

AutoShape for simple 3D objects.

A cube got 6 sides and eight corners. Using Autoshape you may specify where in space each of the corners should be, and thus create many simple objects without the use of a sophisticated 3D design tool.

Walls, platforms, loading ramps, crossings, pillars, piers, all kind of straight or slanting boxes or cubic things.

Having the exact measures you need and without using real 3D programs.

You can check your work during the process, using Paul Gausden's ShapeViewer.

Each of the 6 sides can be painted with sections of a bitmap (bmp) picture. On larger surfaces, like f.x. a long wall, the texture may be repeated as many times as needed. Every side is "painted" separately, when done, Autoshape will create the ACE file from the used bitmap image.

Again use ShapeViewer to check.

Last Autoshape saves the texture **.ACE** fil(er), the Shape **.S** file and the Shape data **.Sd** file, ready for use in a route !

Other programmes

AutoShape requires:

- FFEEdit_Unicode.exe normally found in the *Utils* folder in the MSTS installation.
- MakeAce.exe 1.04 fro MSTS toolupdate, also found in the *Utils* folder.
- SView is made by Paul Gausden, you may find it several places. For example on the australian train sim homepage: <http://www.railpage.org.au/steam4me>
(note the the newest version do not work on older PC's, I have been using v.1.3)

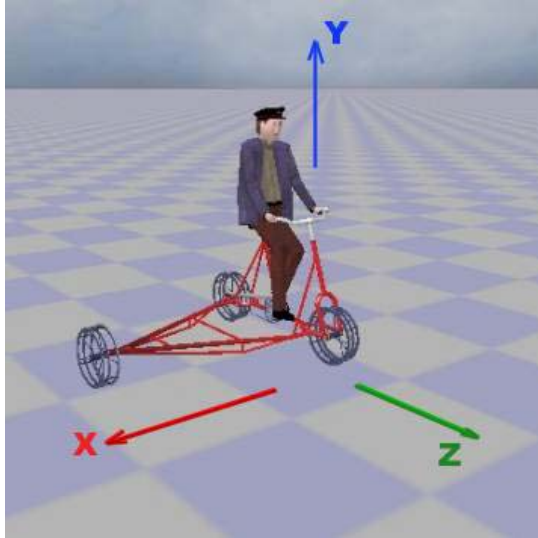
Installation

Unpack the folder AutoShape and place it somewhere suitable.

Start AutoShape.exe and open menu "Setup"

Locate the 3 programs mentioned above, then you are ready.

The 3D world in MSTS



"Hansen" riding a bike in 3D space

X, Y, Z

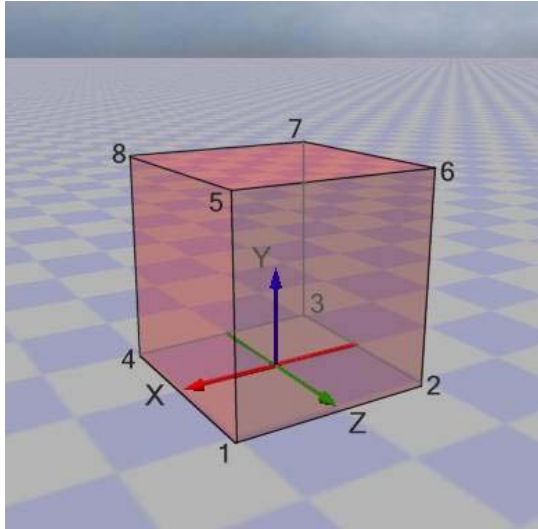
No, this is not complicated mathematics, but directions needed to have names so people have agreed upon these letters.

Direction Z is forwards + , and back –

Direction X is right + , and left –

Direction Y is up + , and down –

The X,Y,Z are just used to tell AutoShape what we mean with terms like: the "right" side of something.

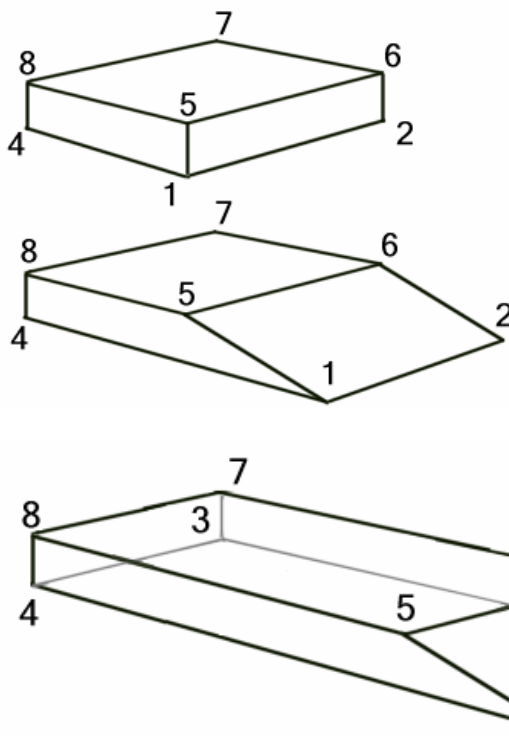


We replace "Hansen" with a box. I have given each corner a number.

We can now tell AutoShape that corner 5 should be positioned at: $X=200$, $Y=400$ and $Z=200$

That means. 2 meter to the right, 2 meter forward and 4 meter up in the air.

If this thing is a cube with 4 meter sides, then the corresponding values for corner 6 would be: -200 , 400 and 200 . That is, just as far forward and in the same height as 5, but now to the left ($-X$) instead.



Let's try an example:

The cube can easily be lower, all upper corners Y values are changed to 100 cm.

Lets make a slope, pretending this to be a loading platform. Do that by moving the corners 1 and 2 forward in direction Z.

Z values for 1 and 2 are changed from 200 to 600 cm. Now we got a 4m long slope leading up to a 4m x 4m platform.

All right, it should have been longer.

Corners 4, 3, 8 and 7 (the whole $-Z$ side) is moved 5m back.

Z value change from:
 -200cm to -700cm

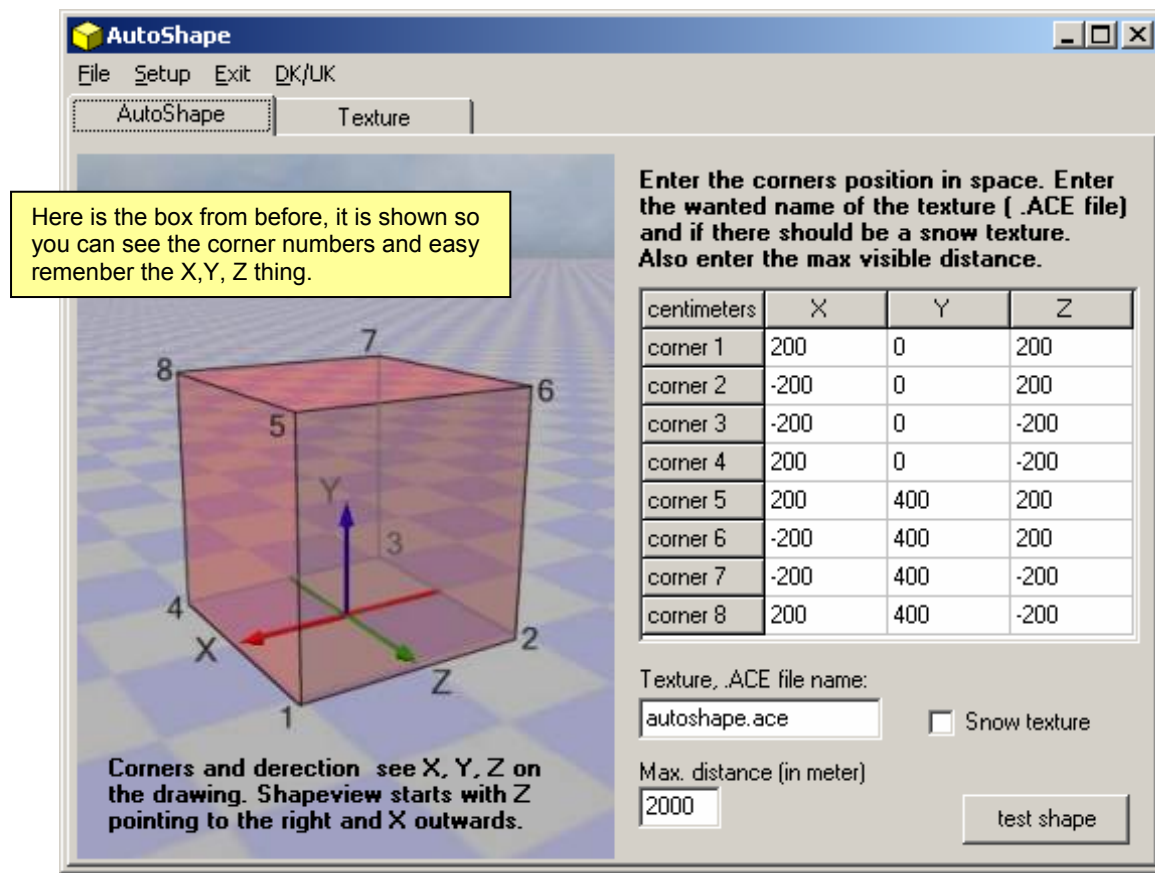
In AutoShape the best chance of a god result is when the object is more or less symmetrical around the 0-point.

We are unable to "twist" or bend the sides so that they curves. Each side must be a plane, but ofcause it can be tilted in any direction.

AutoShape is a simple program it will accept whatever you write. Do not make strange shapes that are twisting or turning inside out. Or at least do not use them in a route. - It **can** create problems in MSTs.

No more theory, lets take a look at AutoShape.

AUTOSHape



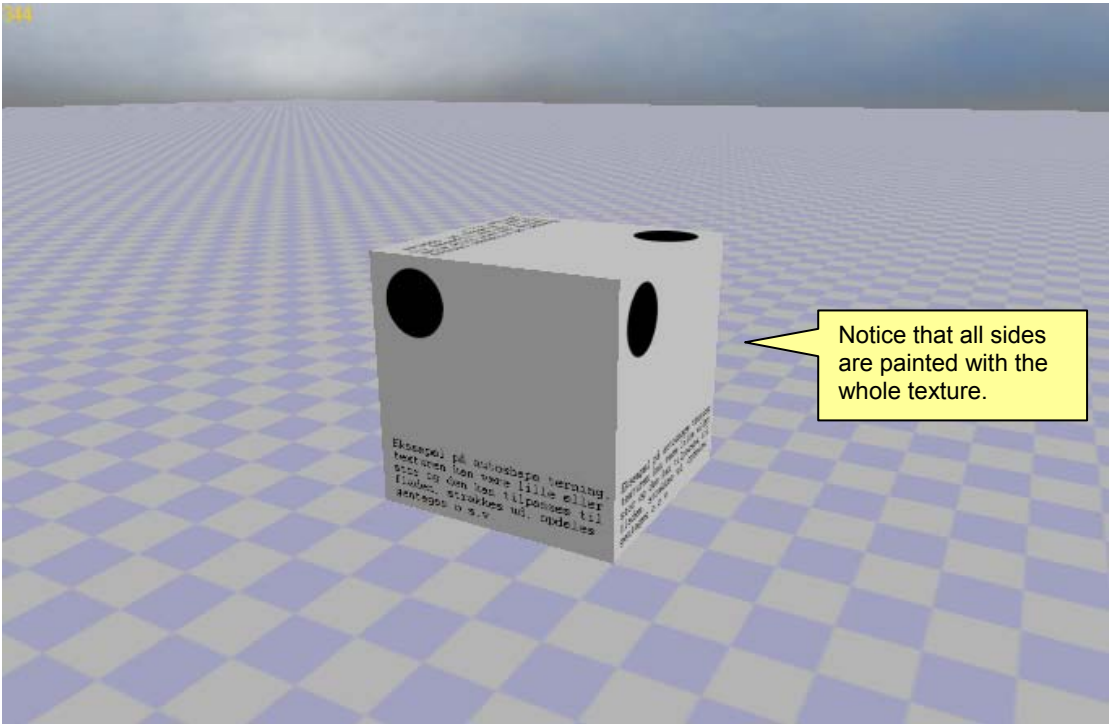
Below the AutoShape page there is a list where you specify the 8 corners positions in the XYZ directions. The numbers already entered is just a guideline that you change. These were the numbers we manipulated in the previous loading platform example.

Texture shows the demo texture, we will return to that later.

Max. distace tells MSTs when to begin drawing the shapen, the 2 Km entered is the highest possible. If the object is a small or flat thing that cannot be seen more than 500 meter away, then there is no reason to use CPU power before the train gets that close. You state the distance here.

We need not create anything right now, just try pressing **test shape**

ShapeViewer should emerge showing this cube, (if the setup is ok)



If this works the program are setup correctly.

If not, check ShapeView in the **Setup**.

Now try setting the corners to give a long wall. Say 50m, 2m high and 40cm wide.

+X is 20cm to the right for the 0-point, the left side is -20cm, = 40cm wide.

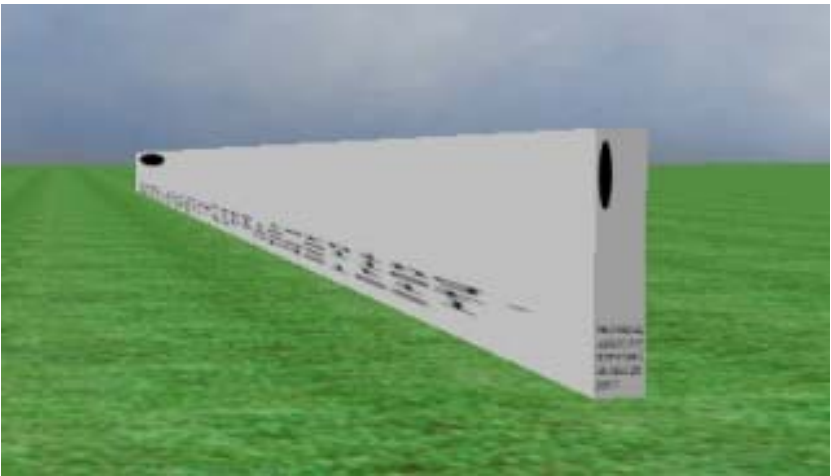
Front and back, +Z and -Z, are each 25m from 0, = the total length 50 m.

corner	X	Y	Z
1	20	0	2500
2	-20	0	2500
3	-20	0	-2500
4	20	0	-2500
5	20	200	2500
6	-20	200	2500
7	-20	200	-2500
8	20	200	-2500

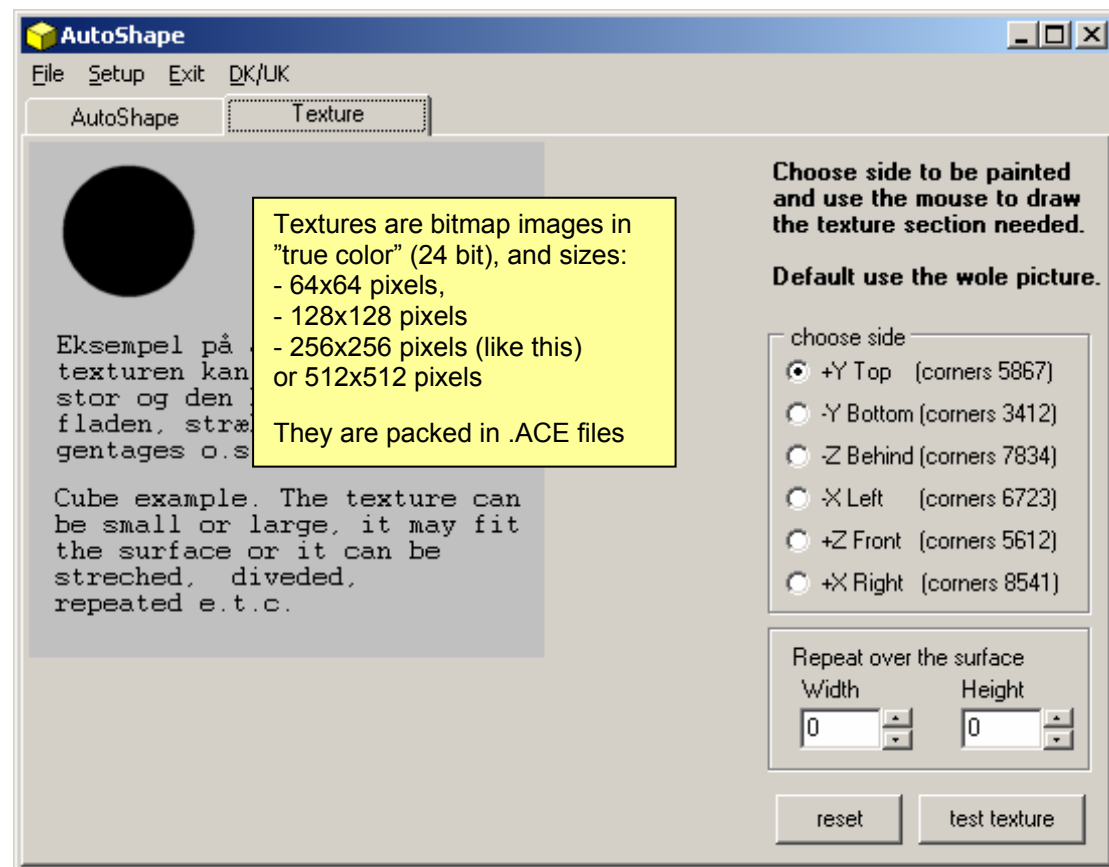
Press **test shape**
It will now show:

I have set "grass"
in ShapeView, but
still the wall is not
very pretty with the
demo texture.

So, let's paint.



TEXTURE



Page Texture shows the picture, that you may load to be used as texture. Format .BMP (bitmap). AutoShape will use the same name when creating the .ACE file.

To the right you choose the side to be painted, remember "Hansen" in 3D or the picture of the box on page AutoShape. Let's try to choose +X, that is the right side with the corners 8,5,4,1.

On the wall from before, you can see how the texture was stretched to fill the length of the wall, and compressed at the ends of the wall.

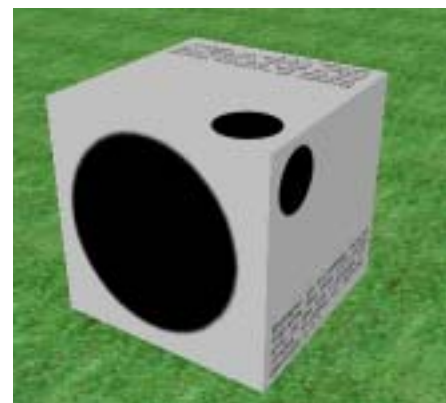
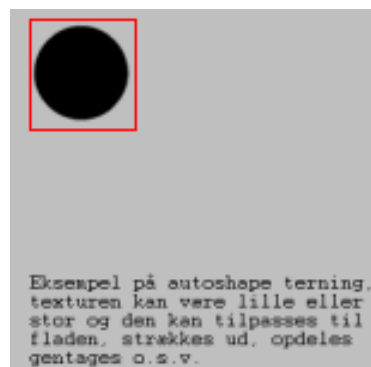
We decide that a narrow part of the texture is to be used on the wallends, while a larger part shall be repeated a number of times to fill the surfaces along the wall.

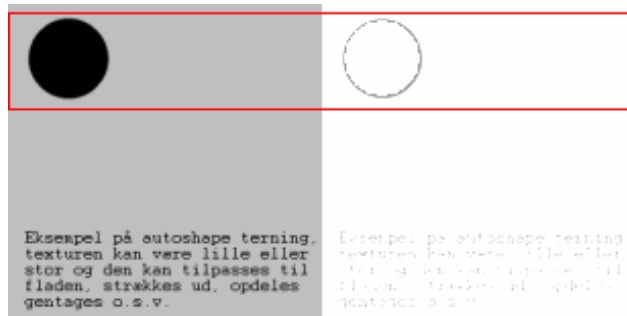
This is done by "drawing" a rectangle with the mouse (press left button and pull) Depending upon the direction of movement you turn the section upside down, mirror (or both).

This rectangle is stretched over the surface

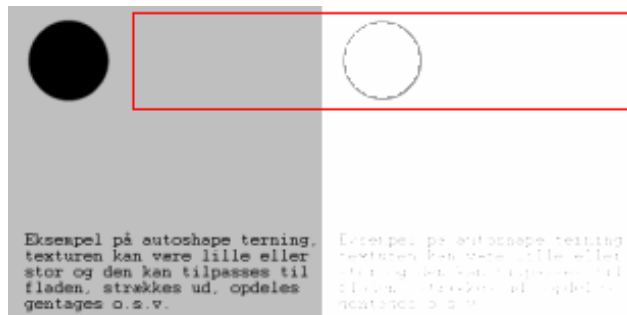
Test texture show the result.

The **reset** button selects the whole image again.

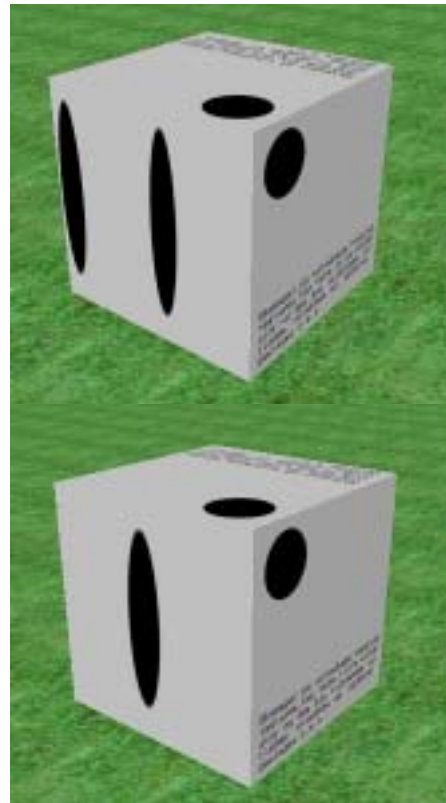




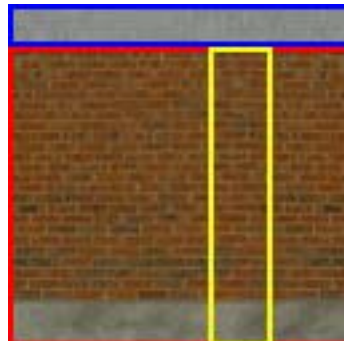
Repeating, is best illustrated by a picture, this is repeated twice =2 (1 adjusts to the edge)



Repeat uses the full width (or height), but it may start in the middle. Imagine it to “wrap around”



Well, we were building a wall, so use the “mur” texture...



The blue rectangle is repeated 10 times on the top of the wall.

The red rectangle is used on the sides, also repeated 10 times.

The walls ends are using the yellow rectangle, and that need not be repeated.

test texture
will show the result,
nice eh...?



Now all we have to do is to let AutoShape finish the files and save the result.

Some facts

AutoShape demo wall texture can be found in the AutoShape textures folder as both ACE and BMP files. (brick wall = "mur" in danish)

When you use some other image, you can place the ACE file in the AutoShapes texture folder, or load a bmp image and let AutoShape create the ACE file.

test shape creates a temporary shape file and **test texture** uses the MakeAce.exe to create a temporary ACE file. Those files are removed when AutoShape is closed.

The menu **file/create and save texture file** will save the texture file.

The menu **file/pack and save shape and sd file** will save the shape file and the corresponding shape data (SD) file. - Both using a "save as.." dialog.

Alternative textures

In MSTs we can specify a normal texture as well as snow, night and all seasons. I have only included the "snow" option in the SD file, but you can change that with notepad to whatever you need.

You may let AutoShape create the ACE files you need, but alternative textures got nothing to do with the shape. This is specified in the SD file, so before you save the shape and sd, be sure to check the **Snow texture** if there is one.

Pack og save

The temporary shape file is not packed, it is a rather large text file that may be read in notepad.

AutoShape uses FEdit_unicode.exe to pack the shape file efficient.

Save files like this:

```
\myshape\textures\snow\mur.ace  
\myshape\textures\mur.ace  
\myshape\shapes\mur.s  
\myshape\shapes\mur.sd
```

When everything have to be explained in detail, it tends to get quite boring. But when you get to use Autoshape, you will discover that it is both easy and fun.

Enjoy it Freddy

DISCLAIMER:

This program is Freeware and are not to be sold or used for business purposes.

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