and principles of design when creating and analysing art works (e.g., when comparing the use of line, colour, shape, and contrast in African textiles with those in medieval illuminated manuscripts; when demonstrating or describing how to create an area of emphasis using colour, contrast, and shape)
C1.2 use appropriate vocabulary to describe techniques, materials, and tools when creating and presenting visual art works (e.g., dry brush; layering; pinhole camera; washes; techniques and tools used to create flipbooks, illuminated manuscripts, mosaics, stained glass works)
C1.3 identify and describe the stages of the creative process and the critical analysis process (e.g., how reflection relates to the other stages of the creative process)

C2. Conventions and Techniques: demonstrate an understanding of conventions and techniques used in the creation of visual art works;
C2.1 demonstrate an understanding of a variety of techniques that artists use to achieve specific effects (e.g., the use of atmospheric perspective to create the perception of depth, the use of additive and subtractive sculpture to explore space and form, the use of layering to provide a sense of dimensionality)
C2.2 demonstrate an understanding of several conventions used in visual art works (e.g., exaggeration, metaphor, simile, symbols, synectics; conventions associated with heroic, narrative, naturalistic, and satirical works)

C3. Responsible Practices: demonstrate an understanding of responsible practices in visual arts.
C3.2 demonstrate an understanding of safe and conscientious practices associated with the use of materials, tools, and technologies in visual arts, and apply these practices when creating and/or presenting art works (e.g., use appropriate precautions when dealing with hazardous materials; adopt protective measures when using sharp tools; keep their work space clean and free of physical and other hazards; demonstrate respect for classroom facilities, tools, equipment, and technological devices)