

Zu3D User Guide

This help file was written for Zu3D (Studio3) Version 3.0.

There are also a full range of tutorial videos available at

<http://www.zu3d.com/tutorial-videos>

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The Welcome Screen

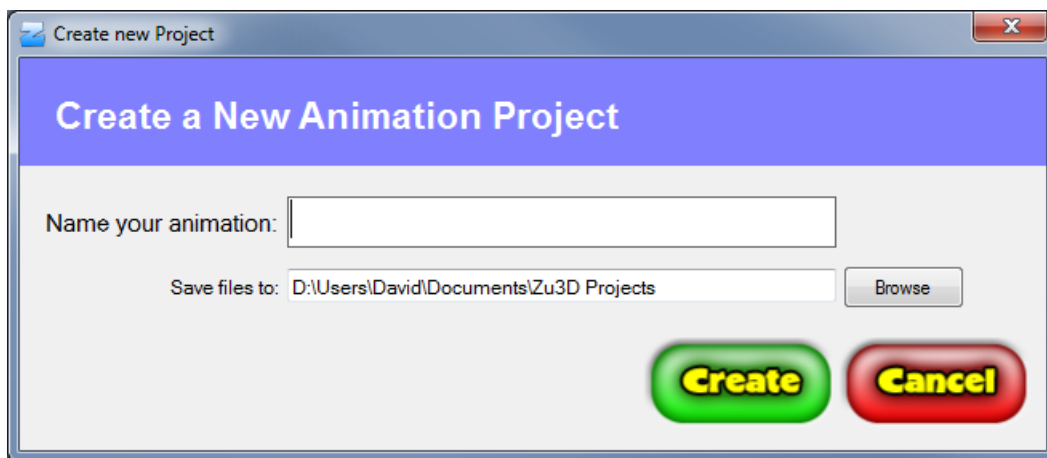
When you first open the program you are greeted by the Welcome Screen.



Here you have the following options:

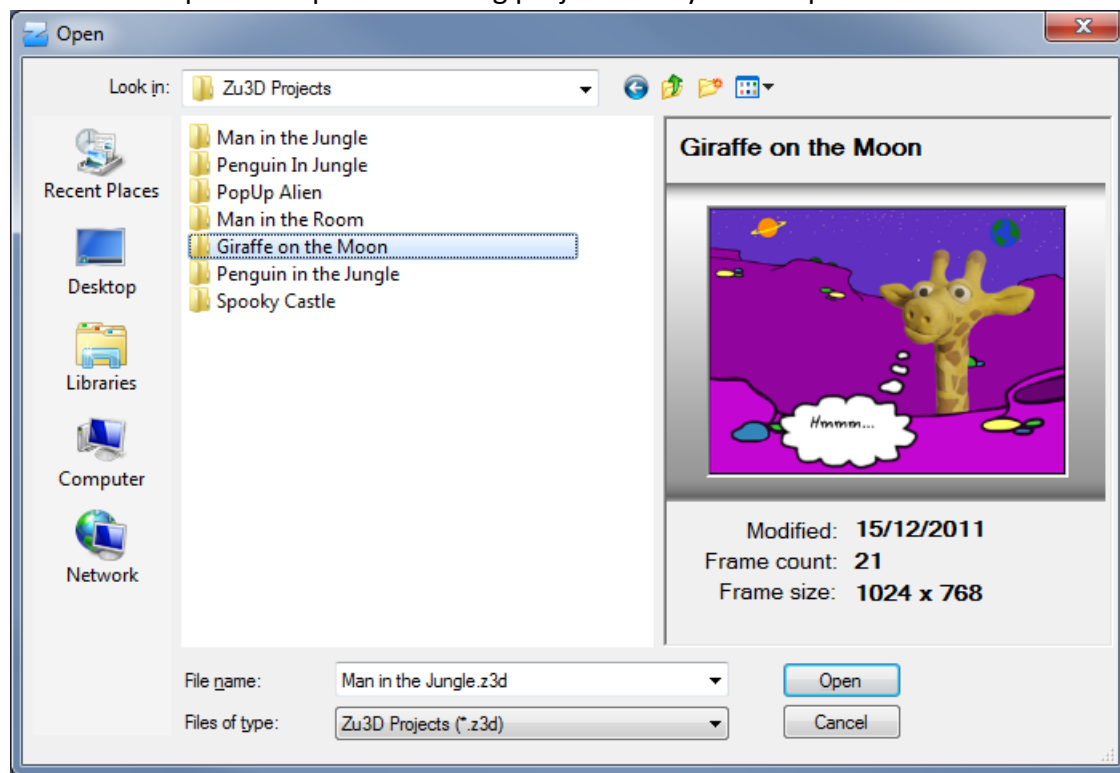
New Project

Start a new animation project. This is the option you should choose the first time you use the program. This will open the New Project dialog box; here you can enter in a name for your project, and choose where you would like the project files to be created.



Open Project

Choose this option to open an existing project from your computer.



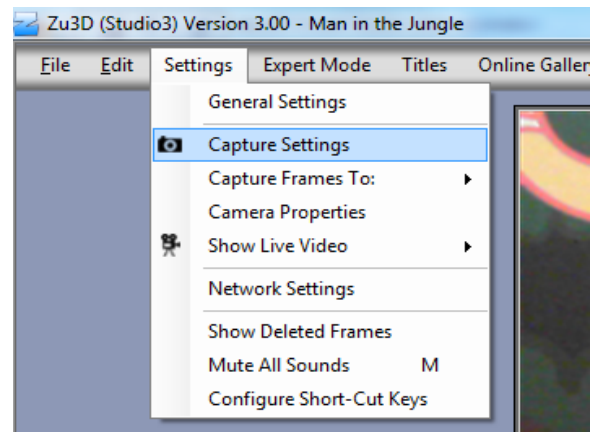
Exit

Close the program.

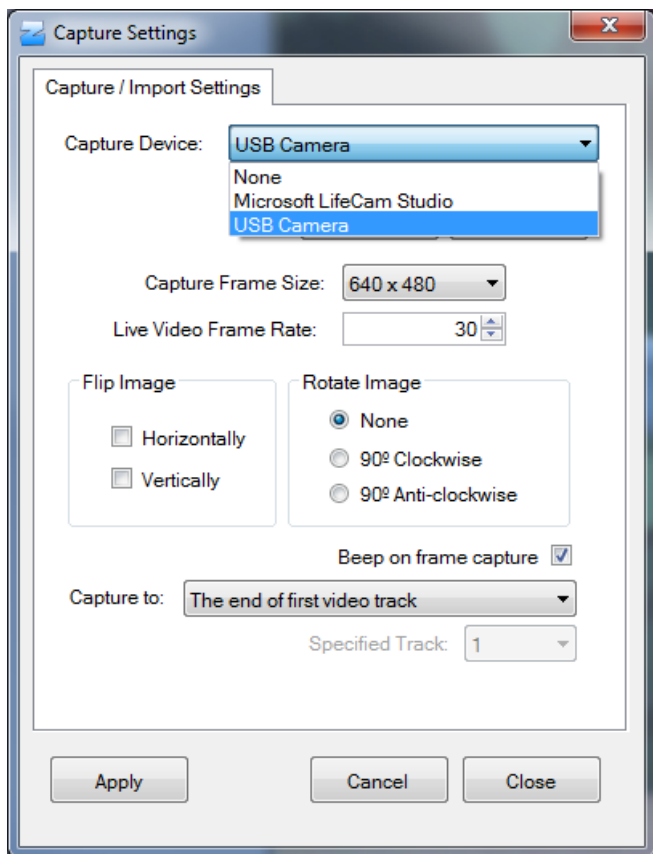
You can also open any of the projects you have been working on recently by clicking on the project's name in the Recently Opened Projects list, located in the [File Menu](#).

Checking and Choosing Your Camera

Once you have either created a new project or opened an existing project, Zu3D will automatically connect to any webcam that might be connected to your computer. The image from the webcam should be displayed in the preview window. If you have more than one webcam connected to your computer, for example a laptop with an inbuilt webcam as well as an external webcam attached, Zu3D might connect initially to the wrong camera. To correct this, click on 'Settings' in the main menu along the top then 'Capture Settings'.



The Capture Settings window will open.



You can now use the Capture Device drop down list to select the correct camera. The image in the main preview window will then update to show you the image from the selected webcam.

This window also allows you to set the size of the images that Zu3D will capture from your webcam.

The bigger the image the better quality your final film will be, but your project will take up more disk space and it will take longer when you come to output your film.

NB. Whilst you are working on your film in Zu3D, a low resolution (smaller) image is displayed in the preview window, however when you export your film the full quality image is used.

If you don't see the image from you camera or get an error message see the [Troubleshooting](#) section for further assistance.

Capturing Frames



When you have opened or created a new project, and your camera is connected, you will be taken to the [Main Interface](#). Here you should be able to see the image from your camera displayed in the [Preview Window](#).

To start animating straight away, click on the red Capture button:

You can also press “CTRL+ENTER” on your keyboard to take a single frame, or press any number between 1 and 9, to take 1 to 9 frames respectively. (E.g. press 5 to take 5 frames at once).

This will take a snapshot from your camera and add it to the timeline at the bottom of the screen. These frames make up your animation.



Playing Your Animation

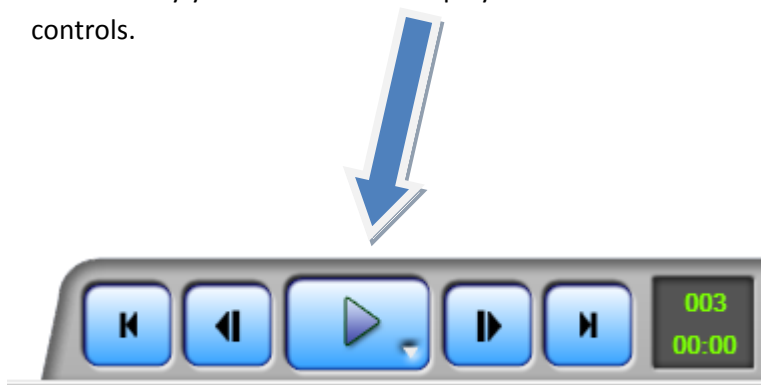


To quickly play your film click on the green Play button next to the red Capture button.

Your film will be played back from the position of the red play cursor (this will be the frame currently displayed in the preview window). If the play cursor is at the end of your film it will be play from the beginning.

Alternatively you can use the blue play button in the timeline controls.

The timeline controls give you more control over the play back of your film and allow you to step through your film or jump to the beginning or end. See the section on [The Timeline](#) for more information.



The Interface



The Zu3D interface is divided into three main areas as follows:

1) The Preview Window

This area shows you the current frame of your animation and the live video that is coming from your camera. When you play your animation it is shown here.

2) The Playback Controls

These buttons allow you to playback your animation, jump to the start or to the end and step forwards or backwards through individual frames.

3) The Control Buttons

These buttons and tabs allow you to control all the many functions of Zu3D

4) The Timeline

The timeline is where you can see your whole animation laid out in a way that is easy to visualise.

The Preview Window



This area shows you the current frame of your animation and the live video that is coming from your camera. When you play your animation it is shown here.

By default the preview window shows you the current live video from your camera, overlaid upon the last frame of your animation, or just the current frame of your animation as selected on [the timeline](#).

When using the [magic rubber](#), [drawing tools](#), or [green screening tools](#), you can use the mouse to draw directly on to the images displayed in this area.

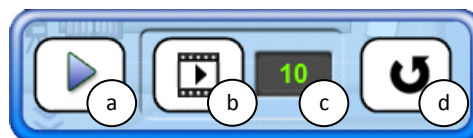
The Playback Controls



These buttons allow you to playback your animation, jump to the start or to the end and step forwards or backwards through individual frames.

1) The Play Button

Click this button to play back your animation from the current position of the play cursor (the red line on the timeline). If you right click on this button you can set various options for the way Zu3D plays back as follows:



- a) Standard Playback Mode - Click this button to enable standard playback, this means when you click the play button your animation will play all the way through from the current position of the play cursor.
- b) Preview Playback Mode - Click this button to enable preview playback, this means when you click the play button Zu3D will play back the last few frames of your animation and then show the live view from your webcam. You can set the number of frames to be played back in the box next to this button (c). This mode is useful if you have a long animation and you want to see how just the last little bit of your film is looking, and how the next frame (which you haven't captured yet) might look as part of your film.
- c) The number of frames to play when in Preview Playback Mode, just click in this box and enter a number of frames to change it.
- d) Enable / Disable Looping. Click this button to enable playback looping. This means when Zu3D gets to the end of the film when playing it will automatically loop back to the beginning. When this mode is enabled the button goes yellow.

Shortcut key: SPACE

2) Jump to First Frame

Click this button to jump straight to the first frame of your animation. This is useful if you want to quickly go back to the start of your film to watch it from the beginning.

Shortcut key: HOME

3) Step Back One Frame

Click this button to step backwards one frame in your animation.

Shortcut key: LEFT ARROW

4) Step Forward One Frame

Click this button to step forward one frame in your animation.

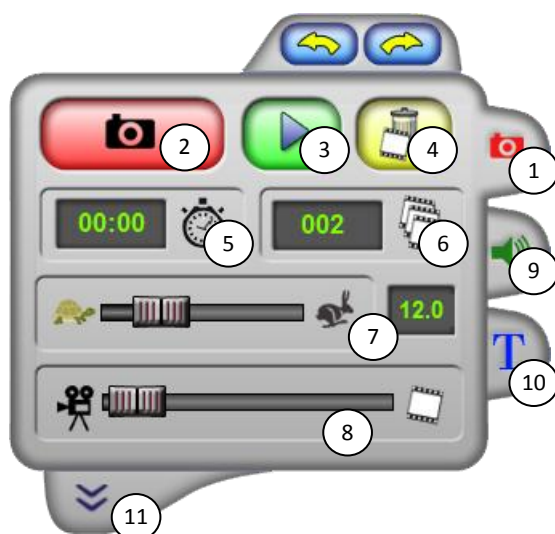
Shortcut key: RIGHT ARROW

5) Jump to Last Frame

Click this button to jump to the last frame of your animation. This is useful to jump to the end of your animation to continue animating.

Shortcut key: END

The Control Buttons - Animation Controls



1) Animation Controls

When the red camera tab is selected the 'Animation Controls' are displayed. These are the buttons which are useful when capturing the frames which make up your animation.

2) Take a Frame

Press this button to capture a new frame into your animation. *Shortcut key: "CTRL+ENTER" or the numbers 1-9 take 1 to 9 frames respectively. (E.g. press 5 to take 5 frames at once).*

3) Play

Playback your animation, by default this button will play back your whole animation, just the same as the main play button in the [timeline controls](#). *Shortcut key: [SPACE]*

4) Delete Current Frame

This button will delete the current frame of your animation (the one that is currently displayed in the preview window). To delete multiple frames and other timeline objects use the timeline object delete button, see the [timeline controls](#) section for more information. *Shortcut key: [DELETE]*

5) Current Animation Time

This displays the current time in minutes and seconds of the selected frame in your animation. When the last frame of your animation is selected this shows how long your film is in minutes and seconds.

6) Current Frame Count

This displays the position of the selected frame in your animation. When the first frame is selected it would display 1, the second frame 2 and so on. To see how many frames are in your animation select the last frame and then look here.

7) Frame Rate Slider

To slow down your animation slide this bar towards the tortoise, to speed it up slide it towards the hare.

Shortcut keys: [<] - Slow down, [>] - Speed up

8) Live Video Transparency

Live images from your camera will be shown over the top of your last frame. Moving the slider bar to the left will make the live video *more* transparent, whilst moving it to the right will make it *less* transparent.

9) Audio Tab

This opens the [Audio Controls](#) which allow you to import and record audio into Zu3D.

10) Titles Tab

This opens the [Title Controls](#) which allow you to add and manage titles in Zu3D.

NB. We recommend keeping your frame rate to a least 12 frames per second - just move your characters a very small amount so the action isn't too fast. However, if you are just starting out in animation don't worry if you need to set your frame rate lower to get the results you want.

11) Expand Controls

Clicking the expand tab extends the animation controls box.

12) Drawing Tools Tab

This opens the [Drawing Tool Controls](#) which allow you draw on your frames and create hand drawn animations.

13) Chroma-Key (blue/green screening) Tab

This opens the [Chroma-Key Controls](#) which allow you to remove the background from frames.

14) Magic Rubber (Rig/Removal) Controls

These buttons control the magic rubber (rig removal) which allow you rub out hands and strings. See the section on the [Magic Rubber](#) for more information.

15) Import / Capture Options

These buttons allow you to

- a) Import Images or Video into Zu3D
- b) Record live video from your webcam
- c) Import another Zu3D project into this project
- d) Record Time-lapse Films

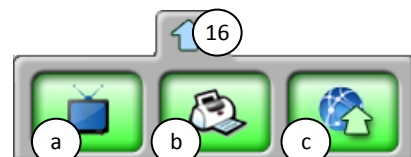
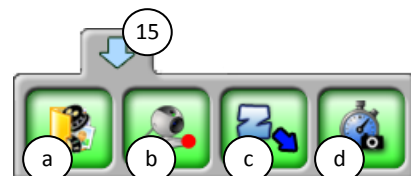
See the section on [Importing / Capture Options](#) for more information.

16) Export Options

These buttons allow you to

- a) Export your film to a WMV, AVI or FLV file
- b) Print your film as a story board, posters, or flick-book
- c) Upload your film to the internet

See the section on [Export Options](#) for more information.



The Magic Rubber (Rig Removal)

The magic rubber tool allows you to rub strings or hands or anything else from your image. It is designed to be used when you are filming in front of a real background (not a blue/green screen). The magic rubber works by allowing you to choose an image which will be the 'source' for the 'rubber'. When you draw with the magic rubber you are actually drawing from the source image over the top of the current image.

If for example you had two frames, both showing the same background, but in one frame a string is visible, in the other it is not. The second image without the string can be used as the source (or plate) image. By using the magic rubber on the first image (with the string in it) you can 'rub out' over the area of the image that shows the string, and the corresponding parts of the source image will be drawn over the string, making the string disappear.

NB. If you are filming a scene where you are planning to use the magic rubber (e.g. making a character fly using a string or wire, or pencil) it can be a good idea to capture a frame of the background before you put any characters or strings in the scene. You can then use this frame as the source frame for the magic rubber. The frame can always be deleted when it is no longer required.



1) The Magic Rubber Tool

Select this tool to draw onto the current captured image using the currently selected source frame. The default setting for the magic rubber is to use the previous frame of your animation as the source frame. To configure the magic rubber to use a different frame click on the Configure Magic Rubber button (3). If you right click on the magic rubber button you can change the size and fuzziness of the rubber.

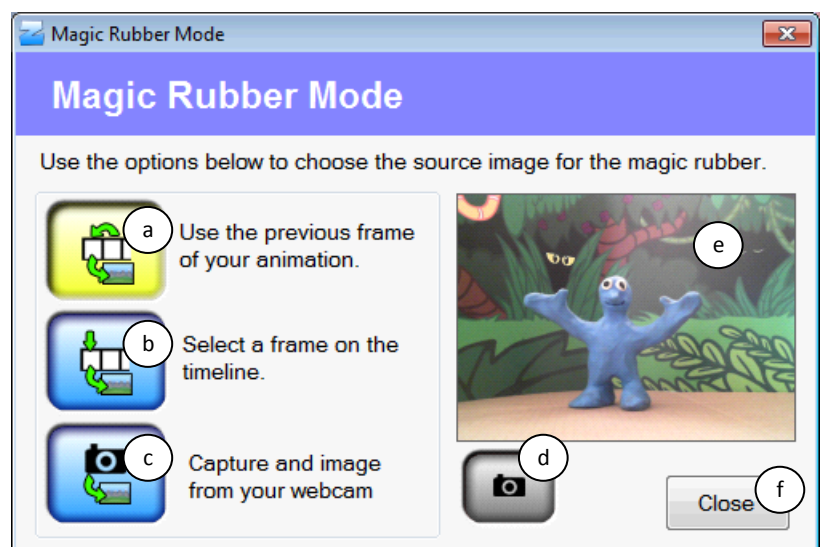
2) The Replacer Tool

This tool allows you to 'undo' changes you have made to the image with the magic rubber, as you draw with this brush, the image under the brush is returned to its original state when it was captured or imported into Zu3D.

3) Configure Magic Rubber

When you click this button the Magic Rubber Mode window appears. There are three possible modes for the magic rubber.

- Use the previous frame of your animation. This is the default mode for the magic rubber, whatever frame you are on Zu3D will use the frame before as the source for the magic rubber.
- Select a frame on the timeline. When you click this button you are then prompted to select a frame on the



timeline simply hover your mouse over frames in the timeline and the frame under the mouse cursor will appear in the source window (e). When you have found the frame you want to use click on it and it will be set as the source frame. This frame will stay as the source frame until you change the mode of the magic rubber or select another frame as the source frame.

- c) Capture an image from your webcam. Use this mode if you want to capture an image from your webcam to use as the source frame. Click this button and the live view from the webcam will appear in the source frame window. When you are happy that the image is correct click on the red captured button (d) to capture an image.
- d) When in webcam capture mode, click this button to capture an image from your webcam to use as the source frame.
- e) The source frame window. The image displayed in this frame is the current source image for the magic rubber.
- f) When you are happy the magic rubber is setup correctly for your needs click on the "Close" button to close the Magic Rubber Mode window.

Importing / Capturing / Recording Into Zu3D

There are various options for importing or capturing film footage into Zu3D. These include capturing still frames, importing images and video, recording live video, importing another Zu3D project and recording time-lapse sequences.

1) Capture still frames

This is the standard way of capturing into Zu3D. Simply click this button to capture a single image, or press keys 1 - 9 on the keyboard to capture 1 to 9 frames respectively.

2) Import images or video

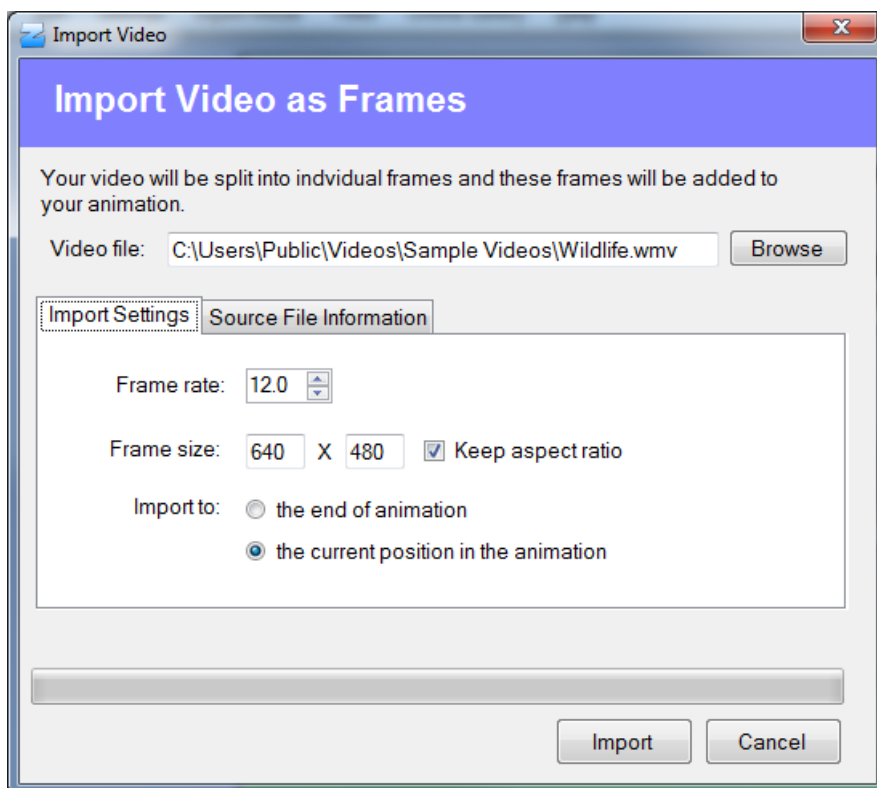
When you click this button a window will appear prompting you to select images or a video to import into Zu3D.

If you select images to import then Zu3D will automatically import these images and add them to the timeline at the current position in the animation. If the image(s) is an animated GIF then Zu3D will split this gif into individual frames and add all of the frames to the timeline.



If you choose a video file the Import Video window will be displayed. Using this window you can configure the

various options for importing a video into Zu3D.



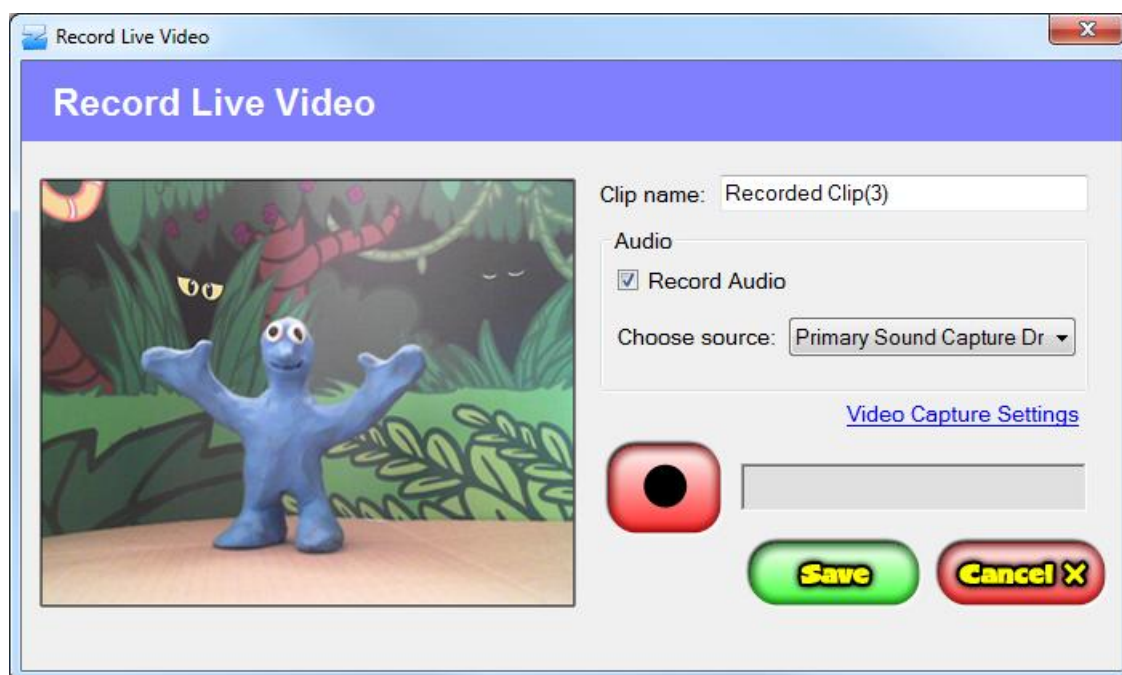
When a video is imported into Zu3D it is split into individual frames and each of these frames is added to your timeline. The import frame rate should be the same as your animation frame rate in order for the imported video to play at the correct speed. Zu3D will set the import frame rate to the same as your animation frame rate by default.

Once you are happy with the settings click on Import to start the import process. This can take some time if you have a long video and/or a slow computer.

Long videos also take up quite a bit of hard disk space, so please ensure you have sufficient space on your computer / user area.

3) Record Live Video

To record live video, click on the record live video button, with the image of a webcam on it. This will bring up the Record Live Video window:



The live image from your webcam will be displayed. To start recording click on the red record button. Zu3D will try to record the live video at the same frame rate as your animation, however the frame rate might be limited depending on the speed of your computer, the capability of your webcam and the current capture settings.

Once you have finished recording your video click on the red record button again to stop recording.

Then click save. Your recorded video will be added to the timeline as a new clip at the current position of the timeline. Once it is added to your timeline, you can move it around along its video track and to other video tracks, trim, copy, cut, paste and reverse it, just like any clip in Zu3D. For more information see the section on [Working With Clips](#).

NB. This feature is meant to make it possible to quickly get live video footage into Zu3D to use as backgrounds for animations. If you want to import high quality video with a high frame rate it is recommended that you record the video using a dedicated video camera, then import the video file into Zu3D using the Import Video option.

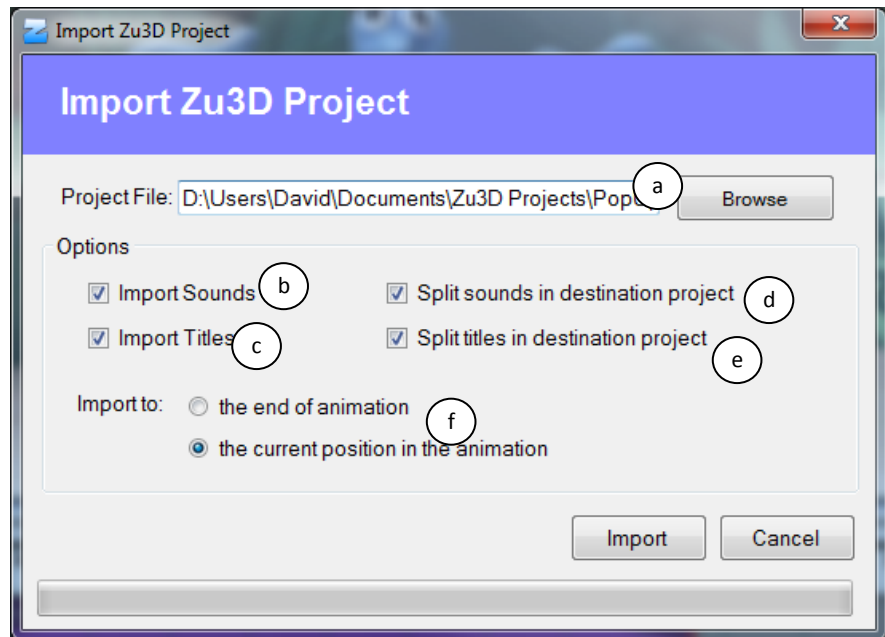
4) Import another Zu3D Project

It is possible to import another Zu3D project into this project. This is very useful if you have various people or groups all collaborating on the same film. As each group's section is complete they can all be imported into a master project. Once it's imported you will still be able to edit all the elements of each project.

To import a project click on the Import Project button. You will be prompted to select a Zu3D Project File (*.z3d), then the Import Project window will appear.

Here you can set the various options for importing a Zu3D Project.

- a) This is the path to the Zu3D Project file you are importing.
- b) Tick this box if you want the sounds from this project to be imported.
- c) Tick this box if you want the titles from this box to be imported.
- d) If you are importing the project part way through the current project, and want the sounds in the existing project to be split at the point this project is imported, tick this box.
- e) If you are importing the project part way through the current project, and want the titles in the existing project to be split at the point this project is imported, tick this box.
- f) Use this checkbox to specify where you would like the project to be imported to. If you choose "the current position in the animation" make sure that the play cursor (red line) is in the correct position on the timeline.



Once you are happy with all the options click on "Import" to start the import process. Depending on the size of the project this can take a few minutes.

5) Record Time-lapse Sequences

To record time-lapse sequences click on the time-lapse button. The Time-lapse window will appear.

- a) Use this slider to set the time interval between frames being captured. You can set it to anything from 1 second to 1 week.
- b) This is where the time interval is displayed.
- c) Press this button to start recording the time-lapse sequence.
- d) Press this button to stop recording the time-lapse sequence.
- e) When the time-lapse counter is running; this box displays a countdown to when the next frame will be captured.



As each frame of the time-lapse sequence is captured it is added to your timeline. When you have finished capturing images using the time-lapse window just click on the Cancel button to close it.

Exporting / Printing / Uploading from Zu3D

Once you have finished making your film you can export it as a WMV, AVI or FLV file, you can print the frames as a storyboard, a flick book, or posters, or upload your film straight to the moderated gallery on www.zu3d.com, or (if this option was enabled when Zu3D was installed) to YouTube or Facebook.

1) Export Your Film

Click this button to export your film as a WMV, AVI or FLV file. This allows you to play the film on your computer without needing to open Zu3D. It also makes it easy to copy the file onto a memory stick so you can watch it on other computers which might not have Zu3D installed.



When you click on this button the Export Your Film window will appear.

This window provides all the options for exporting your film. In most cases it is recommended to leave all the settings on their default values.

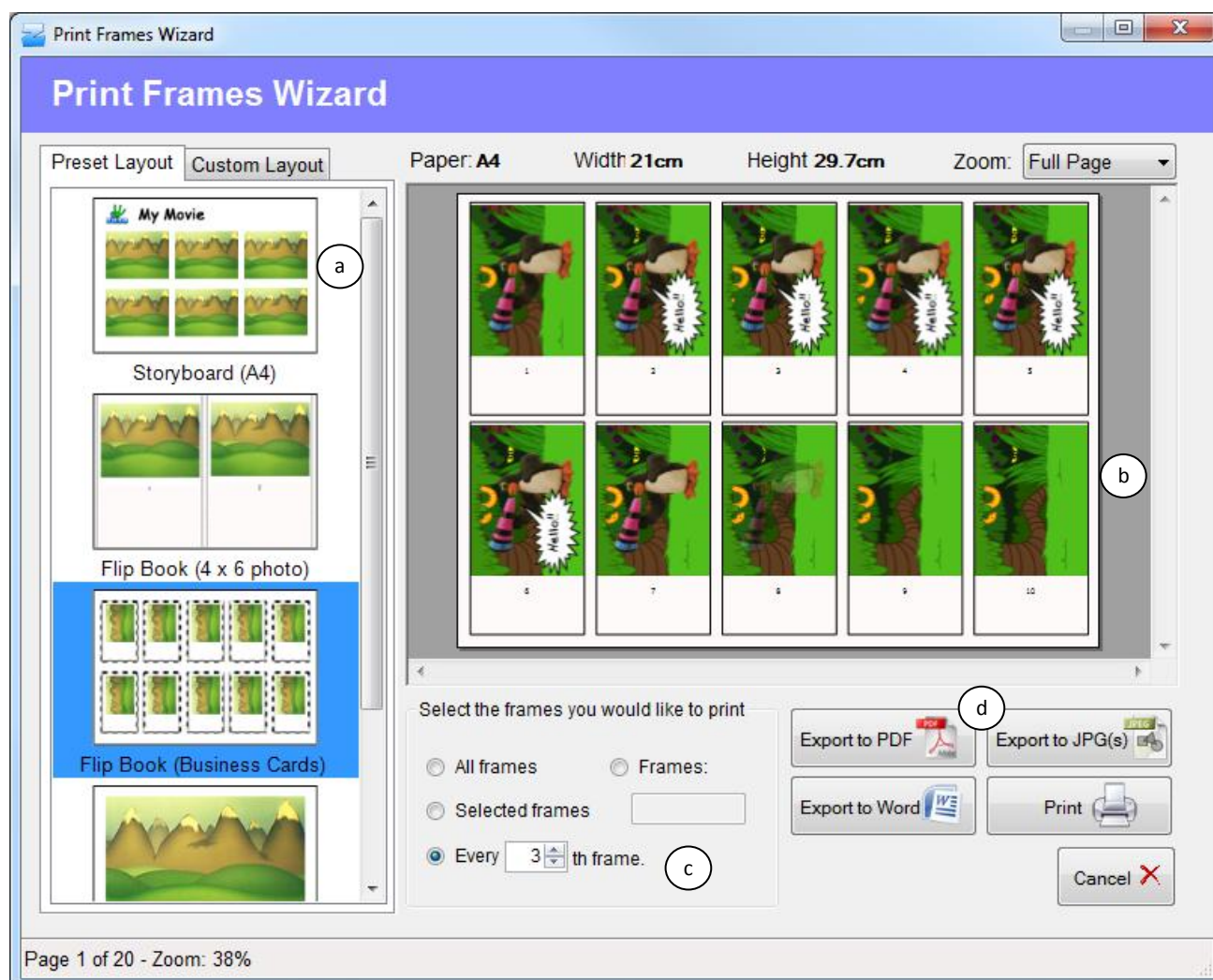
Just enter in a name for your film, check the location that the final film will be saved in the 'Publish To' box, so you can find your film once it has exported. Then click on the Create button.

When exporting your film Zu3D will by default set the output resolution to the same size as your captured images. If you wish to change this setting, or other settings such as the frame rate, video or audio codec's etc. just use the tabs along the top.



2) Print Your Film

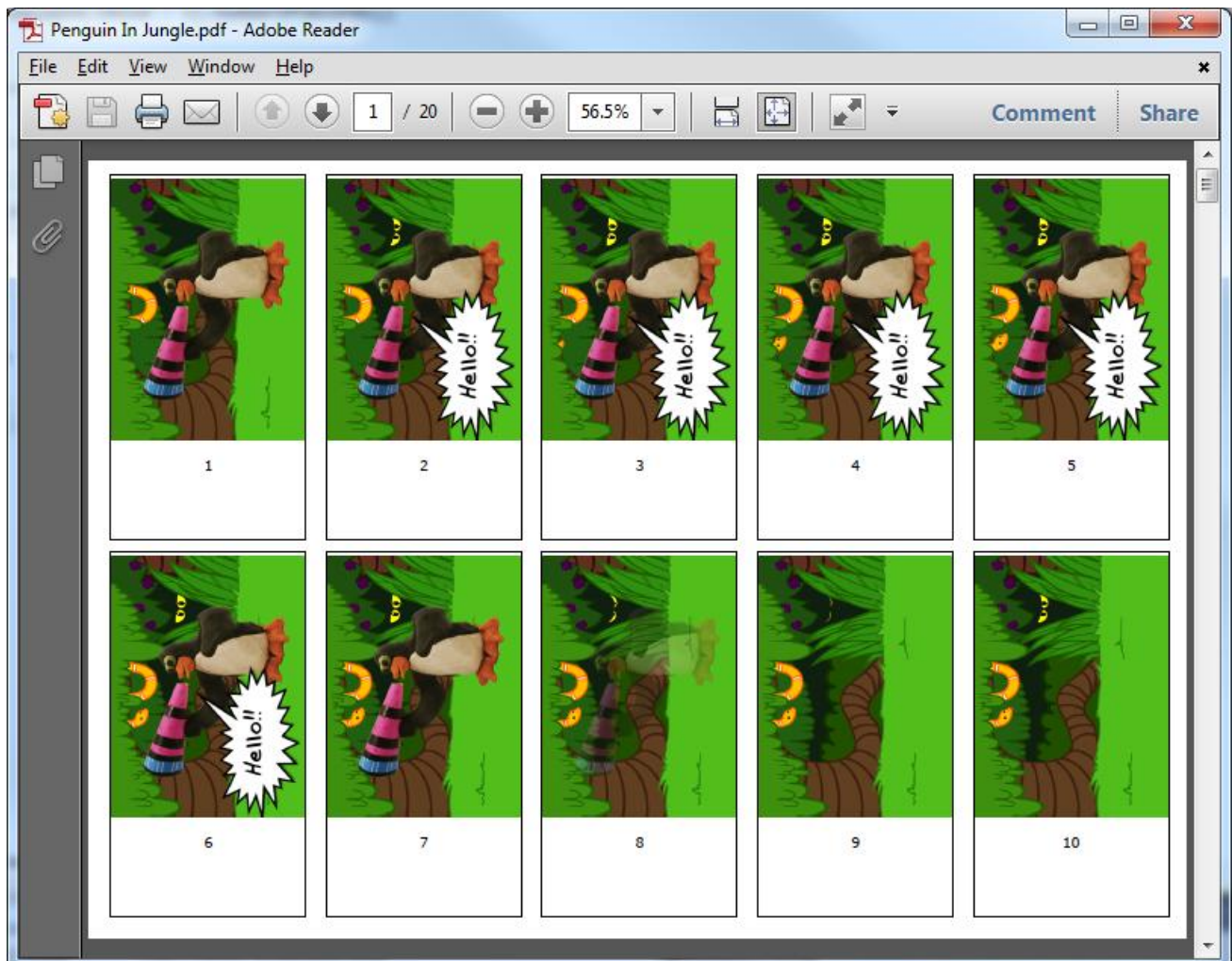
Click on the Print button to open the "Print Frames Wizard" window. This window allows you print your film as a storyboard or poster (great to go on the wall for displays) or as a flip book - you can cut up the print outs and staple them together to create a flip book of your animation.



- Here you can select the format in which you would like the frames to be printed, just click on the format you would like. It is also possible to create your own custom format by clicking on the Custom Layout tab. In the custom layout tab you can set all the options for configuring the layout of the frames, you can also save your custom layout, or load one you have created before.
- Print Preview - This is a preview of how the first page of the print out will look. You can see how many pages your film will spread across in the bottom left corner of the window.
- Here you can select which frames could be printed. Often it will make sense to only print a limited number of frames rather than every frame in your animation, so as to give a sense of the film without having to print a large number of pages.
- Once you have the print preview looking the way you want, click on one of these export buttons to print your film. You can export to a PDF file, a sequence of images (JPEGs), to an RTF file which can then be edited in word, or direct to your printer. If you want to add your own annotations to the frames it is a good idea to export to Word, to make it easier to do this. Otherwise it is recommended to export to a

PDF, then you can easily print and reprint the frames from the PDF without having to go through the export process each time.

Once the export process has finished Zu3D will ask if you would like to open the file you have created. If you click yes the PDF, word document, or images will be opened automatically:

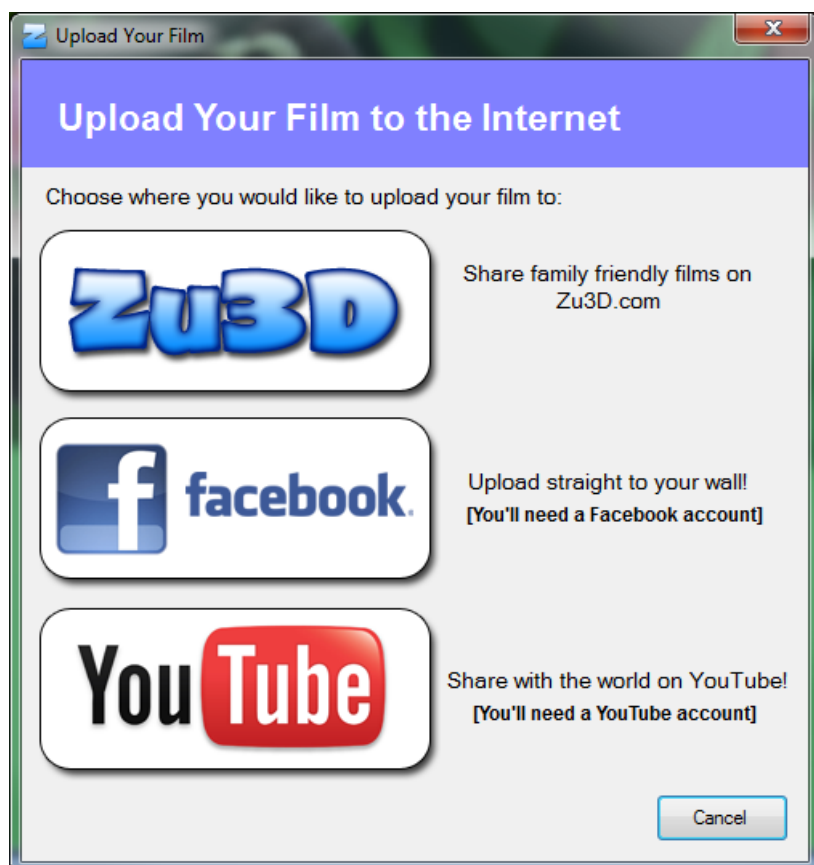


3) Upload Your Film

It is possible to upload your film straight from Zu3D to the internet.

Just click the upload button. Your film needs to be [Exported](#) to a video file before it can be uploaded, if you haven't done this already Zu3D will prompt you to do so. Once this process is complete the Upload Film dialog box will appear.

The Facebook and YouTube upload options will only appear if that option was enabled when Zu3D was installed, in the network version for schools this option is disabled by default.



You can now choose the location you would like to upload your film to.

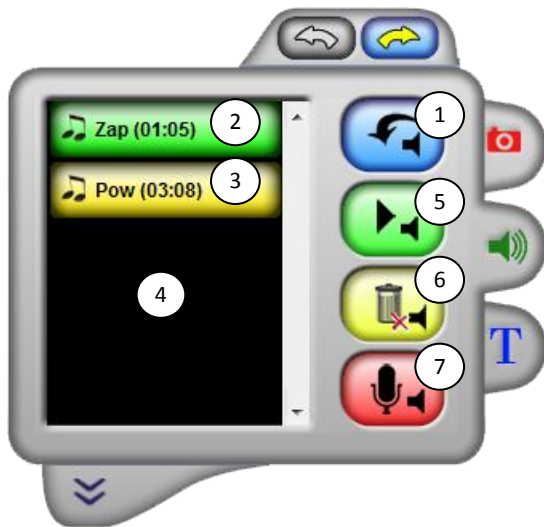
If you want to upload to YouTube or Facebook you will need an account with those websites.

You don't need an account to upload to www.zu3d.com.

All the films that are uploaded to www.zu3d.com are moderated before they go live to ensure that they are suitable to be viewed by young children who might be visiting the website.

Once you have chosen your upload location you will be prompted to enter a title and description of your film, and if necessary enter any login details. Zu3D will then convert your film and upload it straight to the website.

The Control Buttons - Audio Controls



1) Import Sounds

To add new sounds to your project click on this button. See the section on [Working With Sound](#) for more information.

2) An Example Sound

This is an example of a sound which has been added to the project audio library. The numbers in brackets indicate the length of the sound in minutes and seconds.

3) An Example Selected Sound

This is an example of a sound which has been added to the project audio library and then selected, by clicking on the sound. The numbers in brackets indicate the length of the sound in minutes and seconds.

4) Project Audio Library

This area is where the sounds in your project audio library are listed. These sounds are not part of your animation until they are dragged onto the timeline. See the section on [Working With Sound](#) for more information.

5) Play Selected Sound

Click this button to play whichever sound is selected in the project audio library. Sounds can be selected by clicking on them, selected sounds are yellow, unselected sounds are green.

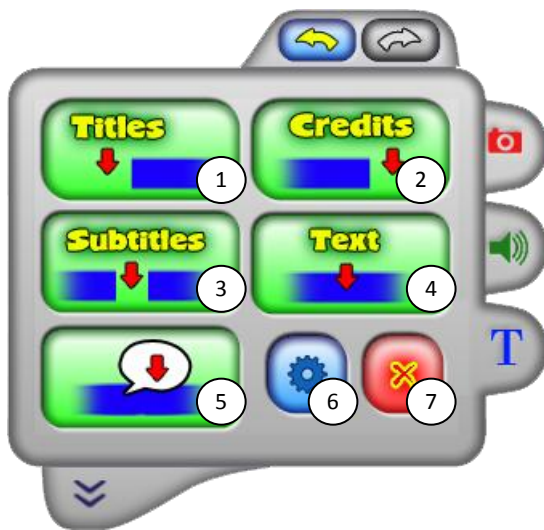
6) Delete Sound

Click this button to delete a sound from the project audio library. This will also remove the sound from your animation.

7) Record Sound

Clicking this button brings up the Record Sound Window, where you can record your own sounds. See Recording Sound in the [Working With Sound](#) section.

The Control Buttons - Title Controls



1) Insert Titles

To add beginning titles to your film click on the Insert Titles button. This will open the [Title Creator Window](#) ready for you to design your title. When you have finished designing the titles they will automatically be added at the start of your film.

2) Insert Credits

To add ending credits to your film click on the Insert Credits button. This will open the [Title Creator Window](#), with the 'Credits' style selected, ready for you to design your credits. When you have finished designing the credits they will be automatically added at the end of your film.

3) Insert Sub-Titles

Sub-Titles in Zu3D are titles with their own background inserted at the current point in your film (the position of the red play cursor). They are similar to chapter or scene headings in a silent movie. Clicking on the insert sub-titles button will open the [Title Creator Window](#) ready for you to design your sub-title.

4) Overlay Text

This button allows you to overlay text upon your film. The text will be overlaid at the current point in your film (the position of the red play cursor). Clicking on this button will open the [Title Creator Window](#) ready for you to design your text.

5) Overlay Speech Bubble

This button allows you to add a speech bubble to your film. The speech bubble will be overlaid at the current point in your film (the position of the red play cursor). Clicking on this button will open the [Title Creator Window](#) ready for you to design your speech bubble.

6) Edit Currently Selected Title

To edit a title after you have created it. Select the title in the [Timeline](#) by clicking on it (it will turn yellow) then click on the blue edit title cog. This will bring up the [Title Creator Window](#) for this title so you can edit it.

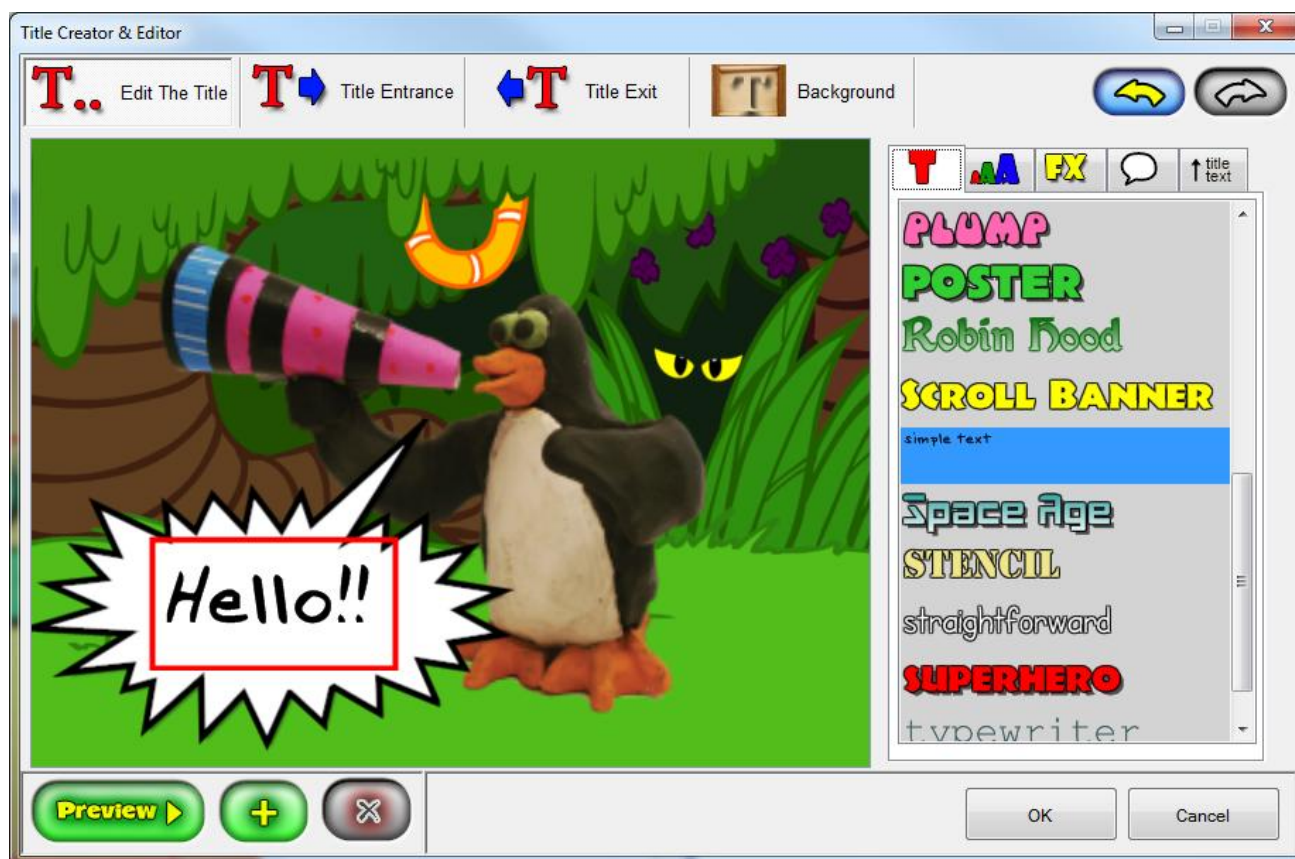
7) Delete Currently Selected Title

To delete a title after you have created it. Select the title in the [Timeline](#) by clicking on it (it will turn yellow) then click on the red delete title button. Your title will be deleted from your animation.

To learn more about designing titles see the section on the [Title Creator Window](#).

Title Creator Window

The title creator window can be opened by clicking on any one of the [Title Control Buttons](#). Depending on which button was pressed sets the default options for the title creator window and dictates where the title will be added to your animation when you click OK.



The title creator window has four main tabs:

Edit The Title

This allows you to configure the title text boxes which make up the title.

Title Entrance

This allows you to control how the whole title appears in your film, e.g. fading or sliding in.

Title Exit

This allows you to control how the whole title exits from your film.

Background

This allows you to control the background to your title (this is not valid for speech bubbles or text overlaid upon your film).

When each of these tabs are selected different controls appear on one side or other of the title preview window. To create the content for your title use the Edit The Title Tab.

Edit The Title

1) Title Text Box

Titles are made up of one or more title textboxes.

In the title preview window you can add and edit title textboxes.

2) Add a Text Box

Text boxes can be added by clicking and dragging on the preview window, or by clicking on the green + button at the bottom of the preview window.

There is no limit to the number of title text boxes you can have per title.

3) Delete a Text Box

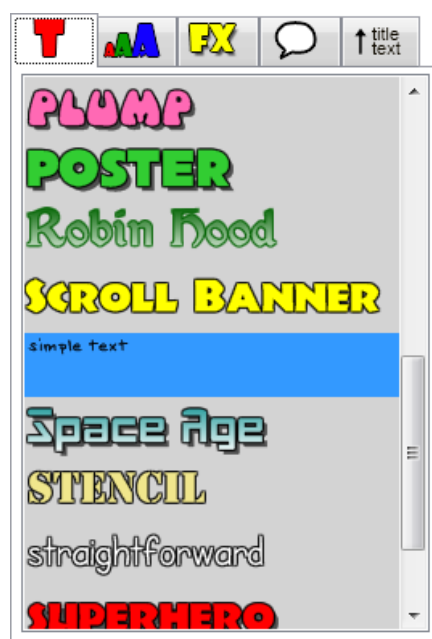
Click on the red X at the bottom of the preview window to delete the selected text box.



Editing a Title Textbox

To edit the text inside a title textbox click anywhere in the textbox. You can now type into the textbox and change the text to whatever you wish.

When you have finished editing the text of your title just click anywhere in the title preview window outside the title text box.



Changing the Style of a Title text box

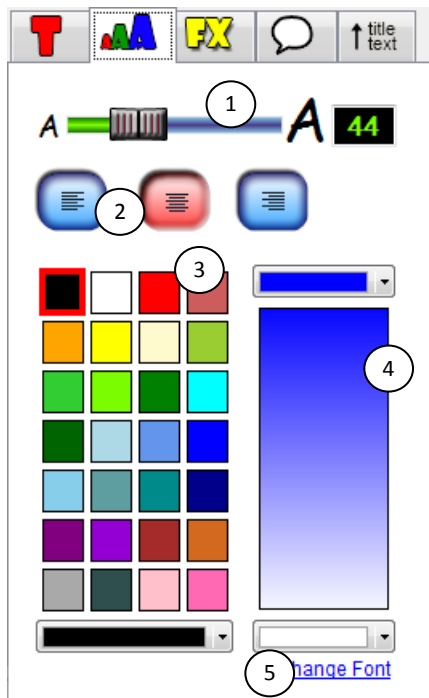
This tab allows you to quickly and easily select one of the many preset styles for titles built into Zu3D. Just scroll up and down the list to find the style you want.

When you click on a style in this list the currently selected title textbox will change to this style.

This will change all the styling for that title textbox including the colour of the text and any custom animations (e.g. scrolling).

If you would like to refine the style of your title you can click on the 'Customise' tab to customise the title.

Customise a Style



This section allows you to customise the look of your title.

1) Change text size

To change the text size simply slide the text size slider up or down from the small A to the large A.

2) Change text alignment

To change the text alignment, click on the alignment style you require, i.e. left, right or centre.

3) Change text colour

You can change the text colour to either a solid colour or a gradient between two colours.

To select a solid colour:

Just click on the colour you require. For more colours click on the colour button at the bottom of the colour grid.

4) To select a gradient colour:

Click on the colour buttons at the top and bottom of the gradient to select the colour gradient you require. Your title textbox will update accordingly.

5) Change Font

You can also change the font to any font you have installed on your computer by clicking on the 'Change Font' link.

Edit Title Effects



This section allows you to change the effects that are applied to your title textbox.

To enable an effect click on the "X" button.

To change the size of an effect, slide the controlling bar backwards or forwards until the effect looks right for you.

You can change the colour of an effect by clicking on the colour button for each effect and then selecting a different colour.

Applying lots of effects and increasing the size of them can slow down your computer whilst you are working with your titles.



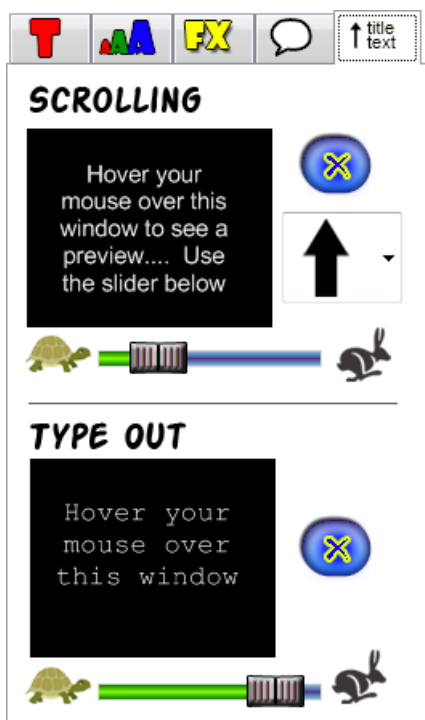
Choose a Speech Bubble

This section allows you to choose a speech bubble to display behind the text of the selected title text box. Just click on the type of speech bubble you would like to use.

If you don't want a speech bubble click on "None".

Once you have added the speech bubble you can resize it by resizing the textbox it is behind. The speech bubble automatically matches the size of the text box. To resize the text box, just click and drag on one of its edges.

It is possible to flip the speech bubble vertically or horizontally using the green flip buttons at the bottom of this tab.



Edit Title Animations

This section allows you to apply animations to individual textboxes in your title. To apply entrance or exit animations to your whole title see title transitions.

Scrolling

To apply a scrolling effect to your title textbox click on the 'On/Off' button in the scrolling section.

To change the direction of scroll choose a different direction arrow from the scroll direction dropdown box.

To change the speed of the scroll slide the scroll speed bar back and forth.

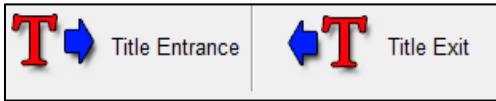
Type Out

This allows you to add a 'typewriter' effect to your title textboxes. Click on the On/Off button in the Type Out section to enable this animation.

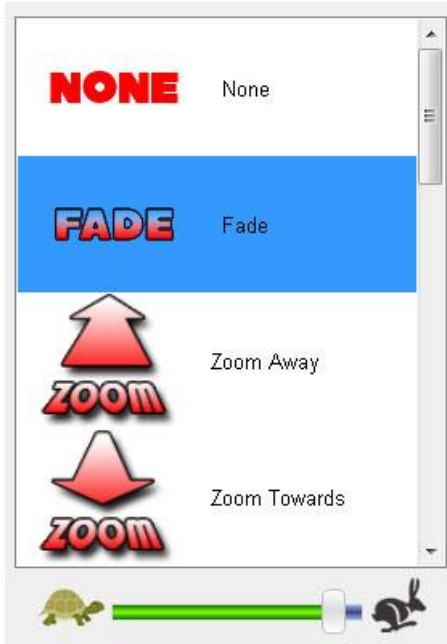
Use the type out speed bar to speed up or slow down the animation.

To preview an animation before applying it to your title simply hover your mouse over the preview window for the effect you use to preview.

Title Transitions



These tabs along the top of the main title creator window allow you to configure the way your whole title enters and exits from your film.



Here you can select an entrance or exit animation for your title.

Just click on the animation you want to use on the left and watch it in the preview window on the right.

To change the speed of the transition drag the slider bar forwards or back.

Title Background



Here you can select a background for your title.

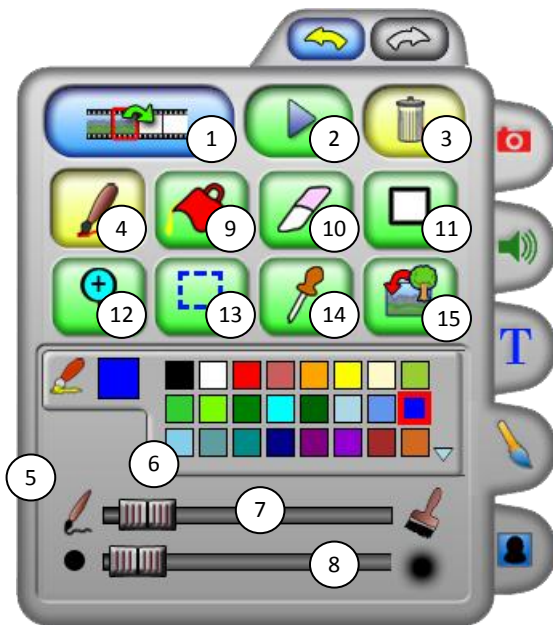
You can choose a colour on the colour tab, one of a number of sample images on the images tab, or any image from your computer by clicking on browse.

Backgrounds can only be set for titles which are not overlaid upon animation. When you click on the text or speech bubble button, the resulting title is overlaid upon your film so it can't have a background, as its background is the film itself.

In the same way, if you added a title with a background, then dragged the title on the timeline so it goes over some of your animation the option to change the background of the title will become disabled.

The Control Buttons - Drawing Tools

Every frame in your animation can have a 'Drawing Layer' which is overlaid upon the captured image (if one exists). These buttons allow you to draw onto this drawing layer.



1) Copy Drawing Layer

This button will copy the current drawing layer to the next frame in your animation. This is useful if you are (for example) creating an animation of a plant growing. You can add a little bit to the plant, then click this button to copy it to the next frame, where you can then add a bit more. For more information see the [Advanced Drawing Tools](#) section.

2) Play

Playback your animation, by default this button will play back your whole animation, just the same as the main Play button in the [Timeline Controls](#). *Shortcut key: [SPACE]*

3) Delete Current Frame

This button will delete the current frame of your animation (the one that is currently displayed in the preview window). To delete multiple frames and other timeline objects use the timeline object delete button, see the [timeline buttons](#) section for more information. *Shortcut key: [DELETE]*

4) Paint Brush Tool

If this tool is selected you can draw onto the current frame in the [Preview Window](#) with a round paint brush with a 'fuzzy' edge. Right clicking on this button allows you to select the 'Pencil Tool', this is similar to the paint brush, but it is square and not 'fuzzy'.

5) Tool Settings Area

The controls in this area change depending on the tool which is selected. The controls displayed in this area are used to configure the currently selected tool. In this image the current tool is the paint brush.



6) Colour Selector

The controls in this area change depending on the tool which is selected. The colour selector allows you to select the colour that the paint brush or pencil draws in. Click on the small down arrow for more colour options.

7) Brush Size Selector

The controls in this area change depending on the tool which is selected. This slider allows you to change the size of the brush.

8) Brush 'Fuzziness' Selector

The controls in this area change depending on the tool which is selected. This slider allows you to change the 'fuzziness' of the brush.

9) Flood Fill Tool

With this tool selected you can flood fill areas of the current drawing layer. In the tool settings area you can select the colour of the fill and the tolerance.

NB. The flood fill tool, like all the drawing tools only affect the drawing layer, overlaid upon the captured image, not the actual captured image. So the fill area needs to be constrained by graphics on the drawing layer.

10) Rubber Tool

With this tool selected you can rub out areas of the current drawing layer (not the captured image). In the tool settings area you can select the size of the rubber and its 'fuzziness'. To rub out the actual captured image, instead of the drawing layer see the [Chroma-Key Tools](#) section.

11) Draw Shape Tool

This tool allows you to draw shapes onto the drawing layer. If you right click on this button you can see the selection of different shapes available. In the tool settings area it is possible to select how the shape should be drawn - with an outline, with a fill or with and outline and a fill. You can also select the size of the outline, and the outline and fill colour.



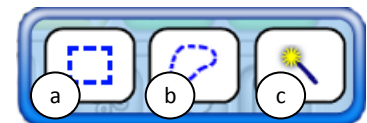
12) Zoom Tool

This tool allows you to zoom in on the frame. This is useful if you are aiming to do precise drawing in a small section of your animation. In the tool settings area you can control the level of zoom and click and drag on the red rectangle to control the part of the zoomed image which is being displayed.



13) Selection Tools

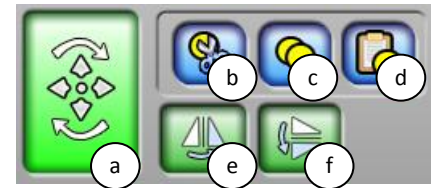
These tools allow you to select a part of the drawing layer image and cut, copy, move, resize, rotate flip, or delete it. If you right click on this button you can choose from the three selection modes.



- a) Rectangle Select - use this tool to select a rectangle section of the image.
- b) Lasso Select - use this tool to select a hand drawn section of the image.
- c) Magic Wand Select - click on a section of the image and all the parts of the image that adjoin the area you clicked on and have a similar colour will also be selected. You can set the tolerance in the tool settings area.

Once you have an area selected you can transform it using the tools in the tool settings area:

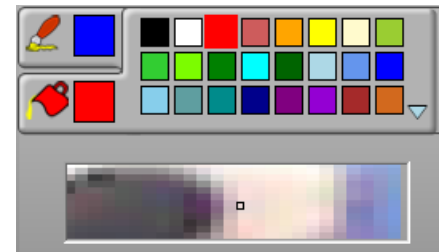
- a) Enable Transform Mode, clicking this button turns the selection into transform mode, you can then click and drag on the handles around the selection to resize, rotate and move it.
- b) Cut the selected area of the image - the selected area of the image is cut from the image and placed in the computer's clipboard.
- c) Copy the selected area of the image - the selected area of the image is copied from the image and placed in the computer's clipboard.
- d) Paste - pastes any image in the computer's clipboard onto the the current drawing layer. This could be an image copied in another program.



14) Eye Dropper Tool

This tool allows you to choose a colour by clicking anywhere on your computer screen. The colour of the part of the screen you clicked on will be selected.

In the tool settings area you can see a magnified view of the part of the screen the mouse is currently over, this is to help you choose the right colour.



14) Import Sprite

This tool allows you to import small images (Sprites) into your animation. Clicking on the import sprite button gives these options in the tool settings area:



- a) Import Sprite - Clicking this button opens a window, where you can select sprites to import. When you have selected a sprite it is added to the project sprite library.

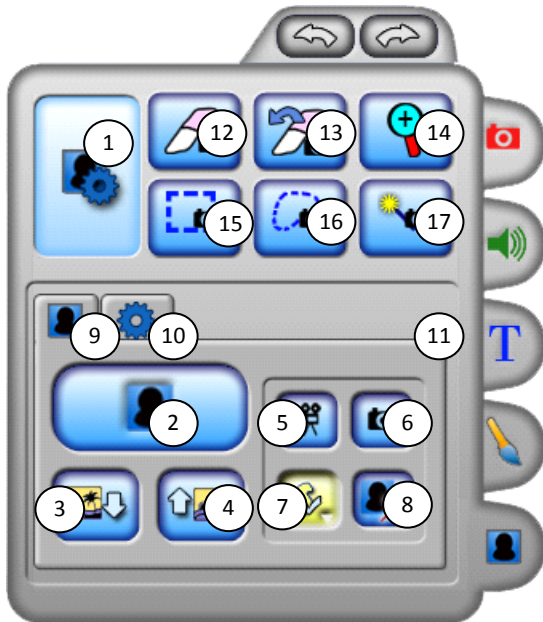
NB. Zu3D comes with a library of sprites to enhance your animation. If you are having trouble finding the media library, look in the [troubleshooting](#) section for more information

- b) Delete Sprite - Clicking this button deletes the currently selected sprite from the project sprite library. To select a sprite just click on it once. Selected sprites have a yellow box around them.
- c) Project Sprite library - This shows all the sprites that have been imported into your project sprite library.

To add sprites from the project sprite library to the current frame of your animation click and drag it onto the frame in the preview window. For information on transforming sprites, adding sprites to multiple frames and importing animated sprites please see the [Advanced Drawing Tools](#) section.

The Control Buttons - Chroma-Key (blue/green screening) Tools

These controls are for removing parts of the captured image. This allows you to film your characters in front of a blue / green (or any colour) background and then use Zu3D to replace the background with an image, video or animation. For more information on using multiple layers of video see the [Multiple Video Tracks](#) section.



1) Chroma Keying Tools

This is the default tool for the chroma-key tab. The buttons displayed in the tool settings area (11) allow you to control the way Zu3D can remove the background from your captured image.

2) Automatic Chroma Key (blue / green screening)

Click this button to automatically remove the background from your captured image when you are filming in front of a blue/green (or any single colour) background.

When this button is clicked Zu3D analyses the current captured image, then guesses at your background colour, guesses at the correct tolerance to apply, and applies these settings to the image. In most cases this will result in the solid background colour being automatically removed.

To fine tune, or configure the settings click on the blue cog (10) to access the chroma-key manual configuration tools.

3) Insert Background

When you click on this button Zu3D adds a new empty video track below the current frame, then displays the Insert Background window to allow you to select the background you would like to apply:

- Insert an Image as a background. You will be prompted to select an image. Zu3D will then add this image to the video track below the current frame and repeat it so it matches the length of the clip that the current frame belongs to. If you select an animated GIF as the background image Zu3D will split the GIF into individual frames and add these as the background, repeating as necessary to match the length of the clip.
- Insert a video as a background. You will be prompted to select a video file. This file is then split into individual frames and these are added to the video track below the current frame. This process can take quite some time and use quite a bit of hard disk space if you choose a long video.



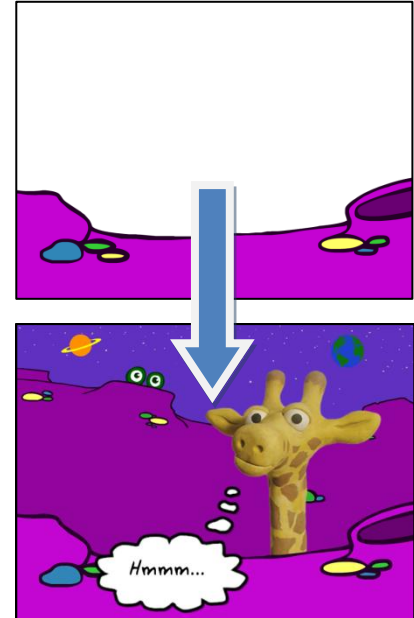
- c) Record Live Video - This option allows you to record live video straight from your webcam, Zu3D will then automatically add it as the background to the current clip. For more information on recording live video see the section on [Recording Live Video](#).

For more information on using multiple layers of video see the [Multiple Video Tracks](#) section.

4) Insert Foreground

This is very much the same idea as adding a background, and the same window opens giving the same three options for importing footage. The difference is that this footage is added above the current video track not below. This will cover up the current video track unless the images you import have transparent parts to them. The Zu3D media library contains a selection of foreground images which are semi transparent. These can be useful to really create the essence that your characters are *in* the scene, rather than just in front of it.

For more information on using multiple layers of video see the [Multiple Video Tracks](#) section.



5) Apply Chroma-Key to Live Image

Clicking this button turns Live Chroma-Keying on or off. This is where the live image from the webcam has the background colour removed before you have captured an image. This can be useful for seeing how your character will look in the scene before you capture each frame. Depending on your capture frame size and the speed of your computer, turning Live Chroma-Keying on can slow Zu3D down.

When you turn Live Chroma-Keying on Zu3D analyzes the current live image from the webcam and sets the Chroma-Key settings accordingly. To update these settings just click the automatic chroma-key button (1).

6) Apply Chroma-Key to Captured Image

When this option is enabled the current Chroma-Key settings are applied to each frame as it is captured, i.e. the background is removed from each frame as it is captured from your webcam and added to your animation. This option is automatically enabled when Live Chroma-Keying is enabled. It is possible to have this option on without having Live Chroma-Keying enabled.

7) Enable Smoothing

When this option is enabled the edges of characters will be smoothed so they blend better with the new background. It is recommended to have this option enabled to get the best results. If you right click on this button you are able to set the level of smoothing required using the slider, however the default setting should be fine for most cases.



8) Clear Chroma-Keying

Clicking this button removes any chroma-key effects that have been applied to your captured image, returning it back to its original state.

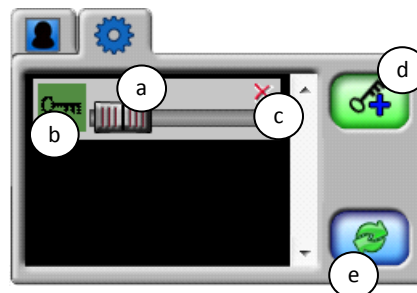
9) Main Chroma-Keying Tab

This tab displays the main chroma-key controls. More advanced controls can be found in the Chroma-Key configuration tab.

10) Chroma-Key Configuration Tab

This tab displays the controls for adjusting the chroma-key settings and adding additional chroma-keys, for more information see the section on [Advanced Chroma-Keying](#).

- a) Change Key Tolerance - Using this slider it is possible to adjust the tolerance of your chroma-key, this changes how similar the colours in the image need to be to the key colour, in order for the colour to be removed from the image.
- b) Edit the Key - clicking this button brings up a window which allows you to adjust the colour and mode of the key. For more information see the section on [Advanced Chroma-Keying](#).
- c) Delete the Key - This will remove the chroma-key from this frame and update the image accordingly (resetting the image).
- d) Add new Key - Clicking this button allows you to add more chroma-keys. For more information see the section on [Advanced Chroma-Keying](#).
- e) Refresh the Image - Click this button to reapply the current settings to the current frame.



11) Tool Settings Area

The controls in this area change depending on which tool is selected.

12) Rubber Tool

This tool allows you to rub out parts of your captured image, this will show whatever is on the video track below this frame. This is useful for correcting any bits of the image that might not have been chroma-keyed quite correctly. You can also use it to rub out strings and other parts of the image, that you don't want, that haven't been removed by chroma-keying. When this tool is selected the Tool Settings Area (11) shows sliders for adjusting the size and fuzziness of the rubber. For more information on multiple video tracks see the section on [Multiple Video Tracks](#).

13) Replacer Tool

This tool allows you to 'replace' parts of your captured image, returning the image back to its original state, undoing any changes that may have been made by either chroma-keying, the rubber or the magic rubber. This is very useful for correcting any mistakes that have been made using any of these tools. When this tool is selected the Tool Settings Area (11) shows sliders for adjusting the size and fuzziness of the rubber.

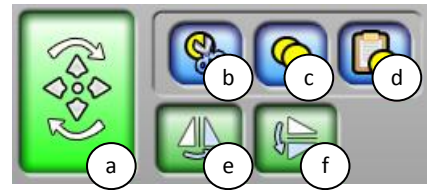
14) Zoom Tool

This tool allows you to zoom in on the frame. This is useful if you are aiming to do precise rubbing out or replacing in a small section of your frame. In the tool settings area you can control the level of zoom and click and drag on the red rectangle to control the part of the zoomed image which is being displayed.

15) Rectangle Select Tool

This tool allows you to select a rectangular part of the captured image (not the drawing layer) and cut, copy, move, resize, rotate flip, or delete it.

Once you have an area selected you can transform it using the tools in the tool settings area:



- a) Enable Transform Mode, clicking this button turns the selection into transform mode, you can then click and drag on the handles around the selection to resize it, rotate and move it.
- b) Cut the selected area of the image - the selected area of the image is cut from the image and placed in the computer's clipboard.
- c) Copy the selected area of the image - the selected area of the image is copied from the image and placed in the computer's clipboard.
- d) Paste - pastes any image in the computer's clipboard onto the captured image (not the drawing layer). This could be an image copied in another program.

16) Lasso Select Tool

This is the same as the rectangle select except instead of selecting a rectangular area of the image it is possible to select a freely drawn area of the image.

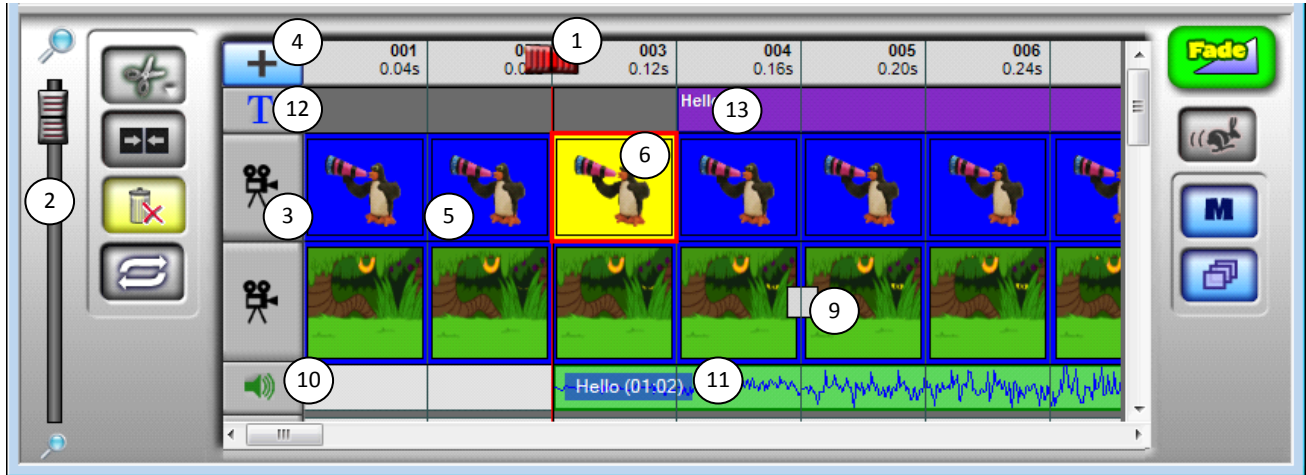
17) Magic Wand Select Tool

This is the same as the rectangle select except instead of selecting a rectangular area of the image it is possible to click on a section of the image and all the parts of the image that adjoin the area you clicked on and have a similar colour will also be selected. You can set the tolerance in the tool settings area. Once an area is selected you have all the normal transform options that are available to the other selection types.

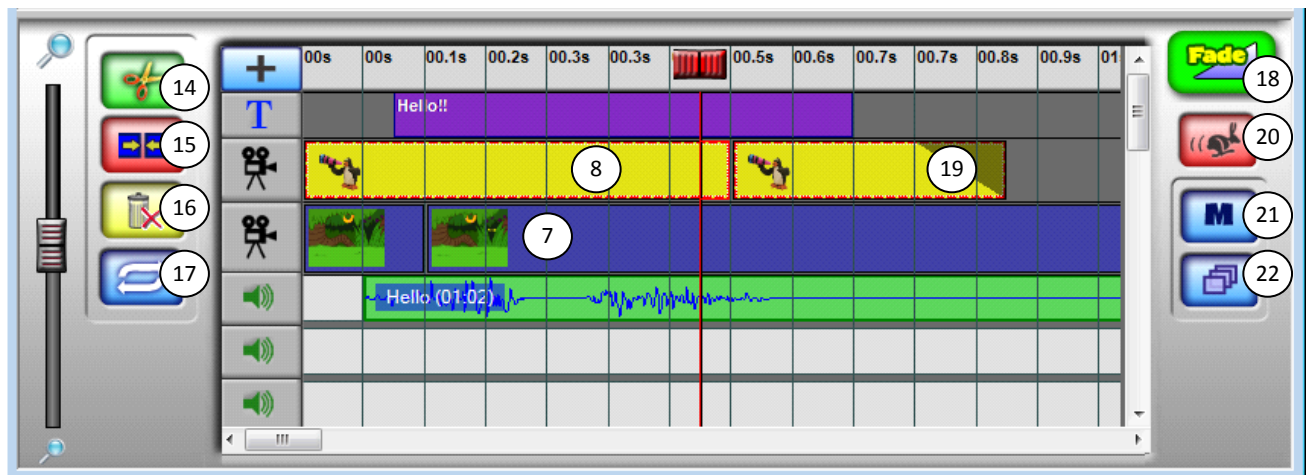
The Timeline

The timeline is where you can see your whole animation laid out in a way that is easy to visualise.

The Timeline - Zoomed In



The Timeline - Zoomed Out



1) Play Cursor

This red cursor indicates the current position in your animation. You can click and drag on the red thumb slider to 'scrub' through your film, this allows you to view a small section of your animation by moving the play cursor across those frames. Sound is also played when 'scrubbing' so this can be a useful technique for checking the syncing sound with your animation.

2) Timeline Zoom Control

This slider allows you to zoom in and out of the timeline. When the timeline is zoomed in it is possible to see each individual frame of your animation. When the timeline is zoomed out you can see much more of your animation at one time. If you are editing your animation, copying and pasting frames, adding sounds and titles etc. it is easier to work with the timeline zoomed out. You can also zoom in and out small amounts by clicking on the magnifying glasses above and below the zoom slider.

3) Video Track

The frames of your animation are stored on video-tracks. By default only one video track is shown on the

timeline. In this screen shot two video tracks are shown. It is possible to add new video tracks by clicking on the blue + button (4). Each frame of each video track can hold a captured image with a drawing layer over the top of it. For more information see the section on [Multiple Video Tracks](#).

5) An Unselected Frame

This is an example of a frame on the timeline that is not selected. Unselected frames have a blue border and background and selected frames have a yellow border and background.

6) A Selected Frame

This is an example of a selected frame on the timeline. Unselected frames have a blue border and background and selected frames have a yellow border and background. You can select frames by clicking on them or by clicking and dragging on an empty area of the timeline to drag a selection rectangle around a number of frames. You can also select multiple frames by holding down the CTRL key on the keyboard and clicking on individual frames, or hold down SHIFT and click at the start and end of a sequence of frames you would like to select.

7) An Unselected Clip

This is an example of a clip on the timeline that is not selected. Unselected clips are blue.

8) A Selected Clip

This is an example of a selected clip on the timeline. Selected clips are yellow.

9) Clip Join Marker

This grey square represents the beginning and end of a clip. These squares are only visible when you are zoomed into Frame View so each individual frame is visible.

10) Audio Track

This is an audio track which can hold sound clips which make up the sound track to your animation. There is no limit to the number of audio tracks you can have in Zu3D. Simply scroll down the timeline (using the scroll bar on the right to get more audio tracks). See the section on [Working With Sound](#) for more information.

11) An Example Sound

This is an example of a sound clip which has been added to the animation. Zu3D displays the waveform of the sound making it easier to synchronise your animation with sound. The sound clip can be moved around, copied, cut, pasted, trimmed, have the volume level changed and faded in and out. For more information see the section on [Working With Sound](#).

12) The Title Track

This track only appears once you have added a title or text to your animation. There is only one title track which sits above all the other tracks in your film. You can move titles around this track by clicking a dragging them, titles can be overlapped on this allowing you to have two titles showing at the same time.

13) An Example Title

This is an example of a title on the title track. You can click and drag on the title to move the title around, or click and drag on the very end or beginning of the title to trim or extend it. To edit a title either select it then click on the blue cog button in the [Title Controls](#) or right click on the title and click "Edit".

14) Split Timeline Object

To split any clip, sound clip or title, select it (click on it so it goes yellow), then make sure the play cursor is positioned at the point in the film that you want to split the timeline object, then click on this button. The object will be split into two sections.

15) Join Clips

To join clips, select multiple clips by holding down CTRL on the keyboard and clicking on individual clips, or click and drag on an empty area of the timeline to draw a selection box. Any timeline objects within this box will be selected when you let go of the mouse button. When two consecutive clips are highlighted just click the Join Clips button to join them together.

16) Delete Timeline Object(s)

When you click this button any timeline objects (i.e. frames, clips, sounds or titles) that are selected will be deleted. You can always undo this (and any other action) by clicking on the main undo button.

17) Reverse Clip

To reverse the order of frames in a clip, select it then click this button. This is useful for building up repeating sections of animation, by copying and pasting and reversing clips. See [Working with Clips](#) for more information.

18) Drag Fade

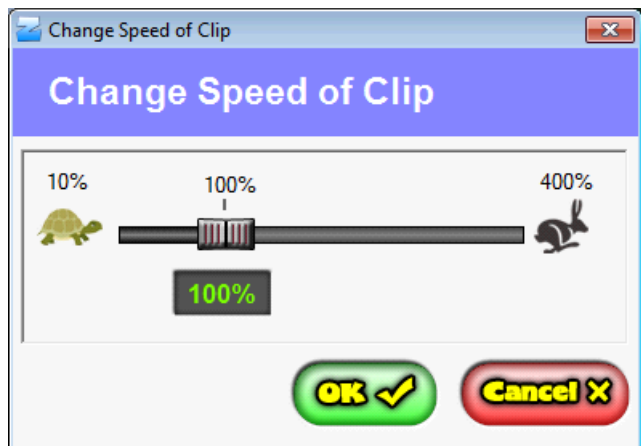
To make a clip or sound clip fade in or out click and drag on this fade button, and drag it over the start or end of a clip or sound clip, then let go of the mouse button. The fade is added to the clip or the sound and is shown in the timeline (19). See [Working with Clips](#) or [Working with Sounds](#) for more information.

19) Example Fade on Timeline

This is how a fade is shown on the time line. To adjust the fade hover the mouse over the inside end of the fade (the narrow end), the mouse cursor will change to two horizontal arrows. You can now click and drag to adjust the length of the fade. To remove it, just adjust the length of fade to nothing, and the fade will be automatically removed.

20) Change Speed of Clip

It is possible to change the speed of a clip relative to the overall frame rate of your film. To do this select a clip then click this button (the red rabbit). The Change Clip Speed window will open.



It is possible to change the speed of the clip using the slider, it is possible to change the clip from 10% to 400% percent of its original speed.

21) Enable Multi-Edit Mode

Clicking this button enables or disables Multi-Edit mode. When multi-edit mode is on any changes made to the current frame will be applied to all selected frames. For more information see the section on the [Multi-Edit Mode](#).

22) Enable Selected Frame Onion Skinning

Clicking this button enables or disables Selected Frame Onion Skinning mode. When this mode is on, all the frames that are selected are drawn partially transparent overlaid upon one another. This is useful for seeing how each frame changes in a short sequence (e.g. a ball bouncing). It makes it easy to spot any frames that might be out of place and make adjustments as required.

Working With Frames

Select Single Frame

You can select a single frame of your animation by clicking on it in the timeline. When a frame is selected it is surrounded by a yellow border and the [Preview Window](#) will display the frame's image.

Select Multiple Frames

To select multiple frames hold down the CTRL key whilst clicking on the frames you want to select. Each frame you click on will be selected. You can also select multiple frames by clicking on a frame, holding down the SHIFT key and then clicking on another frame. All the frames between the two frames you clicked on will be selected.

Another way to select multiple timeline objects is to click and drag on an empty section of the timeline to start drawing a selection rectangle. All the timeline objects that intersect with the selection rectangle will be selected.

Play Selected Frames

When you have selected some frames in your animation it is possible to playback just this selection of frames by right clicking on any of the frames you have selected then click 'Play Selected Frames'.

It is very useful to use this feature when you are trying to find a section of the animation that can be repeated by copying and pasting. Select the frames you think you want to repeat and use 'Play Selected Frames' to check that they do show the section of action you want to repeat.

Cut, Copy & Paste Frames

For most occasions it is much easier to Zoom Out (see [The Timeline](#)) and cut, copy and paste groups of frames as Clips rather than trying to do it with individual frames. For more information see [Working with Clips](#).

Cut Frames

To cut frames from one location in your animation select the frames you wish to cut, right click on one of the selected frames and then click 'Cut' from the popup menu that appears. These frames will now disappear from your animation. When you next click 'Paste' the program will paste these frames back onto the timeline. *Shortcut Key: CTRL+X*

Copy Frames

To copy frames in your animation select the frames you wish to copy by any of the methods described above, then simply right click on any of the frames you have selected and click 'Copy' from the popup menu that appears. (Make sure you right click on one of the frames you have already selected.) The program will now remember these frames ready to paste them when you click 'Paste'.

Shortcut Key: CTRL+C

Paste Frames

To paste any frames you have copied or cut back into your animation right click on the timeline at the location you would like the copied frames to be pasted. Then click on 'Paste' from the popup menu. The program will now paste the frames you have copied or cut into the timeline before the currently selected frame. *Shortcut Key: CTRL+V*

Delete Frames

To delete the current frame click on the Delete Frame button in the [Animation Controls](#).

To delete all the selected frames (and any other selected timeline objects) click on the yellow 'Delete Timeline Objects' button on [The Timeline](#), or you can right click on one of the selected frames and click 'Delete'. *Shortcut Key: DELETE*

Recovering Deleted Frames

To view any frames that have been deleted in your animation click on the 'Settings' menu at the top of the program then click on 'Show Deleted Frames'.

Any frames that have been deleted from your animation will now be visible on the timeline. The images will be faint and the frames are not given a number or a time stamp.

To recover a frame right click on the frame and then click 'Recover'. Your frame will be returned to your animation.

You can also select multiple frames and recover them by right clicking on any selected frame and then click 'Recover'.

Permanently Deleting Frames

When you delete a frame from your project, it is not actually deleted, just hidden. To view any frames that have been deleted in your animation click on the Settings Menu at top of the program then click on Show Deleted Frames. Any frames that have been deleted from your animation will now be visible on the timeline. The images will be faint and the frames are not given a number or a time stamp.

Whilst Delete Frames are being shown the functionality of Zu3D is limited. To return to full functionality turn 'show delete frames' off again.

If you are certain that you will not need a particular frame, you can permanently delete it from your project by right clicking on the frame, then clicking 'Permanently Delete'.

Moving Frames

It is possible to move frames around in your animation by holding down the mouse on any selected frames and then dragging the frames to the left or the right. Simply let go with the mouse button when the frames are in the location you want.

Insert Blank Frames

You may find that you want a period of time in your animation with no images - an extended amount of time between a fade out and fade in, for example. You can add blank frames, or period of time displaying a certain image, by using the 'Insert Blank Frames' option and bringing up the Clip Properties dialog box.

Hold Frame

Choosing this option will allow you to 'freeze' the selected frame for a certain time period, measured either in frames or in seconds.

Properties

Choosing this option will allow you to see information on the selected frame.

With the 'Preview Image' tab selected, you can see the frame size and type. You also get the opportunity to recreate the preview image, updating it to reflect any changes you may have made to the original source files.

With the 'Captured Image' tab selected, you can see the size, file type and location of the, higher quality, captured image. Clicking the 'Edit' button will allow you to make changes to the file using the graphics software of your choice. You can use this to add your own effects to your animation.

Working With Clips

When you are zoomed out of the timeline, instead of seeing individual frames, you will see groups of frames, called clips, represented by a single image.

Select Single Clip

You can select a single clip of your animation by clicking on it in the timeline. When a clip is selected it is highlighted in yellow and the preview window will display the clip's image.

Select Multiple Clips

To select multiple clips hold down the CTRL key whilst clicking on the clips you want to select. Each clip you click on will be selected. You can also select multiple frames by clicking on a frame, holding down the SHIFT key and then clicking on another frame. All the frames between the two frames you clicked on will be selected.

Another way to select multiple timeline objects is to click and drag on an empty section of the timeline to start drawing a selection rectangle. All the timeline objects that intersect with the selection rectangle will be selected.

Play Clip(s)

When you have selected a clip in your animation you can play it back by right clicking on it and choosing 'Play Clip'. If you have multiple clips selected they will be played in order.

Insert Blank/Background Clip

You may find that you want a period of time in your animation with no images - an extended amount of time between a fade out and fade in, for example. You can add a blank clip, or period of time displaying a certain image, by right clicking on the zoomed out timeline and choosing the 'Insert Blank/Background Clip' option. This will bring up the Clip Properties dialog box and allow you to design your clip.

Cut, Copy & Paste Clips

Zu3D allows you to cut, copy and paste clips. This means you can repeat sections of your animation, for example a character blinking or waving are good actions to repeat. You could also repeat a character opening and closing their mouth to create basic lip syncing.

Cut Clips

To cut clips from one location in your animation select the clips you wish to cut, right click on one of the selected clips and then click 'Cut' from the popup menu that appears. These clips will now disappear from your animation. When you next click 'Paste' the program will paste these clips back onto the timeline at the selected point.

Shortcut Key: CTRL+X

Copy Clips

To copy clips in your animation select the clips you wish to copy by any of the methods described above, then simply right click on any of the clips you have selected and click 'Copy' from the popup menu that appears. The program will now remember these clips ready to paste them when you click 'Paste'.

Shortcut Key: CTRL+C

Paste Clips

To paste any clips you have copied or cut back into your animation right click on the timeline at the location you would like the copied clips to be pasted. Then click on 'Paste' from the popup menu. The program will now paste the clips you have copied or cut into the timeline.

Splitting Clips

You may decide you want to reuse a particular part of your animation multiple times. One way to do so is to split it off from the main clip into a clip of its own. To do this, simply choose the point on the timeline that you want to make the split and click on the clip, then click the green Split button on [the Timeline](#).

Joining Clips

As well as splitting a clip in two, you can also choose to join multiple clips together. Simply select the clips you want to join, and then click the red Join button on [the Timeline](#).

Reverse Clip

You can do this by selecting the clip, then clicking the blue Reverse button on [the Timeline](#).

Moving Clips

It is possible to move clips around in your animation by holding down the mouse on any selected clips and then dragging the clips to the left or the right. Simply let go with the mouse button when the clips are in the location you want.

Fading In and Out

You can choose to make your clip fade in or out of view. This can be useful for transitions between scenes, for example. To do this, simply click and drag on the fade button on the left of timeline and drop it over the end or beginning of your clip. To adjust the fade hover the mouse over the inside end of the fade (the narrow end), the mouse cursor will change to two horizontal arrows. You can now click and drag to adjust the length of the fade. To remove it, just adjust the length of fade to nothing, and the fade will be automatically removed.

With the fade applied the clip fades to transparent to show whatever video track is below this track. If there is no default video track then the default background colour is shown, this is black by default. So if you only have one video track, adding a fade will cause the clip to fade to black. For more information see [Multiple Video Tracks](#).

Delete Clip(s)

You may decide you no longer want a clip in your animation. In this case, you can remove it by selecting the clip and then click on the Delete Timeline Object on [the Timeline](#).

Properties

Selecting a clip, right clicking it and choosing 'Properties' from the menu will bring up the Clip Properties window. This will allow you to view and change various settings about the clip, such as name and fade settings.

Working With Sound

Sound Effects Controls

To add and manage sound effects and music in your project, make sure you are viewing the sound effects controls by clicking on the sound effects tab.

Import Sounds

To add new sounds to your project click on the Import Sound button. This will open the sound library dialog box:

Here you can browse the sound library for sound effects or music or choose any .wav, .mp3, or .wma file from your computer.

You can listen to the audio clips before adding them to your project by clicking on the green Play button. Use the slider to adjust the volume of the sound.

If you are browsing through lots of files you may find it helpful to tick the box 'Play each sound as I select it'. This will mean each audio file you click on will start playing automatically.

When you have chosen an audio file you can enter a custom name for the sound as it will be displayed in your project - for example your sound file might be called "Track 001.wma" and you could call it "Snazzy Music" to make it easy to find in your project.

Then click 'Open' to add the sound to project.

The audio file will now be converted to the correct format for your animation. If the audio file is quite long this might take a minute or so.

When the sound has been converted it will appear in your project sound library, ready to be added to your animation. The project sound library shows all the sound effects and music clips that have been added to your project.

N.B. If you decide not to use a sound effect or piece of music that is in the library in your animation, delete it from the project to save on computer resources.

Play Sound Effects

To play a sound effect from your project sound library select the sound by clicking on it - it will turn yellow - then click on the green Play Sound button.

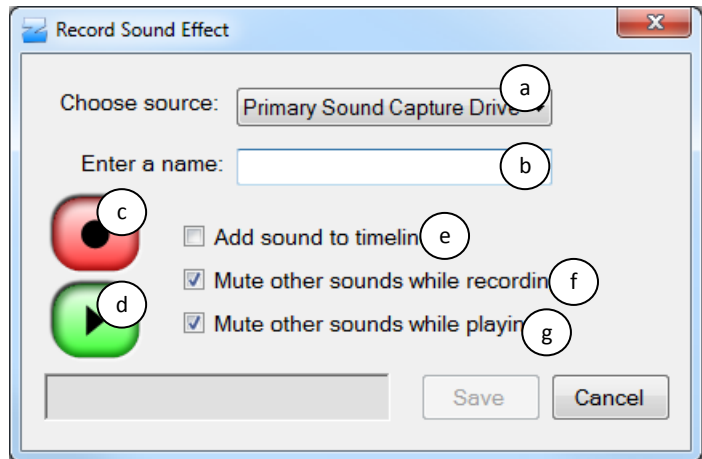
Delete Sound Effects

To remove a sound effect from your project select the sound by clicking on it then click on the yellow Delete Sound button. It is a good idea to remove any sounds that you don't want to use in your animation to save on computer resources.

Record Your Own Sound

Click on the red Record Sound Effect button to open the Record Sound Effect window.

- a) First choose the recording source you wish to use, normally you can just leave this on the default setting. If you have more than one microphone connected to your computer you may need to choose the correct recording source from the list that corresponds to your microphone.
- b) Enter a name for your sound, this is how it will be identified in your project.
- c) Press the red record button to start recording your sound, then press this button again to stop recording.
- d) Listen to your sound by clicking on the green play button
- e) *Add sound to timeline*: If this box is ticked when you click 'Save', the sound will be automatically added to your animation.
- f) *Mute other sounds while recording*: When you click on the Record Sound Effect button, your animation will begin to play in the background. This allows you to narrate your movie, or record sound effects that match the timing of the film. Ticking this checkbox mutes any sounds already in your animation, so as not to interfere with your recording.
- g) *Mute other sounds while playing*: This will allow you to hear your recording without any other sounds you may have added to your timeline.



Adding Sounds to the Animation

To add a sound to your animation it must be first added to your project sounds library either by importing it or by recording your sound.

Any of the sounds from the project sounds library can be added to the timeline by clicking on them and dragging the sound down to the timeline. It doesn't matter which of the light grey audio tracks you add the sound to.

When the sound is in the right position let go with the mouse button and the sound will be added to the timeline and included in your animation.

Moving Sound Effects

To change the place at which the sound effect starts simply click on the sound effect in the timeline and drag it sideways to the position you want it to be in. You may find it useful to Zoom Out before doing this.

You can also drag the sound up and down on to a different sound track. This allows you to have multiple sounds playing at the same time. For example, on one sound track you might have some background music and on another you may have short sound effects or speech.

Mute Individual Sounds

To mute individual sounds in your project right click on the sound effect you wish to mute and click 'Mute'. This may be useful if you have an animation where you have already added some music as a background sound track and you are trying out some different sound effects. You can mute the background music whilst you try the different sounds so you can hear them clearly when you playback your film. To mute all the sounds in your film at once click on the main Mute button in the timeline controls.

Removing a sound

To remove a sound from your animation select it then click on the yellow Delete Timeline Object button on [The Timeline](#).

Splitting a sound

Sounds don't need to be used as they are - they can be split into parts. Select the sound and ensure that the play cursor is at the position in the sound that you want to split, then click on the Split button (the scissors) on [The Timeline](#). The sound will be cut at the selected point, and you will be able to move and change the two halves as if they were two separate sounds.

Trimming the Beginning or End of a Sound

Sometimes it may be useful to chop off the beginning or end of a sound effect. Maybe a piece of music has a long introduction that you don't want to use, or maybe when you recorded a sound it picked up bit of background noise at the beginning or end.

Move your mouse over one end of the sound effect in the timeline and the cursor will change to a splitter symbol. You can now click and drag the start or end of the sound to the right or left, frame by frame. The sound will now start or finish at the point you selected.

Changing the Volume of a Sound

When you watch your animation, you may find that some sounds are too loud or too quiet - the music may be drowning out the sound of people talking, for example.

To change the volume hover the mouse over the top edge of the sound clip, and the cursor will change to two vertical arrows, now you can click and drag to lower the volume of the sound.

Fading a Sound

Sometimes you might find that you don't want a sound to start at its full volume. If you had a sound effect of someone running, for example, and you wanted them to sound as if they were running towards you, then you would want the sound to start off quietly and gradually get louder. Similarly, you might want your music to fade away at the end of a scene, instead of just stopping. You can do these things by adding a fade.

To add a fade click and drag on the fade button on the right of timeline, drop this fade over the end of your sound. To adjust the fade hover the mouse over the inside end of the fade (the narrow end), the mouse cursor will change to two horizontal arrows. You can now click and drag to adjust the length of the fade. To remove it, just adjust the length of fade to nothing, and the fade will be automatically removed.

Cut Sounds

To cut sounds from one point in your timeline, select the sound you wish to cut, right click on it and then click 'Cut' from the popup menu that appears. This sound will now disappear from your timeline. When you next click 'Paste', the program will paste this sound back onto the timeline. *Shortcut Key: CTRL+X*

Copy Sounds

To copy sounds in your timeline, right click on the sound and click 'Copy' from the popup menu that appears. The program will now remember this sound ready to paste it when you click 'Paste'. *Shortcut Key: CTRL+C*

Paste Sounds

To paste a sound you have copied or cut back into your timeline right click on the timeline at the location you would like the sound to be pasted. Then click on 'Paste' from the popup menu. The program will now paste the sound you have copied or cut into the timeline at the currently selected frame.

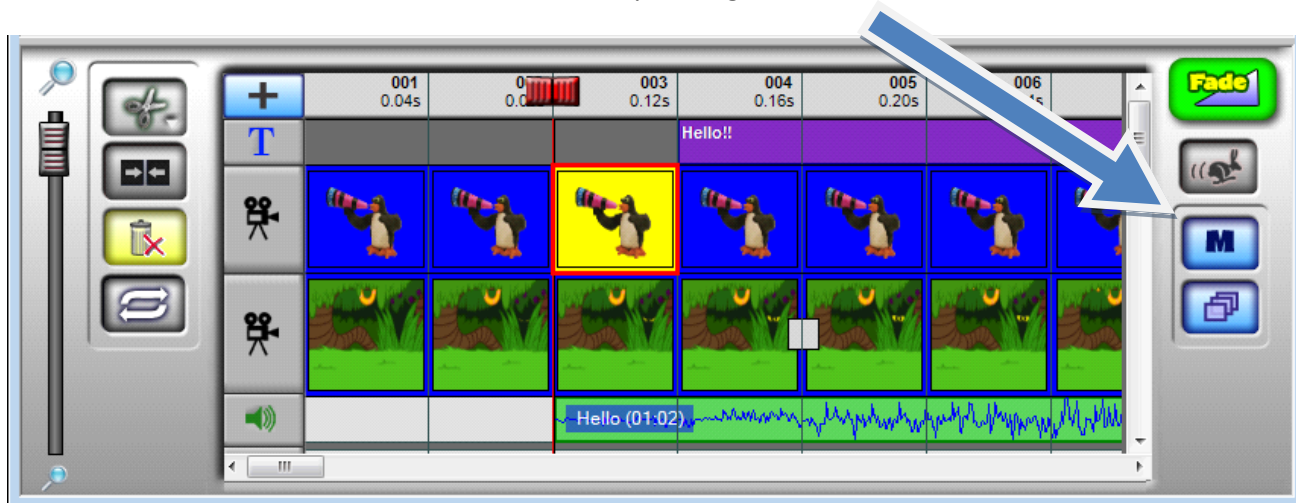
Sound Clip Properties

Right clicking on a sound in the timeline and choosing 'Properties' from the popup menu will display the Sound Clip Properties window. This gives information about the sound - what it's called, how long it is, and where it appears in the timeline.

Clicking the green button will play the sound. You can alter the sound volume by using the slider bar, and change its fade settings.

Multi-Edit Mode

The multi-edit mode (especially when combined with the selection tools) is one of the most powerful features of Zu3D. You can enable multi-edit mode by clicking on the Multi-Edit mode button.



When multi-edit mode is on any changes made the current frame (the one showing in the preview window) will be apply to all the selected frames. This can be useful when you are using the Drawing Tools and want to draw over a lot of frames at once. Just select the frames you want to draw onto, then enable multi-edit mode and draw over the current frame. When you have finished drawing your changes will be applied to all the selected frames. If you have lots and lots of frames selected this can take some time.

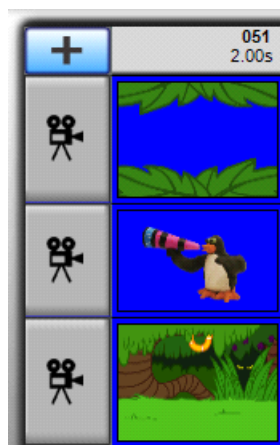
You can also use the multi-edit mode when you are using the chroma-key tools.

To apply automatic chroma keying to a number of frames, just select those frames in the timeline, then apply multi-edit mode, then click the automatic chroma-key button. All the selected frames will have automatic chroma keying applied.

Multiple Video Tracks

In Zu3D it is possible to have an unlimited number of Video Tracks. New video tracks can be added by clicking on the blue + button at the top left of the timeline.

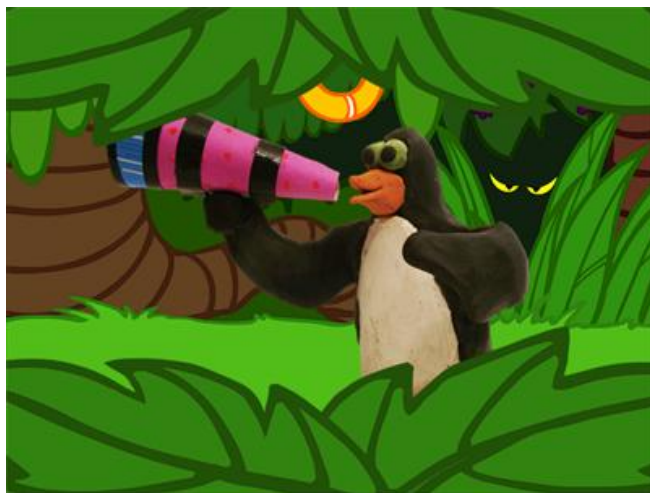
Multiple tracks of video only start to make sense when you can 'see through' one track to another. When Chroma-Keying is applied to a frame or video clip parts of the image become transparent making it possible to see through the frame to video track below. This diagram attempts to illustrate this concept.



Video Tracks



Images are overlaid upon each other



To create the combined image

The top most video track is always the image that is always at the very front of the combined image, the bottom video track holds the image that is always at the very back of the combined image. If an image with no transparent parts was on a video track above other video tracks, the lower video tracks would not be seen as the higher frame would cover them.

Move Video Tracks

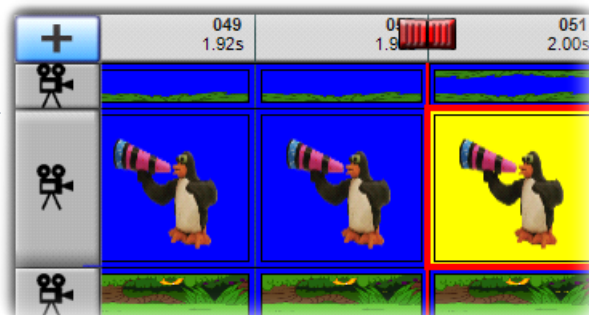
It is possible to move video tracks around in the display order by clicking and dragging on the video track header, or by right clicking on the video track header, and choosing the option from the context menu which

appears. You can also move clips and frames from one video track to another just by clicking and dragging on the clips. For more information see [Working with Clips](#).

Adjust Height of Video Tracks

It is possible to adjust the height of Video (and sound) tracks by clicking and dragging on the line between each tracks row header.

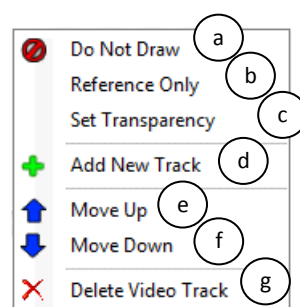
This can be helpful if you have a lot of video tracks on your timeline, but you don't need to see them all in detail, for example you might have a background image which doesn't change throughout your film. You could make the video track with this image on it smaller in order to make it easier to see the rest of the timeline.



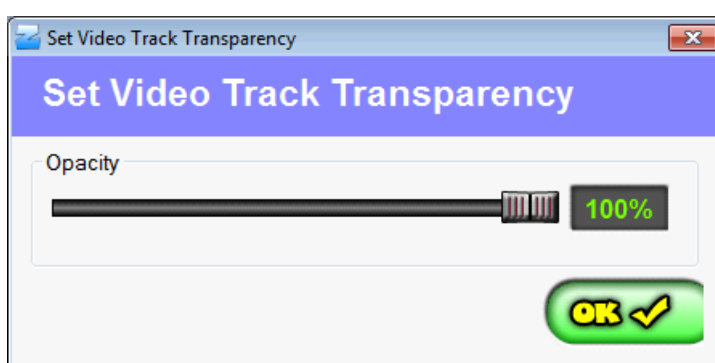
Video Track Context Menu

If you right click on the video track row header the video tracks context menu appears.

- a) Do Not Draw - If this option is enabled the video track does not show in the preview window. This is useful if you are drawing or working on a lower video track and want to temporarily disable a higher video track which might be obscuring your view.
- b) Reference Only - Sometimes you might want to use a video track to hold reference information. For example you could use the drawing tools to draw in markers to plan your film, or you might want to import some video to use for rotascoping. In these cases you won't want this track to show in the film when you export it. If you select 'Reference Only' the video track will go red, and it will only show when you are previewing your film, not when you export it.
- c) Set Transparency - It is possible to change the transparency of a whole video track. When you click this option the Video Track Transparency window will appear.



Here you can set the opacity of the video track between 0% and 100%. If you have a reference only video track which you are using for rotascoping it can be useful to lower the opacity of the video track so you can see through the video to your animation below.



You could also use this feature as part of your film, for example you may have a video track which contains video or animation of rain falling, you could change the transparency of this track so the rain is partially transparent. It is also possible to do this for individual clips, see [Working with Clips](#) for more information.

- d) Add New Video Track - Click this button to insert a new video track.
- e) Move Video Track Up - Move this video track up in the display order.

- f) Move Video Track Down - Move this video track down in the display order.
- g) Delete Video Track - Delete this video track and all the frames it contains.

Video Tracks and the Drawing Layer

Each and every frame on each and every video track can hold a captured or imported image, and a drawing layer. The drawing layer (see [Drawing Controls](#) for more information) always appears above the capture or imported image for that frame.

So if you want to draw onto your frames, and your drawing to appear in front of the captured image, you only need one video track and you can just draw over the frames. If you want the drawing to appear below the video track then you need to add a new video track below the current one, and draw onto frames on that track. Your drawing will now appear behind the capture image. Remember if the captured image does not have any transparent parts then you will not be able to see the drawing as it will be covered by the video tracks.

Advanced Drawing Tools

This section is coming soon. Please check our website for more information. www.zu3d.com

Advanced Chroma-Keying

This section is coming soon. Please check our website for more information. www.zu3d.com

Menu Bar

This section is coming soon. Please check our website for more information. www.zu3d.com

Trouble Shooting

My camera doesn't seem to work with Zu3D?

The first thing to do is to check that your camera is being recognised by your PC.

To do this download the Microsoft test utility by clicking on this link:

[AM Capture Download](#)

Unzip the downloaded file, and run the file amcap.exe. If your camera is working you should see the live image on your screen. If you don't see the image from your camera in AM Capture you need to check that the camera is installed and connected correctly.

If you do see the image in AM Capture but it is still not working in Zu3D please contact us via the [support form](#) providing as much information as possible about your camera and any error messages Zu3D produces.

Where is the Audio Library stored?

By default, the audio library will be installed to:

C:\Program Files\ZuLogic Ltd\Zu3D\Media Library\

In the single-user (ie, non-network) version of the Zu3D software, this path can be altered during installation. While it is recommended that the audio library is installed to the local PC, it is also possible to install it to a network share, either via a mapped drive or UNC path.

Can I install Zu3D to a server, and run the program across the network?

No, Zu3D must be installed to each workstation.

We use a proxy server - will Zu3D work?

Zu3D requires internet access for activation (single-user) and to allow animations to be uploaded to the online gallery. By default, it will use the same settings as your internet browser, but they can also be altered manually (if your proxy server requires a login, for example).

These settings can be found under 'Network Settings' in the 'Settings' menu.

If you are performing a network install of the software, and manual proxy settings are needed, they can be exported to a registry file for easy deployment using the button on the 'Advanced' tab in 'Network Settings'.

Zu3D needs to have .Net 2.0 installed first - where do I get it from?

.Net 2.0 can be downloaded from the Microsoft website: [.Net 2.0](#)

How do I install .Net 2.0 on my network?

If you have an RM CC4 network; good news! It will be included in all of your workstation builds by default, so you don't need to worry.

If you have an RM CC3 network, and .Net 2.0 is not already installed, you can order a free copy from RM.

Instructions for deploying .Net 2.0 on a 'vanilla' Windows server network can be found [here](#). Note: these instructions are for Server 2000, but apply equally to later versions of Windows Server.