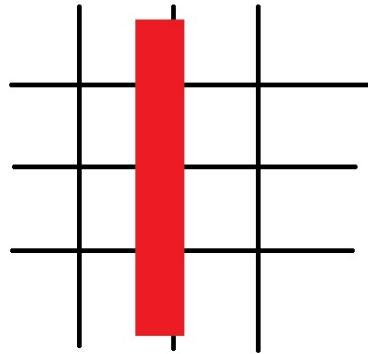
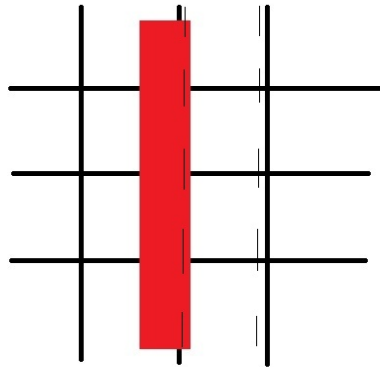


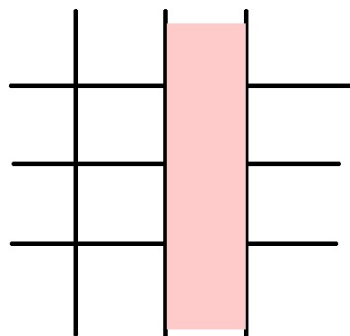
# Drawing thin lines in Splash



Drawing lines in Splash is implemented in two steps: First a clipping path is generated and in the second step this clipping path is filled. When the line is very thin, less than one pixel in user device space:

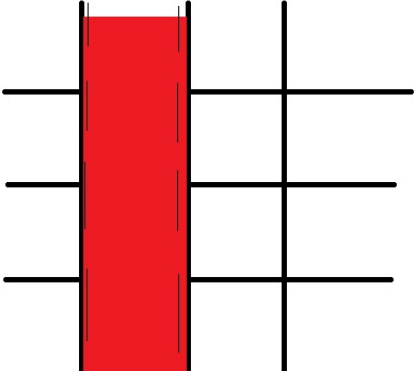


this two step implementation could cause problems. Because we have no pixel scissor, the clipping path is filled with a shape of the filling color depending on the thickness of the line part inside the clipping area. If the part of the line inside the clipping area gets very small the

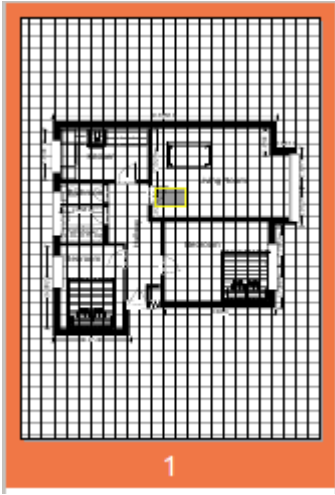


contrast between the shape and the background color can become so small that the line seems to disappear. And when there is not only one line but i.e. a grid almost every line appears in a different shape.

Therefore we implement a new mode “Enhance thin lines”, which adjusts clipping path and line position so that clipping path and line are on the same pixel boundary, and in the mode “splashThinLineSolid” we enlarge the thin lines to one pixel in user device space. This mode is similar to the “Enhance thin lines” in Acrobat Reader, and the output also looks like the output with cairo:



If You use this new mode, the thin lines are always enlarged, and will look in a thumbnail like this:



Therefore we spend an additional mode, “splashThinLineShape”, in which clipping path and line is also adjusted to pixel boundary, but the line is drawn with a shape in respect to its width:

