

Learning Innovation and Technology

The Learning Innovation and Technology team actively supports technology infrastructure related to medical education, providing an innovative educational experience through the use of advanced technology, using the latest educational teaching and learning tools. The team works closely with medical faculty and administrators to produce videos relevant to medical education showcasing innovative teaching, provide learning solutions, and support education technology infrastructure.

A) Video production

The video production team produces videos for medical training and education. These include creating visual effects for videos that can be distributed via digital format such as Web, CD-ROM or DVD.

The video production process starts with an initial consultation to better understand your needs. Our producers, camera crew and video editors will maintain continuity throughout the project and follow your production from beginning to end.

Video Production Process

Stage 1: Pre-Production

- Project Information Gathering - A meeting will be arranged to understand your expectations and requirements for the project. During this meeting, the budget will be determined and project details should be provided
- Quotation - A quotation will be prepared based on your requirements. The production will commence once the quotation is approved.
- Outline and Script Review - You will provide all information pertaining to the production of the video. Once the materials are gathered, our team will work on the style and content with you to develop a script.
- Shot List Preparation - Once the script is finalised, a storyboard will be created. A storyboard is a sketch of all contents that are mapped out before the shoot commence.

Stage 2: Production

- Video Shoot - Based on the storyboard and script, all onsite footages will be captured.
- Narration Recording - The narrator will record the narration which helps to increase the impact of visual storytelling.

Stage 3: Post-Production

- Digital Editing - The editing process begins, based on the approved script. Once ready, the first draft will be available for your review. Upon your feedback and approval, a final video will be created.
- Mastering and Duplicating - The final video will be mastered onto digital format such as Web, CD-ROM or DVD.

Uses for Video

- Video is an extremely powerful media that can be used for several applications; these include Employee Training Videos - Explanation of standard procedures and responsibilities involving different hierarchy. Approximately 5 to 10 minutes.
- Product Training Videos - Provide a quick reference guide for your medical products. Approximately 5 to 10 minutes.

- Scenario Based Training Videos - Re-enactment of case studies for learners to review. Approximately 2 to 4 minutes.

B) 2D/3D animation and visual effect:

The following services are available for Medical training and education:

- (1) 3D medical animations - to depict medical process or to illustrate a medical concept.
- (2) 2D medical animation services are useful in explaining detailed anatomy, treatment processes, physiology and other health related areas.

The process starts with an initial consultation. The animator will then develop the animation according to your requirements and produce the medical animation in your preferred format (e.g. video, eLearning content, or printed material). If you require PowerPoint presentations for teaching or medical conference, we can create animations with intricate details.

3D Development process

Stage 1: User's Requirement, concept and storyboarding

- Project Information Gathering - A meeting will be arranged to understand your expectations and requirements for the project The 3D artist will draft out the scope of work and timeline for the project
- Resource gathering and accuracy check - Once you provide the relevant images or references, we will verify its accuracy. The development work will start once the information have been collated and verified.

Stage 2: 3D Prototype modeling/1st review

Initial prototype begins at this stage, the artist will produce draft 3D model based on the information provided. At this stage, the model would be un-textured and non-detailed. After the first draft of the 3D model is complete, the draft 3D model will be send to you for comment and review.

Stage 3: 3D model texturing & detailing/2nd review

Once the draft is approved, details and textures will be added. Further modeling and detailing will be done by the 3D artist. After completion, a second meeting would be scheduled with the client to review the 3D model. After the meeting, 3D artist would do minor tweaks to the model as required by the client.

Stage 4: 3D model rendering and rigging

At this stage, the client will decide if the 3D model will require any additional stages or proceed to the rendering stage (Stage 7). The next stages (4 to 6) are optional and can be provided upon request. At rendering stage (stage 7), a simple light rig and static camera will be added and the model would be rendered in a single still frame with an image output. Only one minor change can be made at this stage should there be any discrepancies found in the rendering process (e.g. Jpeg file).

Stage 5: Animation/Lighting/Composition and Visual FX

This development stage is optional based on request. You can request for the following options:

i. Complex Lighting Rig and Shadows

At this stage, complex lighting rig will be added to the scene to light up the 3D model, complete with

light and shadow areas (option to choose between soft and hard shadows). Lights can also be animated and rotated upon request. Once the lighting render is completed and approved by you, a few still frames will be rendered with an image output. (E.g. Jpeg)

ii. 3D model Animation

At this stage, objects can be animated (e.g. beating heart). Two reviews can be made for the client to ensure the object is animated accurately. Once complete, you will receive the animation in video format (e.g. Mp4, MOV) and still frames of the object.

iii. Camera Animation and labeling (Basic)

You can choose different views and perspective of the 3d model. At this stage, the Basic Camera Animation can be created. This means the camera will rotate around the 3D model and create animation. The 3D model can be labeled for better understanding. When this is complete, you will receive the animation in video format (e.g. Mp4, MOV) and still frames of the object.

iv. Camera Animation and labeling (Advanced)

You can opt to choose the Complex camera animation. This includes non-uniform animation of the camera, for example zooming in, tracking of object and any non-standard camera movement in 3D space. This would enhance the user's learning experience as the different 3D model parts can be seen up-close, which aids understanding. You can specify which angle or perspective you wish to have rendered. The 3D model can also be labeled for better understanding.

C) Innovation Technology

The team supports the innovative use of technology in the teaching and learning process, including the use of the following systems:

- 1.E-Learning solution(LMS)
- 2.E-Lecture solution (LRS)
- 3.Education Management System (EMS)
- 4.Event Registration System (ERS)

The team can support research on innovative teaching and provide learning tools such as Audio/ Video conferencing system, LIVE simulcast solution, 3D scanner, classroom teaching tools using mobile app.