

Creating a virtual costume in Tiltbrush

Year level: Year 8 and Years 9-10

(please note students must be 13 years or older to use Oculus Quest)



Image: Rebecca Vivian, CSER Group

Summary

In this lesson, students create a costume in Virtual Reality (VR) using the Tiltbrush application and the Tiltbrush Dress Form template. Tiltbrush is a VR experience that enables users to create and design in a 3D immersive environment with a VR headset.

This lesson can be used to complement Design and Technologies, History, English or Drama, in which students are creating costumes for known figures in history, characters in plays or literature. Alternatively, if there is no specific brief, students could create any costume that they like for any context, such as a movie, an event or for a movie or gaming character.

Required Resources

1. Virtual Reality headset with Tiltbrush installed, such as Oculus Quest.
<https://www.oculus.com/experiences/quest/2322529091093901>
2. A Poly Account at <https://poly.google.com> (This should match the Tiltbrush account that is logged in to share sketches). A desktop computer will be required if viewing creations on Poly. However, creations can be saved as sketches to Tiltbrush and viewed in VR.
3. Watch an artist create a dress in Tiltbrush
<https://virtualart.chromeexperiments.com/artists/katie-rodgers/sessions/blue-dress>
4. A print out of a Dress Form on paper for students to draw on, or have students draw on blank paper.
1. [Optional support] Access to Tiltbrush Tutorial Video Guides:
youtube.com/watch?v=GdfEnmpdYzI or Website instructions:
support.google.com/tiltbrush/answer/6389712

Suggested steps

The following are some suggested steps to implement the lesson.

1. To have an idea about what the Tiltbrush app can offer (to inspire students when creating their designs) it is recommended that students are exposed to the Tiltbrush environment. Students start by experiencing drawing in Tiltbrush. Students explore the various colours and paintbrush textures by drawing and decorating their name in the VR experience. Provide a time limit cap (e.g. 5 minutes) so that every student has a turn.
2. Students view a video/s demonstrating how designers are using Tiltbrush to create 3D objects and artefacts.
 - a. You can find your own but one we recommend is a Visual Art Experiment video of Katie Rodgers:
<https://virtualart.chromeexperiments.com/artists/katie-rodders/sessions/blue-dress>
3. The teacher provides the context and brief for the costume design activity. Some of the following are some ideas:
 - a. Design a costume for a character from the novel [NAME, e.g. The Great Gatsby and design their costume.].
 - b. Take a character from an older novel/film and design what their costume would look like 20 years from now (e.g. Romeo & Juliet).
 - c. Design a costume for the school play.
 - d. Take a historical figure and present a costume.
4. Students create a “vision board” for their costume design, collecting images, colour palettes, inspiration and information that capture the essence of the character (personality, role, motivations) and relevant themes and representations to guide the design of their costume.



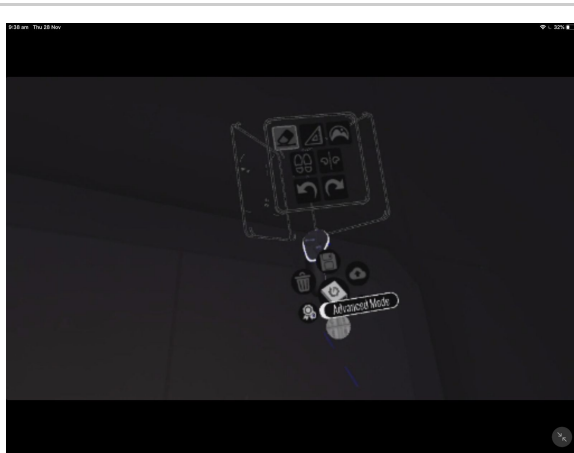
An example vision board for Gatsby from the Great Gatsby by Scott F Fitzgerald.

5. Using their vision board, students begin to create a sketch design of their concept on paper. Students add multiple layers, introducing colours and texture ideas. Students annotate their sketch to include notes and points that help them in their creation process.

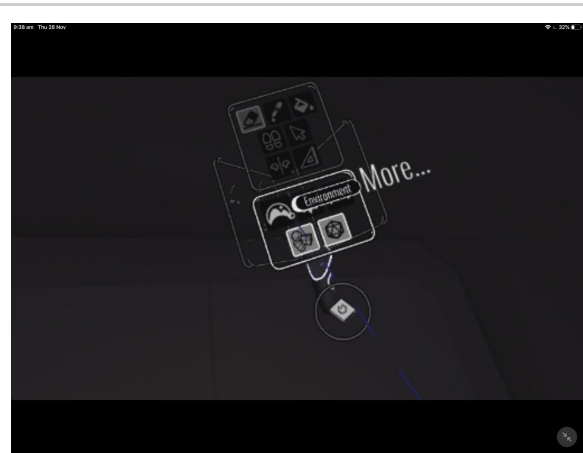


Image: Wikimedia Commons

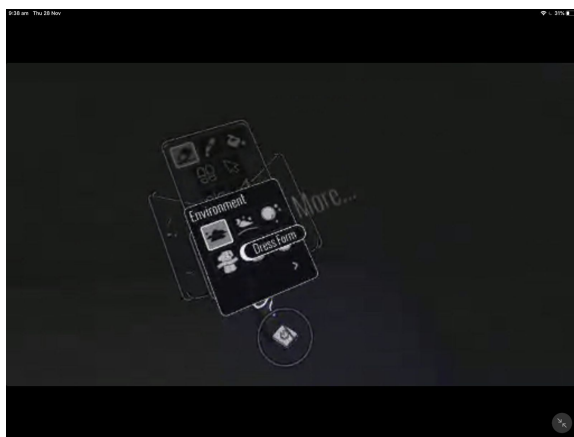
6. Once students have created their sketch design, they begin to create their VR design using the Tilt Brush app. Students select “Create New” and locate the Dress Form template. See instructions below.



- a) Select or check that you are in “Advanced Mode” on your palette panel next to your account icon (rather than “Beginner Mode”).



- b) Rotate your palette until you find the option to click on “Environment”.



- c) Select “Dress Form”.



- d) Begin creating by drawing on the Dress Form. Try to get up close and flat against the Dress Form. Make use of the various paintbrushes, textures and colours. Please let students know that this is a “sketch” to present a conceptual idea and it may not be perfect (it’s quite a complex thing to

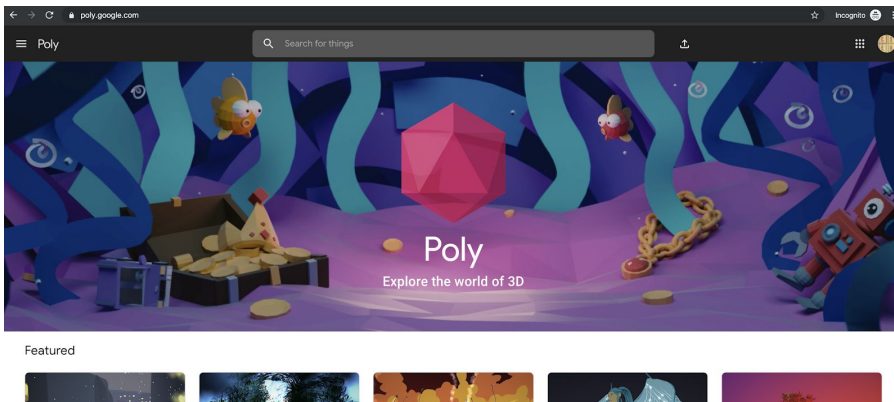
paint in 3D!). Marking should be based on conceptual design and variety of brushes and detail, in addition to supporting report, planning documents or presentations, rather than on the “perfection” of a 3D model.

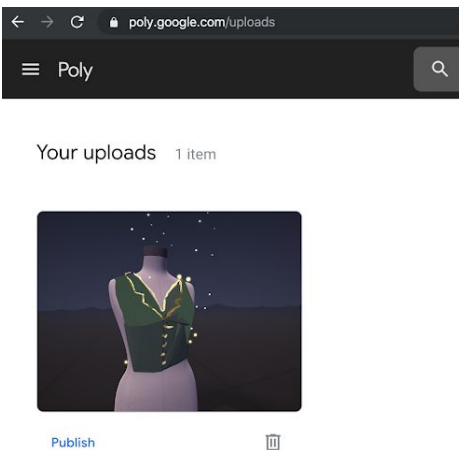

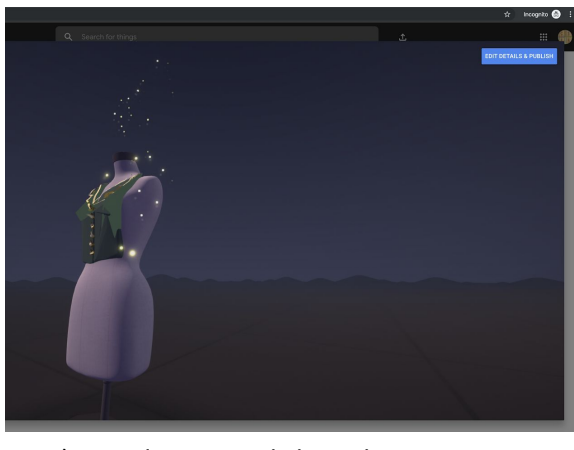
As part of the creation process, have students make note of the paintbrushes and features to note down in their portfolio and report.

7. Using the Dress Form template, students begin to create their costume.
 - a. [Please note it is recommended that students spend no more than about 15 minutes at a time in a VR headset. Encourage students to swap regularly].
 - b. While painting, you can save your sketch to avoid losing changes. Navigate to the “Tools” panel in the palette, and select the “Save” icon. Take a snapshot of your sketch to use as a thumbnail image. Your sketch is now added to your Sketchbook.
8. Once students have completed their sketch, they can upload it to Poly to be viewed and shared by others. Go to the “Tools” panel on the palette. Select “Upload”.



- a) Once the upload is complete, it will appear on the Poly Account of the user that was signed in. Log into Google Poly at www.poly.google.com. Once logged in, click on the three horizontal lines next to “Poly” on the top left-hand corner. Navigate to “Your Uploads”.



 <p>Your uploads 1 item</p> <p>Publish </p> <p>b) You will see all your Tiltbrush to Poly uploads here. You can “Publish” if you wish, however, please note that this goes to public viewing. You may like to keep this private and share only with the class as unpublished. Taking “screen-captures” is another way around saving and sharing work without publishing to Poly.</p>	 <p>c) Students can click on their creation and navigate around the object using their mouse and by clicking to rotate around the Dress Form and zooming in and out.</p>
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9. Students write a report or record a video presentation that describes their design motivation and underpinning concept, as well as an explanation of their design process and the digital materials used to achieve their goal. Students reflect on the success of their digital artefact in line with their design goals.

Discussion

- What ideas and information can we consider about our character to inform the design of their costume?
- In what ways does Tiltbrush help you communicate your design that you couldn't on paper alone?
- How easy/challenging is it to draw in 3D? What factors do we need to consider? What were the best brushes for your design goals?

Why is this relevant?

Students learn about how Virtual Reality (VR) is being used for costume/fashion creation by seeing others model virtual drawings in Tiltbrush. This demonstrates cutting-edge practices in harnessing digital technologies for various design processes across industries (e.g. costume creation, fashion, car design and more).

In this activity, students are engaging Computational Thinking skills and knowledge in order to break down their problem (a character costume) and plan an appropriate solution. Students are using design documents and planning in order to build their creations.

Assessment

Students produce a portfolio that includes:

1. Design documents (including paper sketches and vision board)
2. A written text describing the chosen character (traits, personality, role, etc), the conceptual vision and design considerations, along with a critical explanation of the design process, technologies and 3D paintbrush tools selected and used to create the costume design and a self-reflection about learning processes and the final product.
3. Photos of the final 3D costume (screen captures) or a link to the artefact in Google Poly to view.

Portfolio checklist

The following checkboxes could be considered as part of an assessment checklist or rubric for this lesson.

The student:

- Generates and develops plans and processes using appropriate technical terms and a demonstrated iterative approach in design.
- Communicates plans and processes using appropriate technical terms and graphical representations.
- Describes and uses appropriate project management processes when working individually.
- Can select and justify choices of materials, components, tools, equipment and techniques to make designed solutions.
- Safely operates VR equipment and tools when creating designed solutions.
- Critically evaluates their solutions, design processes and tool selection.

For further advice, examples and support around assessment please visit the Digital Technologies Hub at digitaltechnologieshub.edu.au/teachers/assessment.

Curriculum links

Links with the Digital Technologies curriculum area

Year band	Strand	Content description
Years 7-8	Knowledge and Understanding	Plan and manage projects that create and communicate ideas and information collaboratively online, taking safety and social contexts into account (ACTDIP032)
Years 9-10	Processes and Production Skills	Create interactive solutions for sharing ideas and information online, taking into account safety, social contexts and legal responsibilities (ACTDIP043) Plan and manage projects using an iterative and collaborative approach, identifying risks and considering safety and sustainability (ACTDIP044)

ADD Links with other curriculum areas

Year band	Learning area	Content description
Years 7-8	Design and Technologies	Generate, develop, test and communicate design ideas, plans and processes for various audiences using appropriate technical terms and technologies including graphical representation techniques (ACTDEP036)
Years 7-8	Design and Technologies	<p>Select and justify choices of materials, components, tools, equipment and techniques to effectively and safely make designed solutions (ACTDEP037)</p> <p>Use project management processes when working individually and collaboratively to coordinate production of designed solutions (ACTDEP039)</p>
Years 9-10	Design and Technologies	<p>Investigate and make judgements, within a range of technologies specialisations, on how technologies can be combined to create designed solutions (ACTDEK047)</p> <p>Develop project plans using digital technologies to plan and manage projects individually and collaboratively taking into consideration time, cost, risk and production processes (ACTDEP052)</p>



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