

# ANIMATION WORK WITH YOUNG PEOPLE

## INTRODUCTION

This is a guide for adults who would like to enable children and young people to create simple animated films. It will describe ways of doing this in a workshop setting, ie. in a period of time set aside to work with an individual or group.

Each animation workshop will depend on the abilities and interests of the young people participating, and the size of the group. Animation requires close supervision, so it is best to work with a small group (less than ten). If you are working with young people with special needs or severe physical disabilities, it is preferable to work one to one.

When working with someone for the first time it is useful to check whether they have done any animation before, and what kind of animation they like to watch. It can be helpful to show examples of techniques similar to the ones that you are planning to use in the workshop.

This guide provides a basic introduction to working with young people using three different methods of animation:

## STOP MOTION

This is a way to create the illusion of movement by filming a series of still pictures of 2D cut-outs or 3D models, changing their position each time. This guide explains how to create stop motion animation using a digital video camera and iStopMotion software.

## PIXILATION

This is a form of stop motion animation that uses objects or real people instead of models. This guide describes using a digital still camera and iMovie or iStopMotion software to do this.

## 2D COMPUTER ANIMATION

This is a way to create two dimensional drawn animation. This guide describes using Flip Boom animation software to do this.



Animating 3D models



2D cut-out animation

## USING ANIMATION SOFTWARE

This guide shows iStopMotion and Flip Boom animation software in use on a Mac computer. Both programmes are also available for PCs.

You may also wish to use editing software such as iMovie (for Macs) or Movie Maker (for PCs) to complete the film. If you want to add music to the film, GarageBand software is a good option for Mac users, and Mixcraft is the nearest equivalent for PCs.

Take time to become familiar with the software and equipment you are planning to use in the workshop. Make sure that the equipment can be adjusted to meet the needs of the workshop participants.

## WHICH TECHNIQUE?

The choice of which technique to use will depend on the interests and abilities of the young people you are working with. For example, what level of manual dexterity do they possess? Would they enjoy working alone, or in a group?

Most children enjoy stop motion animation as it involves making models, but it also requires some ability to manipulate small objects. Young people who like to draw may prefer to make and animate a 2D cut-out. A child with very limited movement but who can use a computer mouse is likely to get most out of Flip Boom software. Pixilation using real people might be most suitable for a group of children with a high level of mobility, but it could also be an interesting experience for young people using wheelchairs. It can even be done outdoors.

The duration of the workshop will also determine which animation techniques can be used. Stop motion or pixilation techniques are the most suitable for short workshops of up to 4 hours, but can also be used for longer workshops or several sessions with the same group. Flip Boom is more suitable for use over a longer period of time (ideally with one computer per child), as it can take several hours to produce just 30 seconds of animation.



Making a 3D model



Making artwork

## PLANNING A SHORT WORKSHOP

Although animation does not have to be character based, young people usually start by creating a character and making up a story to go with that character. A simple stop motion workshop could start with making characters, either 2D cutouts or 3D plasticine models. Once the characters are made, the action can be planned, and props and backgrounds made.

Plan to spend about a quarter of the time available making characters and planning the action, and the rest of the time filming the animation, as this can be very time consuming.

## CREATING CHARACTERS

Young people will choose the materials that they prefer to work with. If they are confident at drawing, they could create 2D paper cut-out characters, if not, plasticine and/or objects are easier to use. Plasticine can be used to make 3D models, or flattened and used like a 2D cut-out. If time is short, you can customise objects eg. by drawing on faces or sticking on eyes.

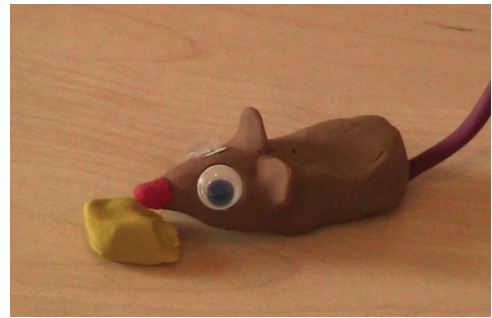
## MAKING 2D CUT-OUTS

**Materials** - paper or plasticine, felt pens or crayons, thin card, scissors, blu-tack, thin matt photographic paper

**Equipment** - photocopier, computer & printer

Copy a drawing on the photocopier several times to make enough parts for a jointed figure. Cut the copies, not the original. If several different expressions are needed make blank heads and give them to children to draw in the required expressions. Join the parts with blu-tack.

Cut-outs can also be made from original photographs, or from pictures or photos in magazines or newspapers. Print photos from the computer using thin matt photographic paper, or photocopy newspaper or magazine photos using the same paper. Cut out and stick the joints together with blu-tack.



3D plasticine model



Plasticine used in 2D



Front of cut-out



Back of cut-out

## MAKING 3D MODELS

**Materials** - plasticine, wire, pipe cleaners, model eyes, blu-tack, lego, small boxes, toys or other small objects.

The main challenge with 3D models is keeping them balanced upright during animation. When making a 3D model, children often start with the head. If this is made of plasticine, it can be quite heavy. A model with more than two legs will be more stable, and big feet and legs will support the weight of a plasticine head and body. You can also try building the model around a wire skeleton. If necessary, 3D objects can be propped up from the side not seen by the camera during animation.



Model with a wire skeleton

Objects like fruit, small boxes, lego, or small toys can also be animated. Any object can be personalised either by drawing a face on it with permanent felt pens, or sticking on features like eyes, cut out mouths etc. Lego figures are particularly good for animation, stabilised by putting small pieces of blu-tack under their feet.

## PLANNING THE ACTION

Before starting to animate, plan the action. A simple storyboard can be drawn up, using stick figures or photographs and a brief description of the action in each picture. Make sure that there is a satisfactory ending to the story.

It is good to think about using different views of the scene when drawing up the storyboard. There are three basic views (called shots).

**Wide shot** - broad panorama, the whole stage of your scene - used to establish the scene.

**Mid shot** - closer up, eg your character - used to show interaction between characters.

**Close up** - head or other relevant detail of character or scene - used to show emotional reaction or to show that the character is talking, thinking etc.



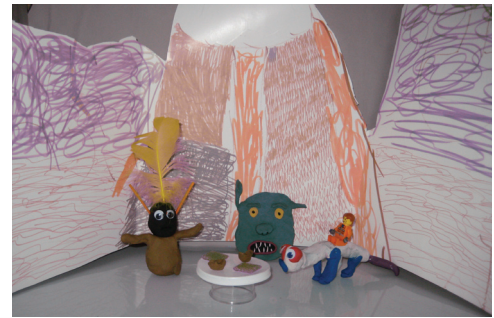
A photo storyboard

## BACKGROUNDS & PROPS

Keep the backgrounds as simple as possible. Plain coloured paper with simple line drawings is often all that is needed. Collage can be better than painting for backgrounds. All kinds of small objects can be used as props.

## VOICE TRACK

If you plan to have voices on the soundtrack it is a good idea to record them at this stage and time them. This will show how long each scene will need to be to fit with the voices.



A simple background

## CAMERA AND LIGHTING

For 2D animation the camera is positioned above the artwork, for 3D animation it is placed to the side, level with the models being filmed.

Normal daylight or artificial light is usually sufficient when using digital cameras, which are very sensitive. When using daylight the light may fluctuate, so try not to position the set in front of a sunny window, for example. If additional lighting is needed two small tabletop lamps can be used to illuminate the action, placed one on each side of the set.

If you can afford additional lighting you can buy a cool fluorescent lighting kit. It is best not to use hot lights for safety reasons when working with young people



Lighting using lamps

## ANIMATING

To produce the illusion of motion, timing of the movement is important. In traditionally animated films twenty four still pictures (frames) are used to produce one second of animation. When using iStopMotion, you can choose to film at twelve frames per second, which means that twelve small movements will be seen as one second of animation when the film is viewed.

It is always a matter of trial and error to get things moving at the correct speed, so it is a good idea to keep playing back the animation to check whether the timing is correct.

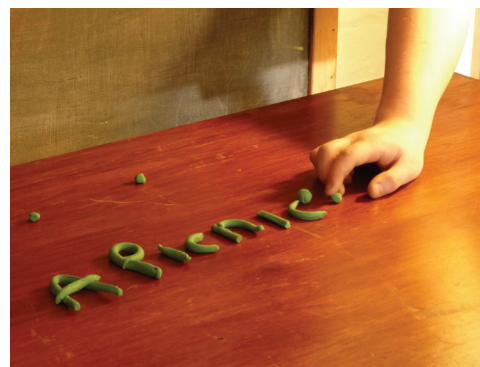
If several children are working together to film a scene, allocate one character per child. The young person who is operating the computer will have the role of director. It is a good idea to rotate the roles, so that all the participants have a chance to do a variety of jobs during the production.

Try to stick to the storyboard or plan of action. Stories have a tendency to become more elaborate during the course of the animation, which can mean that the planned project may not get finished.

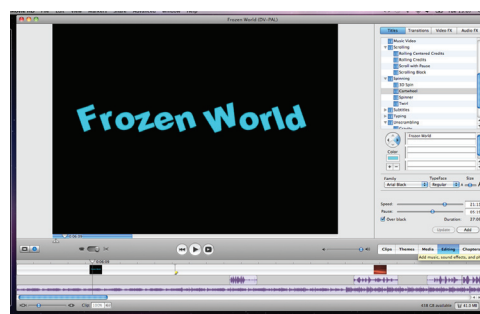
### TITLES & CREDITS

These can be animated using the same technique as the rest of the film, or they can be added digitally using the titling software in an editing programme. If you have not got much time, it is best to use the titling software.

Credits are very important to children, sometimes more important than the animation, so make sure that everyone gets to see their name on the film.



Plasticine titles



Titles made in iMovie

# STOP MOTION ANIMATION

Using iStopMotion to animate models, cutouts, or objects.

**Equipment** - digital video camera, tripod, Mac computer with iStopMotion software installed.

## SETTING UP

Set up the camera on the tripod, connect it to the computer and turn it on. If you are using a battery powered camera make sure that the battery is fully charged. iStopMotion will sometimes refuse to capture images if the camera battery is low. If it is a Mini DV camera make sure that there is no tape in it.

Open the iStopMotion application. Enter the title of the project in the Save As box, and select Desktop from the Where menu.

If you do not select Desktop, the programme will automatically save the project in Movies. It is better to save it on the Desktop, because you can easily see that the project is there before you close the programme. If you cannot see the icon representing your project on the Desktop, do not close iStopMotion without making sure that it has been saved.

The preset format should be either DV PAL or DV PAL Widescreen, and the frame rate should be 12 FPS (Frames Per Second). Click Create.

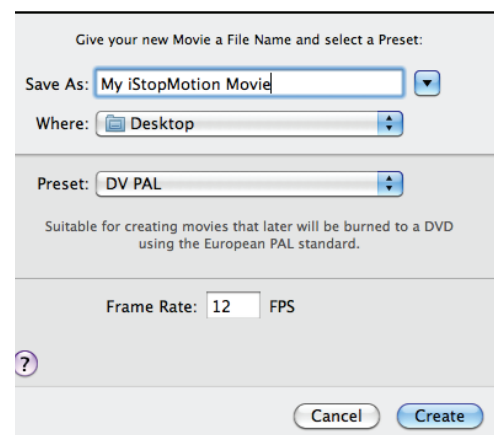
To enable the computer to connect to the camera, go to Source, click Device, and select the camera that you are using, eg. MV 960.

If you cannot see the camera in the Device list, make sure that the camera is switched to record mode. If it is in playback mode the software will not be able to link to it.

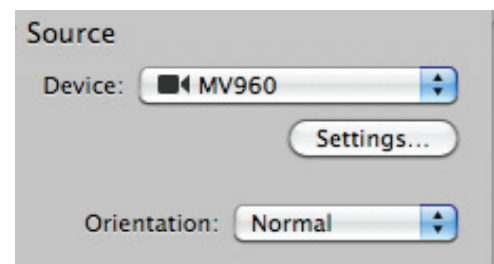
On the computer screen you should now see a picture of your scene. If all you are getting is a grey screen, your camera is not connected. Check the connection, and make sure that the lens cap is off.



Equipment set up



Giving your project a title



Selecting the camera device



Seeing your picture

## CAPTURING ANIMATION

To capture the animation press the red button. Under the red button there is a frame line and the captured frame will appear highlighted and numbered.

The frame line is divided into one-second intervals (12 frames per second).

Immediately above the frame line is the Overlay button. When moved to the right it shows the picture seen through the camera, when moved to the left it shows the last captured image.

This button normally stays in the middle which gives a double image each time the object is animated. This is known as onion skinning. It allows you to have better control of the animation, as it enables you to see the relationship between the scene in the previous frame and the scene in the current frame, after the objects or characters have been moved.

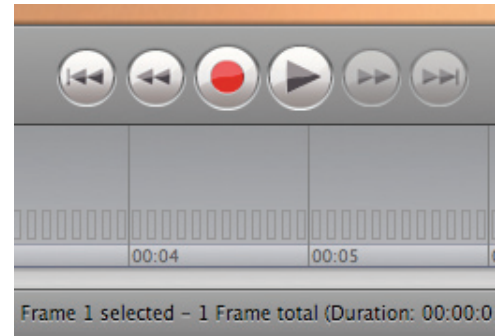
At the beginning and end of each scene always shoot 12 frames without any movement. This will give a one-second hold, allowing the viewer a chance to understand the set up before the movement begins.

The animation can be checked at any time using the Play button which is located to the right of the red button that is used to capture the images.

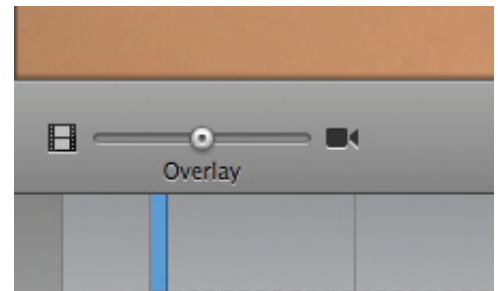
To delete a frame, go to the frame line and highlight the frame you want to delete. Choose Delete from the menu. You will then see the deleted frame disappear.

If you need to slow down the animation you can use some of the frames more than once to lengthen or pause the action. You can do this by clicking on Edit and selecting Copy and Paste. Once the frame has been copied it can be pasted as many times as needed to obtain the appropriate pace of animation.

You can also copy and paste larger sequences of animation by selecting a group of frames



Capture button



Overlay button



Onion skinning



on the frame line. To do this, click on the first frame of the group, hold down the Shift key on the keyboard, and click on the last frame of the group. The group should now be highlighted. You can now cut, copy, delete or move this group of frames. This also enables you to repeat a movement several times in a cycle.

## EXPORTING ANIMATION

After the animation sequence is completed you will need to export it. This is done by creating a Quicktime file.

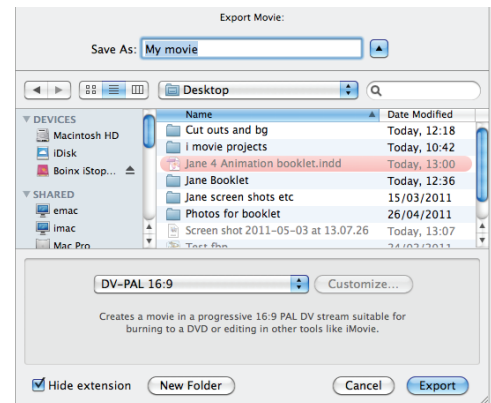
Go to the File menu and select Export. The programme will automatically want to export the project to Movies. Change the location to Desktop. Press Export. When this is finished check that the animation is on the desktop. Save it and close iStopMotion. Both the iStopMotion file and the Export.dv (Quicktime) file should now be visible on the desktop.

The files produced by iStopMotion are very large and should not be saved on the computer as they quickly clog up the system and slow down the processing power of the computer. They should either be saved onto an external hard drive, or deleted as soon as you have successfully created an Export.dv file.

## EDITING & MUSIC

Once you have created an Export.dv file you can export the project to an editing programme such as iMovie or Movie Maker where you can piece together different bits of animation, and add a title and credits.

Music and sound effects are best added in a specialised programme such as GarageBand. It is best to do all of the sound in this programme because iMovie has only got two tracks for sound, while in GarageBand any number of tracks can be made and then modified with much better controls. GarageBand is only available for use on Macs, Mixcraft is the nearest equivalent for PCs.



Exporting movie in iStopMotion



Editing animation in iMovie

## PIXILATION

Using iStopMotion or iMovie software to animate images from a digital still camera.

**Equipment** - digital still camera, tripod, computer with iStopMotion or iMovie software installed.

## ANIMATION

This is done either by taking pictures of real people or objects in different positions, as if they were models in animation, or by taking still shots in quick succession during normal movement.

Make sure that the picture size in the camera settings is set low (0.3 megabytes is a useful size), otherwise the files will rapidly become too large to work with. The camera is not connected to the computer during shooting. Afterwards the still photos can be imported into either iStopMotion or iMovie.

### To continue in iStopMotion

Connect the still camera to the computer. Name the project and then choose Desktop as the location to save the new file. Then go to Movie on the tool bar. Click on Import Images, and select From Still Camera. Highlight the beginning and end image from the sequence by pressing Alt and Shift keys on the computer and click Import.

Each image will be imported to a frame. You will need to Copy and Paste frames in order to prolong your animation as otherwise it will go too fast.

### To continue in iMovie

Another way to import images, especially if you have not got a large number of photos, is to import the images from the camera into iPhoto. Once you have done this open iMovie. Click on Media button (right hand side above the timeline), then click Photos, at the top right. The window with all the photos in iPhoto will appear.



A sequence of pixilated film

Choose the photos you want to import by highlighting them, then click on Show Photo. A black box will open at the bottom left. Make sure that both buttons are moved to the far left and that the Ken Burns Effect box is not ticked, and then click Apply.

If you tick the Ken Burns Effect your photos will be imported with camera moves and transitions. This is not very useful for pixilation, because it slows the animation down too much.

Your photos will be imported into the timeline at 4 frames each. If you wish you can alter the lower button on the Photo Settings box and import each photo so that it lasts up to 5 seconds.

## FLIP BOOM ANIMATION

This is a software programme designed for young people that uses icons with a minimum of words. It involves drawing and manipulating 2D images. Flip Boom software is very straightforward to use. The animation does not take up much space on the computer but the picture retains its quality when it is shown on a big screen.

**Equipment** - computer with Flip Boom software installed.

### ANIMATION

Open the Flip Boom programme. Type the name of the project and click Create.

Explore what the icons mean by looking under File, Edit, Play and Tools in the tool bar on top of the page.

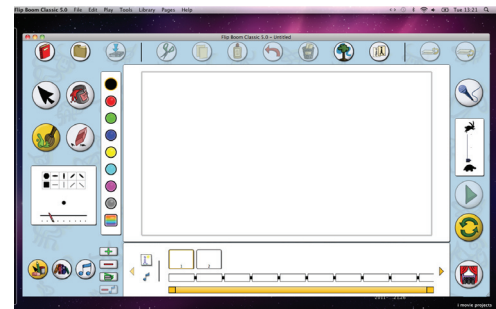
Objects can be imported from the library, you can then change their size, and/or distort them, and also manipulate them as if they were cut-outs.

Children can also draw with the mouse or with a finger on the touch pad. A colour wheel with the full range of colours appears when the square at the bottom of the palette bar is clicked.

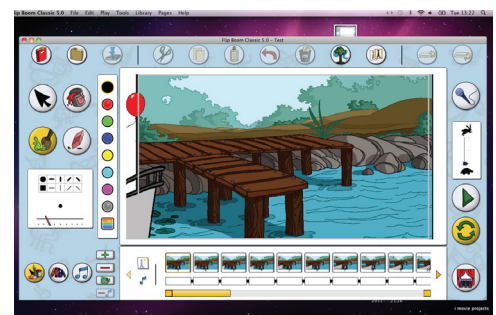
The drawings can be coloured digitally, but the area that is to be coloured needs to be completely enclosed within an external line, or the colour will flood the whole page.

To copy a frame there is a button on the left hand side, under the + and – buttons, which can be used to remove and insert the new frames. The drawing and painting tools are all on the left hand side together with the library of images.

On the right hand side of the frame are the play button, and the publish button. The publish button is at the bottom right hand side of the frame (the button shows a red stage) and it gives a range of exporting options. If the animation is to be edited in iMovie choose Quicktime export.



Flip Boom software



Flip Boom animation

# RESOURCE LIST

## BOOKS

STOP MOTION Susannah Shaw *ISBN: 0-240-52055-1*

THE COMPLETE ANIMATION COURSE Chris Patmore *ISBN: 0-240-80582-5*

CRACKING ANIMATION Peter Lord & Brian Sibley *ISBN:0-500-2816-8*

THE ANIMATION BOOK Kit Laybourne *ISBN:0-517-88602-2*

TIMING FOR ANIMATION John Halas *ISBN:0-240-50871-8*

## SUPPLIERS

[www.chromacolour.co.uk](http://www.chromacolour.co.uk)

## SOFTWARE

[www.boinx.com/istopmotion/overview/](http://www.boinx.com/istopmotion/overview/) (for iStop Motion and Flip Boom)

[www.toonboom.com/fun/](http://www.toonboom.com/fun/)

## FILMS

[www.youtube.com](http://www.youtube.com) (for examples of films showing different techniques)

## 2D animation

Leeds Animation Workshop

Anita Killi

Yuri Norstein

Andrey Shushkov

BLU

## 3D animation

PES

Jan and Eva Svankmajer

## Various

Best of Annecy Festival

This resource was produced by Leeds Animation Workshop for a project involving animation workshop sessions at Martin House Children's Hospice, Wetherby, and St Gemma's Hospice, Leeds. The project was funded by the Department of Health £30m Children's Palliative Care Fund.

Leeds Animation Workshop is a not-for-profit workers' co-op making animated films to raise awareness of social issues. We also run tailor-made courses and workshops in a wide variety of educational settings.

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