9. Art Editing

A major new feature of WolfEdit 2 is the ability to replace the artwork. You can change the appearance of walls, doors, objects and guards, as well as the status bar and Intermission screen. By doing this, you can not only create new floors, but turn Wolfenstein 3D into almost a completely different game. This chapter explains how to use these faciliies.

The artwork can be divided into three general categories: Wall and sprite   art, which covers wall and door images and objects that move around in the game; Interface   art, which includes the status bar at the bottom of the screen and the images of weapons held by the player; and Title and Intermission   art, which covers the artwork appearing on the Title and Intermission screens.

Preparing Art

First prepare your artwork using your favourite drawing or painting application. For best results, the image should be exactly the right size. For wall and sprite art, this is 128 by 128 pixels; sizes for other types of art are given in the relevant sections below. If the artwork is not the right size, WolfEdit will scale it to fit.

For best colour rendering, your image should be prepared using the same colour palettes that Wolfenstein 3D will use during play. There are three palettes, the Title Palette, the Game Palette and the Intermission Palette. The Title Palette is used for the title screen, the Intermission Palette is used for the intermission screen, and the Game Palette is used for everything else.

For your convenience, colour palette files for some popular graphics applications, containing the default Wolfenstein palettes, have been included with WolfEdit 2.
Also included are stationery files for those applications with the Wolfenstein Game palette installed and various settings arranged in a way suitable for Wolfenstein art creation.

If you find that the colours available in the Wolfenstein palettes are not sufficient for your needs, it is possible to change the palettes; see the section on Colour Palettes   below.

Installing Art

When your artwork is done, select it and Copy it to the clipboard. Then go to the appropriate art editing window in WolfEdit. The art editing windows are all reached using commands in the Art/Music menu. Depending on the type of art window, you may need to select which item you want to change. Now choose Paste from the Edit menu, and your new artwork will appear.

Wall and Sprite Art Windows

There are five art editing windows for walls and sprites, reached via the following commands in the Art/Music menu:

Walls   for editing wall images.

Doors   for editing door images.

Objects   for editing inanimate objects.

Enemies   for editing the animation sequences of the enemies.

Projectiles   for items that fly through or float in the air.

These windows have some features in common, and some that are unique to each window. The common features will be described first, followed by the special ones.

All five of these windows have a large square in the bottom left corner; this is the art box, where the art that you paste in will go. All except the Projectiles window have a palette across the top for selecting which image you want to change.

When you select an item from this palette, a thick black border should appear around the art box. (If not, click on the art box.) This border indicates that the art box is the current target of cut-and-paste commands. If you now choose Paste from the Edit menu, your artwork will appear in the art box.

Now select some other item from the palette. The message "Compressing Image" will appear; this may take a few seconds. When it has finished, you will notice that the small picture, or "thumbnail", of the item in the palette has changed to a shrunken version of the image you pasted in. The same image will now appear in the map palettes, and wherever you use the item in a map.

If you select an item which already has a custom image installed, the image will appear in the art box. You can Copy this image to the clipboard. You can Clear it, which will remove any custom image associated with the item and revert it to the default image built into Wolfenstein. You can also Cut it, which will do both of these.

You can transfer artwork from one scenario to another by opening the relevant art windows of both scenarios and copying and pasting between them.

Installing Thumbnails

Depending on your artwork, you may find that the default thumbnail created by scaling down the image is difficult to recognise or to distinguish from other, similar ones. If you want, you can install a custom thumbnail for the selected image by clicking on the small square at the top right of the image box and choosing Paste from the Edit menu.

If an item has a custom thumbnail installed, the thumbnail will no longer be changed when you paste an image into the main image box. To remove a custom thumbnail, and thus re-enable automatic thumbnail generation, select the thumbnail box and Clear it.

Wall Art Window

The Wall Art window has various special features due to the nature of walls in Wolfenstein 3D. Each wall block has two views, a north-south view and an east-west view. Normally both these views are the same, but it is possible to assign a different image to each view. (An example of this in Wolfenstein is the day/night outdoors wall type.)

The View option selects which view of the wall is displayed in the image box. If the Split View option is turned off (the default for most walls), pasting an image into either view will change it for both views. If Split View is turned on, you can paste a different image into each view.

The Shade option causes the image to be displayed in a slightly darker shade for that view during play. Normally this option is turned on for one view and off for the other, to enhance the contrast between two walls of the same type when they meet in a corner.

The Mirror option causes the image to be reversed left-to-right for that view during play when seen from the north or east side. Usually this option is only used for doors (see the Door Art Window   section below).

Door Art Window

The item palette in the Door Art window contains five items: the four types of door, and the door side panel, which is the image placed on either side of a doorway.

The following effects are available for these images:

The Shade option has the same effect as for walls (see the Wall Art Window section above). However, it's not as useful for doors, since a door only has one view. If this option is turned on, all doors of that type will be shaded, regardless of their orientation.

The Mirror option causes the image to be reversed left-to-right during play when seen from the north or east side. This option is normally turned on for doors, so that the handle appears in the correct place according to which side of the door you're looking at.

Object Art Window

Object images differ from wall and door images in that parts of an object image may be

transparent. In the Wolfenstein colour palette, there are two white entries - one at the top left, and another further along. The one at the top left is "transparent white", and the other one is "opaque white".

You should fill the background of your object (the areas outside the object itself) with transparent white, and make sure any white areas that you don't want transparent are painted with opaque white. Then you should select a 128 by 128 pixel area framing your object. The object should be positioned within the frame the way you want it to be during play. For instance, an object which is supposed to be on the floor should be at the bottom of the frame.

Note that you can change the appearance   of an object, but you can't change its behaviour.   This means, for instance, that you can make the puddle into a 10-foot high statue, but the player will still be able to walk through it. And you can turn the machine gun into a wardrobe, but the player will still be able to pick it up and shoot things with it. So, when re-designing an object, you should pick one with appropriate characteristics.

Note also that there is no palette entry for the Dead Guard object. This is because the Dead Guard uses the "Dead" frame from the Brown Guard animation sequence (see the Enemy Art Window   section below).

Enemy Art Window

Each item in the Enemy Art window has not just a single image associated with it, but a   series of animation frames, selected by a pop-up menu. You can also step back and forth through the frames using the two buttons underneath the menu.

A thumbnail will only be created from the image that you paste into the first   animation frame. If you want some other frame to be used for the thumbnail, select and Copy that frame's image, then Paste it into the thumbnail box.

Projectile Art Window

This window is used to edit some miscellaneous images that are used for various purposes in the game. Because these images don't correspond to any map items, there is a pop-up menu for selecting them instead of a palette, and there is no thumbnail box.

The original versions of these images are as follows:

Outgoing Rocket is a rocket flying away from you.

Fireball is a ball of flame made by the flame thrower.

Game Over is the lettering that floats in front of you when you die.

Incoming Rocket is a rocket flying towards you.

Explosion 1 is the first stage of a rocket explosion.

Explosion 2 is the second stage of a rocket explosion.

Incoming Hypodermic is a syringe being thrown at you by the Mad Doctor.

Victory is the lettering that floats in front of you when you win the game.

Title Screen and Get Psyched Windows

The Title Screen window is used to set the picture that Wolfenstein displays before starting a scenario. Be aware that this picture will not be shown when you first open a scenario, since it gets loaded before the scenario file is opened. It will be shown, however, if you get killed and start the scenario over again.

The Get Psyched window is used to replace the "Get Psyched" message that appears just before beginning a level.

The sizes of these pictures are as follows:

Title Screen	512 x 384
Get Psyched	239 x 71

Interface Art Windows

There are three different sizes of Interface Art in Wolfenstein, which are used for different playing window sizes. Consequently, there are three Interface Art editing windows, reached via these commands in the Art/Music menu:

Interface 320   for the 320 pixel wide screen format.
Interface 512   for the 512 pixel wide screen formats.
Interface 640   for the 640 pixel wide screen format.

All of these windows function identically. There is a list of items on the left hand side; selecting one of the items causes the appropriate image to appear on the right. You can then use the Copy and Paste commands to change the image.

There are three classes of image found in this window: Status Bar images, Weapons and Intermission Digits. The first two classes appear in all three Interface windows, whereas the third only appears in the Interface 512 window.

Status Bar Images

The Status Bar images include the status bar across the bottom of the screen and everything that appears within it. Each of the status bar images has a particular size, which is displayed above the image when you select the item. For best results, the image you paste in should be the same size.

Weapons

The Weapon images represent the weapons as they are seen when you are holding them in front of you. They come in groups of four, forming an animation sequence for firing the weapon. Unlike the status bar images, the weapon images do not have a fixed size; you can paste in any sized image up to the maximum size displayed above the frame, and it will automatically be placed in the bottom centre of the frame.

Weapon images may have transparent areas, and the same considerations concerning transparent and opaque white apply as for the object and enemy images.

Intermission Digits

These are the digits used on the Intermission screen. They're somewhat out of place here, since they don't really have anything to do with the game window, but for some reason Wolfenstein stores them along with the Interface 512 images. There is only one set of Intermission Digits, which is used regardless of the screen size setting. They are displayed using the Intermission Palette rather than the Game Palette (see below).

Interface 512 Caveat

There is a complication to be aware of when changing the Interface 512 art. Wolfenstein seems to pre-load the Interface 512 art before opening the scenario file. As a result, if the screen width in WolfEdit's Preferences file is set to 512 (which it will be if that is the size last used), and the user plays a scenario containing custom Interface 512 art, Wolfenstein will not use the new art, and will use its built-in art instead.

If this happens, to get the new art it is necessary to switch to a different screen size and back to 512 during play. This is a nuisance, but short of patching Wolfenstein there doesn't seem to be anything that can be done about it.

This problem does not apply to the 320 or 640 wide screens, only the 512.

Intermission Art Window

There are two windows for editing art associated with the Intermission screen, reached via commands in the Art/Music menu:

Intermission Background   for the background picture.
Intermission Animation   for the animation of BJ huffing and puffing.

The Intermission Background window is very simple to use – just Paste in a picture. For best results it should be 512 by 384 pixels.

The first time you open the Intermission Background window, it will contain a template which indicates the positions where the animation and scores will be displayed during play. You can Copy this template and use it as a guide when preparing your own background.

The Intermission Animation window has a list on the left for selecting which animation frame to replace. There are three frames; Wolfenstein alternates between the first two   for a few seconds, then displays the third.

Warning: The colour palette that Wolfenstein uses for the intermission screen is very unbalanced – it contains a lot of reds, oranges and yellows, and hardly any greens or blues. If you paste an image containing green or blue into one of the Intermission windows, it will almost certainly have the wrong colours during play. See the next section for how to fix this.

Colour Palettes

You can use the following commands from the Art/Music menu to install custom colour palettes into your scenario:

Title Colours   for colours used in the Title screen.
Intermission Colours   for colours used in the Intermission screen.
Game Colours   for colours used everywhere else.

If you are installing custom Title or Intermission art, you will almost certainly want to replace the associated palette.

However, replacing the Game palette is a much more onerous undertaking. The reason is that if you change a colour in the Game palette, it will affect every   use of that colour in every   image that appears in the game window, in both Wolfenstein's built-in art and any custom art that you have already installed in your scenario.

So, if you change the Game palette, you are then responsible for replacing every single piece of game artwork – walls, doors, objects, enemies, interface, the whole works.

If you really want to do this, you should decide on the game palette you want first,   before you install any custom artwork, because any change you make to the palette later will invalidate any artwork you have already installed.

Colour Palette Windows

The colour palette windows have a 16x16 grid which displays the current colour palette, and some buttons down the right hand side.

The Standard button installs a copy of the relevant one of Wolfenstein's built-in colour palettes.

The System button installs a copy of the Macintosh standard system colour palette, which provides a good general-purpose range of colours.

The Import… button allows you to import a colour palette from a file. WolfEdit should be able to interpret the colour palette files produced by most drawing and painting applications, although there is no guarantee that it will understand all of them.

(Technical note: WolfEdit can read any colour palette file that contains a standard 'clut' resource.)

The Export… button allows you to export the current colour palette as a file, so that you can load it into a drawing or painting application. Since WolfEdit doesn't know the file types used by all such applications, it will ask you to find an existing   colour palette file, and replace its contents with the colour palette being exported.

The Edit button allows you to change an individual palette entry. Click on the entry you want to change and press Edit, or double-click the entry. You will get the Colour Picker so that you can select a new colour.

Game Colours Window

The Game Palette editing window has a couple of extra features. Two special entries in the palette are marked 'F' and 'C'; these are the colours used for the floor and ceiling. To change one of these entries, click on the colour you want to replace it with, and click the Floor or Ceiling button. The two colours will swap places in the palette.

Alternatively, you can select the floor or ceiling entry and Edit it as above, but it is probably better to use the swapping method, because it leaves the range of colours provided by the palette unchanged.

Note: you cannot   change just the floor and ceiling colours without affecting anything else! Like any other change to the game palette, changing the floor or ceiling colour will change every occurrence of that colour in all the game artwork.