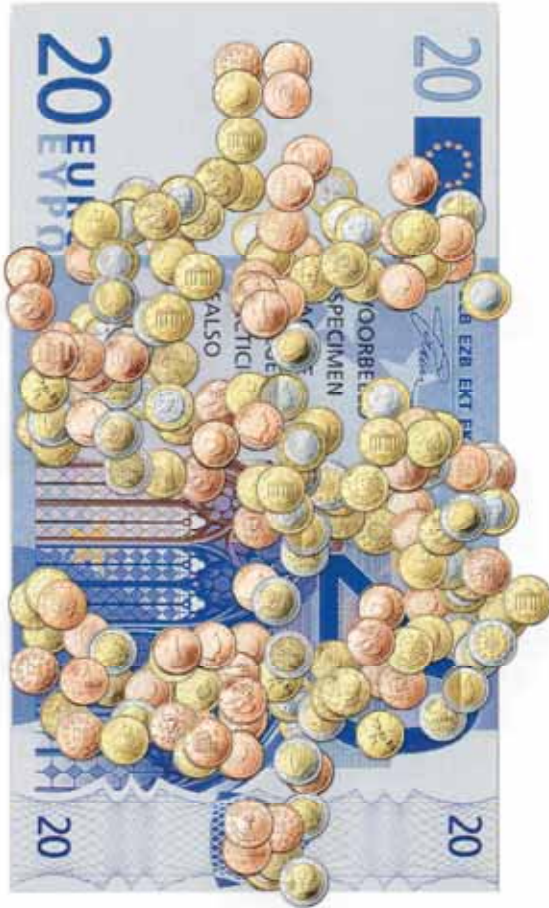


Mosaizer Pro Tutorial

Coins on a banknote



Here you learn how to create a 3D photorealistic effect of coins that seems to have been dropped on a banknote, in the shape of a dollar sign. We will show how to 'drop' coins on a canvas using a source- and an alpha mask, how to tune 3D effects and how to add the background picture to the result.

Finally, we demonstrate how to combine libraries of pictures into one new library.

How to drop coins on a banknote

About dropping coins

The picture we want to create is not real. Although it seems that coins have been dropped, we actually use several features of Mosaizer Pro to create this effect.

There are three key features to use: masks (source and alpha), 3D effects (shadow) and the random placement of the 'coins'.

Requirements

We use a special library of pictures: euro coins. Pictures of the euro coins can be found on the internet. Next, you need an alpha mask in the shape of a circle with a very sharp edge to cut the environment from the coins. You also need a source mask in the shape of a dollar sign. Finally you need a high resolution picture of a banknote as a background.

Steps to drop the coins on the banknote

Step 1: make a library of pictures from the euro-coins

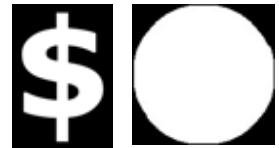
We used the 1 and 2 euro coins only. In total 24 coins were used (from 12 countries that have euro coins). Make sure all the pictures are of square size and not too small. Our pictures ranged from 150 to 170px in size. In a separate tutorial is explained how to make a library of pictures, and is not repeated here.



Figure: half of the coin library: all the 1 euro coins from 12 countries.

Step 2: Loading the masks and a first result

Two masks are required: a source mask (the dollar picture) and an alpha mask (the circle picture). Load the masks in the program.



Also load the source picture in the program. For demonstration purposes we first use the source mask as source picture (later we will use the real banknote background). This has an important reason: when a source mask is used, always make sure that the source picture has the same width/height ratio to avoid distortion of the source mask when the result is rendered. Finally press the *Create* button and study the first results.

Information: the source picture determines the final size of the result. In case a source mask is used, the mask is stretched to match with the source picture. When the width/height ratio differs, the source mask will be deformed.



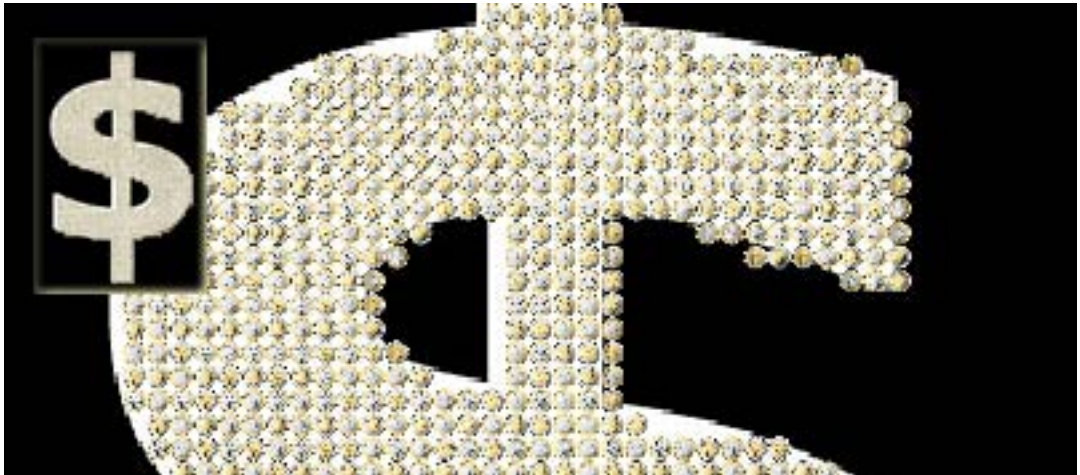


Figure: first results show very small coins in a regular pattern against the wrong background

Step 3: Increase the coin size, add a proper background, randomize coin placement and add a shadow to each coin

The coin (cell size) size was changed from 32 x 32 px to 60 x 60 px, and from A3 to A4 paper format. The resulting picture result size dropped therefore from 1440 x 2112 px to 1020 x 1500 px, and the amount of cells dropped from 45 x 66 to 17 x 25 (H x V). Use the tab *Size and shape*.



Figure: increasing the coin size

Then we ticked the checkbox *Colored canvas* in the tab *Special, Background*. Keep the canvas white. We also changed the random settings in the tab *Special, Random settings* by ticking the checkboxes of random *Build* and random *Pattern*.



Figure: randomize coin placement and use a white background

Finally, we selected the 3D effect *Shadow* in the tab *3D effects* and used the default values of 5px south and 5px east of each coin. These are the results for each intermediate step.



Figure: a shadow for each coin was added

Step 4: Refine the shadow

From a distance the result seems fine, but closer study of the picture reveals a too unrealistic shadow. As if a strong lamp was shining on each coin. We changed the shadow *depth* from 30% to 20%, the shadow *intensity* from 40% to 20%, and the shadow *position* to 2px south and 2px east. The 100% scale picture shows the improvement of the shadow effect.



Figure: left = default shadow and right: softened shadow and more realistic

Step 5: Add the background to the scene

The 'background' picture is a pre-processed *source* picture of a 20 euro banknote (we used Photoshop to create this source file). As mentioned in step 2 it is important to have the same size ratio of source mask and source picture. So we prepared a picture of exact the same width/height ratio of the source mask (leading in size this case) of a high resolution picture of a 20 euro banknote. We loaded this picture in the program via *File | New source picture* and pressed the *Create* button once more.



Figure: detail of the coins, dropped on the source picture. The inset is the full picture.

Optional step 6: Vary the coins

So far we have used the 1 and 2 euro coins only. We first add two more libraries to the program. One contains all the 1, 2 and 5 cent coins (dark brass colored), the other contains all the 10, 20 and 50 cent coins (light brass colored). Then used these two different libraries and render the result once more for each library. Here are the results:



Figure: left the light brass picture library, right: the dark brass picture library (36 coins each)

Optional step 7: Mix the 3 coin libraries (make a new library), and apply the new library

We will now mix the three different libraries into one new library with all 96 coins. To combine libraries start the *Tools / Settings manager / Combine libraries* and only check the libraries that need to be combined. We selected only the three libraries, gave it a new name ('All eurocoins 96'), and pressed the save button.

The new library is added to this list and is also immediately available. Select the new library via *Library / Read library*.

To increase the sharpness of the A4 or letter print quality, first change the cell size to 124, and the resolution to 200 dpi. The grid size is now 19 x 28 cells (or 1577 x 2324 px). In case you don't get these sizes, increase or decrease the random amount again.



Information: the sizes that are shown here is the result of several settings. When you can't fully duplicate these, it's of no importance for the result. Just follow the effect of the changes and see for yourself if you are satisfied with the results of your own picture.

To assure that *all* coins are used (in random order) don't forget to also check *Use every picture* in the tab *Special / Chaotics*. Finally, press the *Create* button for a last time and look at a bunch

of euro coins which are dropped on a 20 euro bank note, in the shape of a dollar sign. The result is shown on the first page of this tutorial.

Optional step 8: rotate each of the coins

With version 7.0.33 of Mosaizer Pro the cells can be rotated with a rotating mask. To do this, simply tick the checkboxes *Cell rotate* and *Mask rotate* and choose the minimum and maximum rotation angles.

Information: the minimum rotation angle is measured anti-clockwise in degrees. The maximum angle is measured clockwise. It's no use to go beyond +/- 180 degrees to create a full 360 degrees rotation.

When Mask rotation is used with Cell rotation, the Mask resize does not work for the cells, but just for the mask.

Other settings			
<input type="checkbox"/>	Mask resize (%)		25
<input checked="" type="checkbox"/>	Mask rotate	min	-180
<input checked="" type="checkbox"/>	Cell rotate	max	180

We selected angles between -180 and 180 degrees to have a full 360 degrees cell rotation. The result is shown below. Now it seems that the coins are not just 'thrown' on a banknote, but in a really random way as well.



Mosaizer Pro

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February 2009

www.mosaizer.com