

# Implementing Multi-Step Gradients in LibreOffice

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Collabora  
Online

Technical Day  
COOL  
days





# Multi-Stop Gradients

## Status

- Drawing Layer: implementation done
- Gfx renderers & exports: implementation done
- Model & attribute storage: in-progress
- File formats & persistence: started

all commits: <https://gerrit.libreoffice.org/q/topic:multicolor-gradient>



# Multi-Stop Gradients

## Implementation

- solely based on basegfx/drawinglayer
- adding color stops to basegfx, and drawinglayer's FillGradientAttribute
- render via drawinglayer decomposition, and texture back-transformation (for 3D, future SystemDependent primitive renderers)  
calls `::appendTransformationsAndColors()` for different gradient textures

e.g.

<https://gerrit.libreoffice.org/c/core/+/147413/3/drawinglayer/source/texture/texture.cxx>



# Multi-Stop Gradients

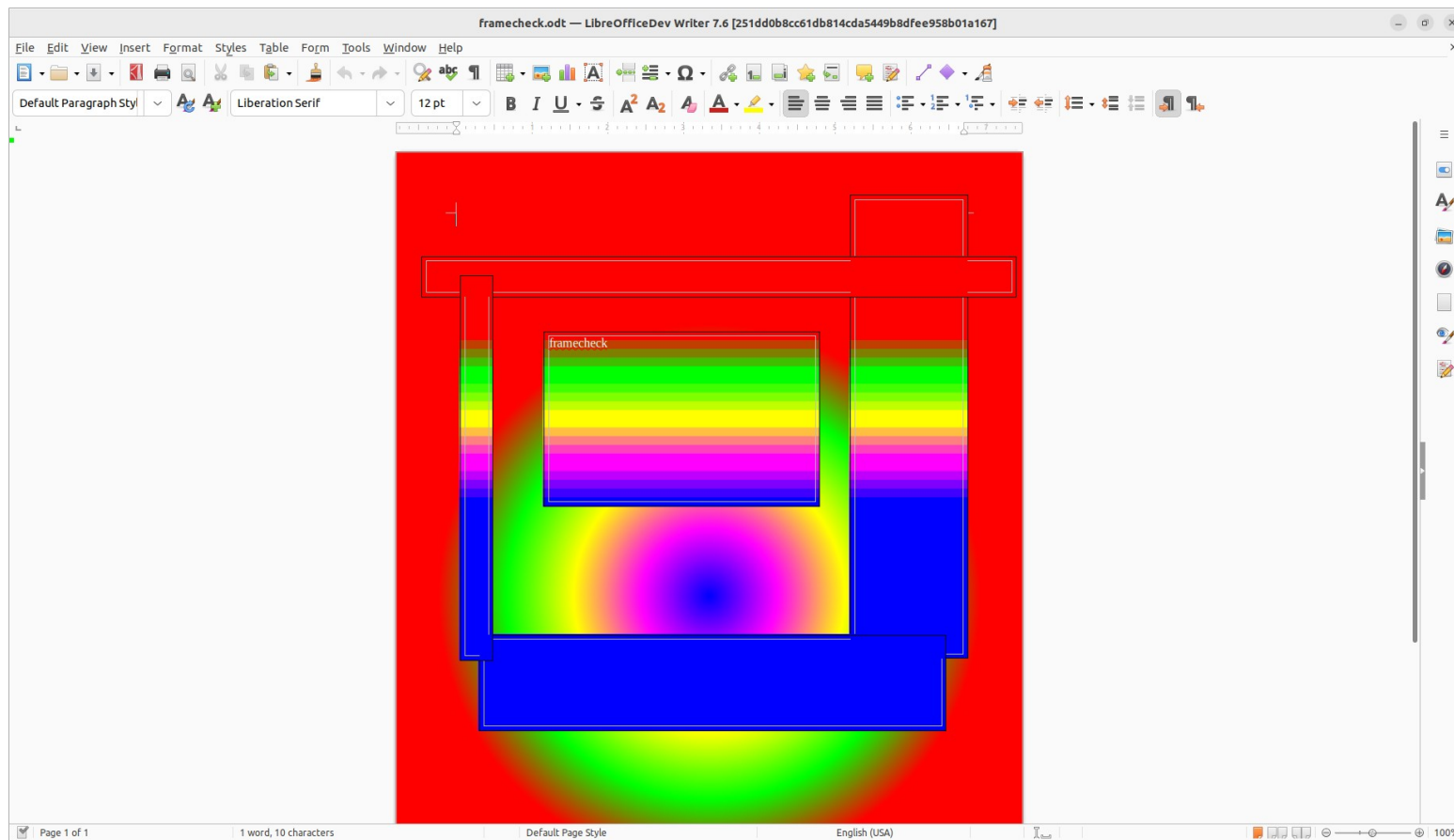
## Next steps

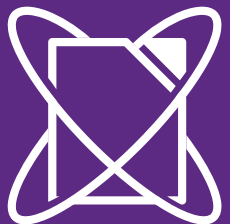
- ongoing discussion on interop & file-format representation
  - c.f.  
<https://lists.freedesktop.org/archives/libreoffice/2023-March/090072.html>
- connect new gradient UNO API attributes with OOXML and ODF filters

**Some initial results:**

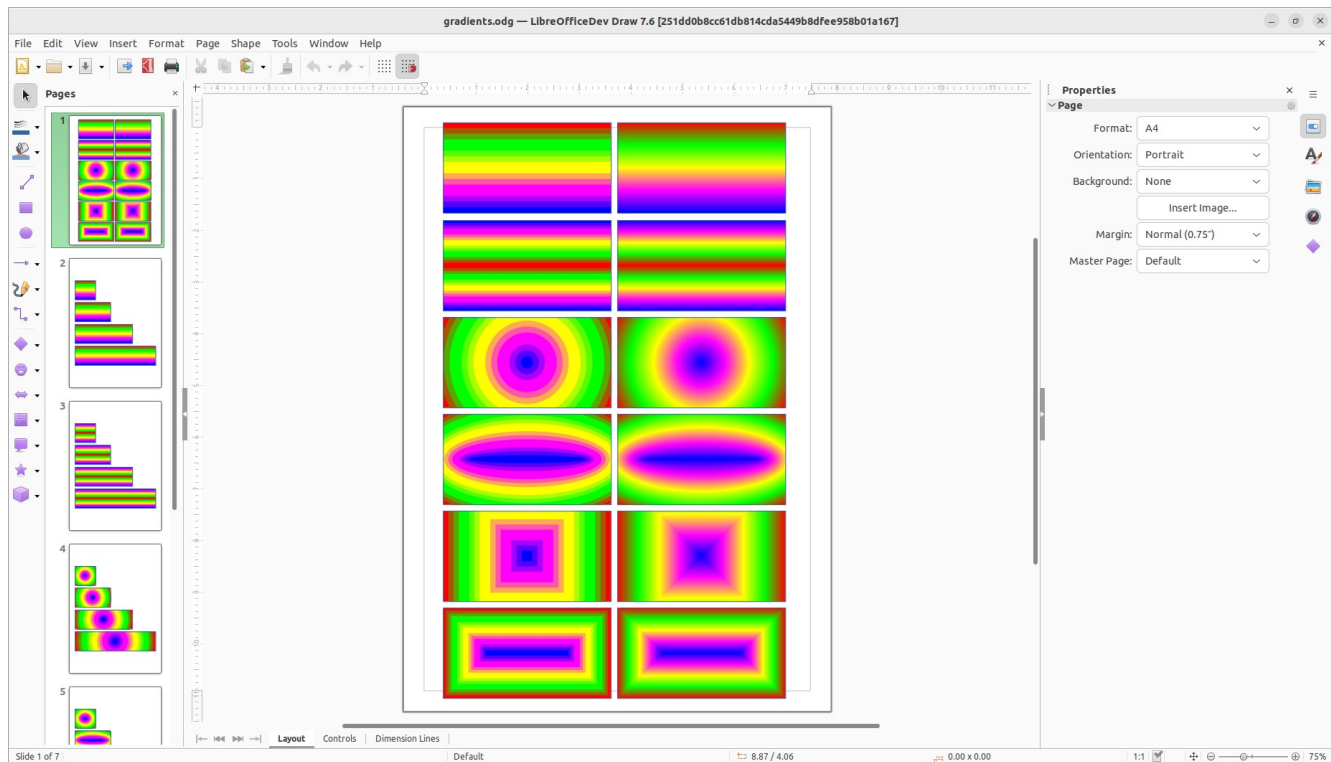


# Different 2D Shapes with Gradients



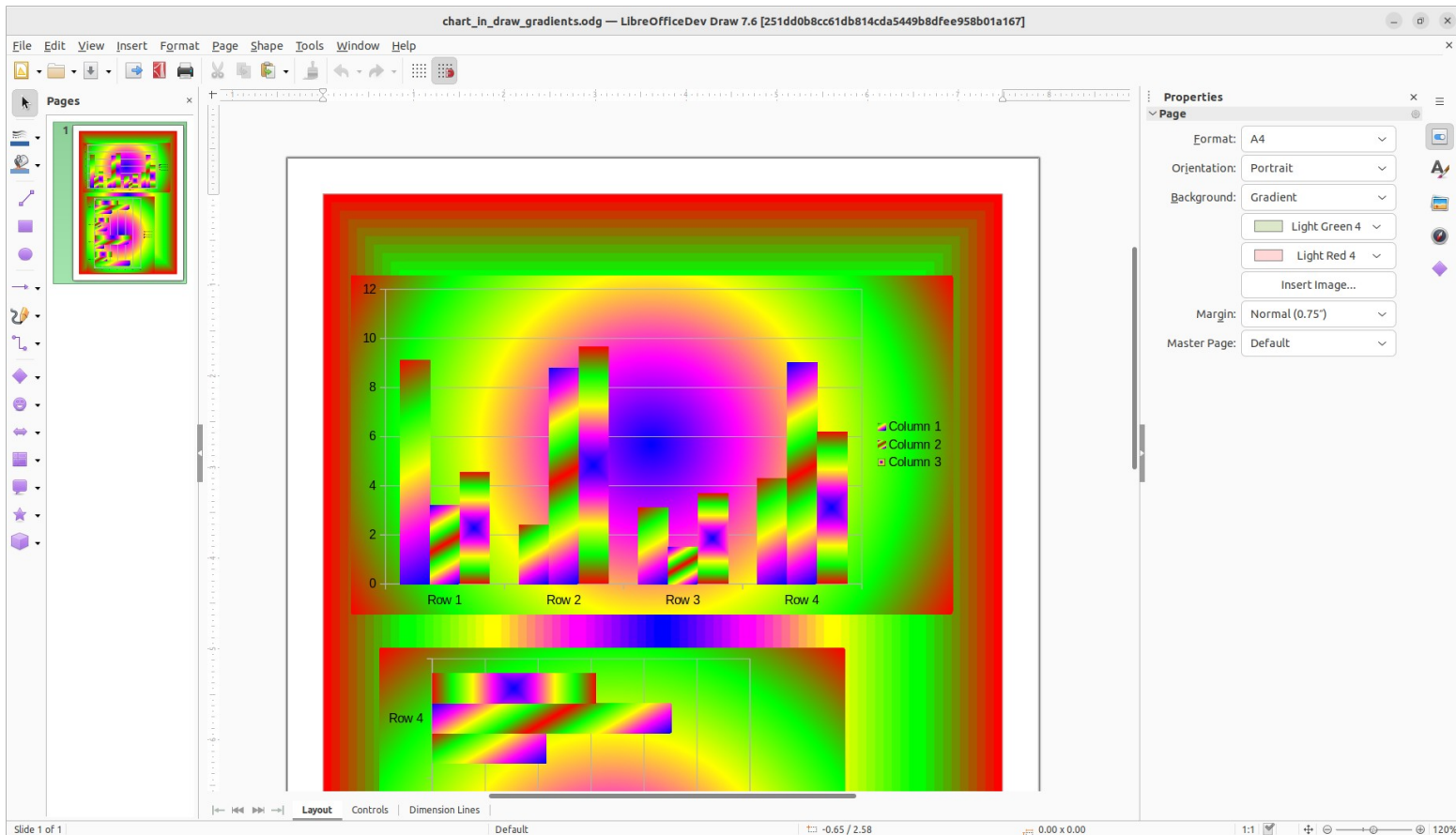


# All 2D Gradient Types





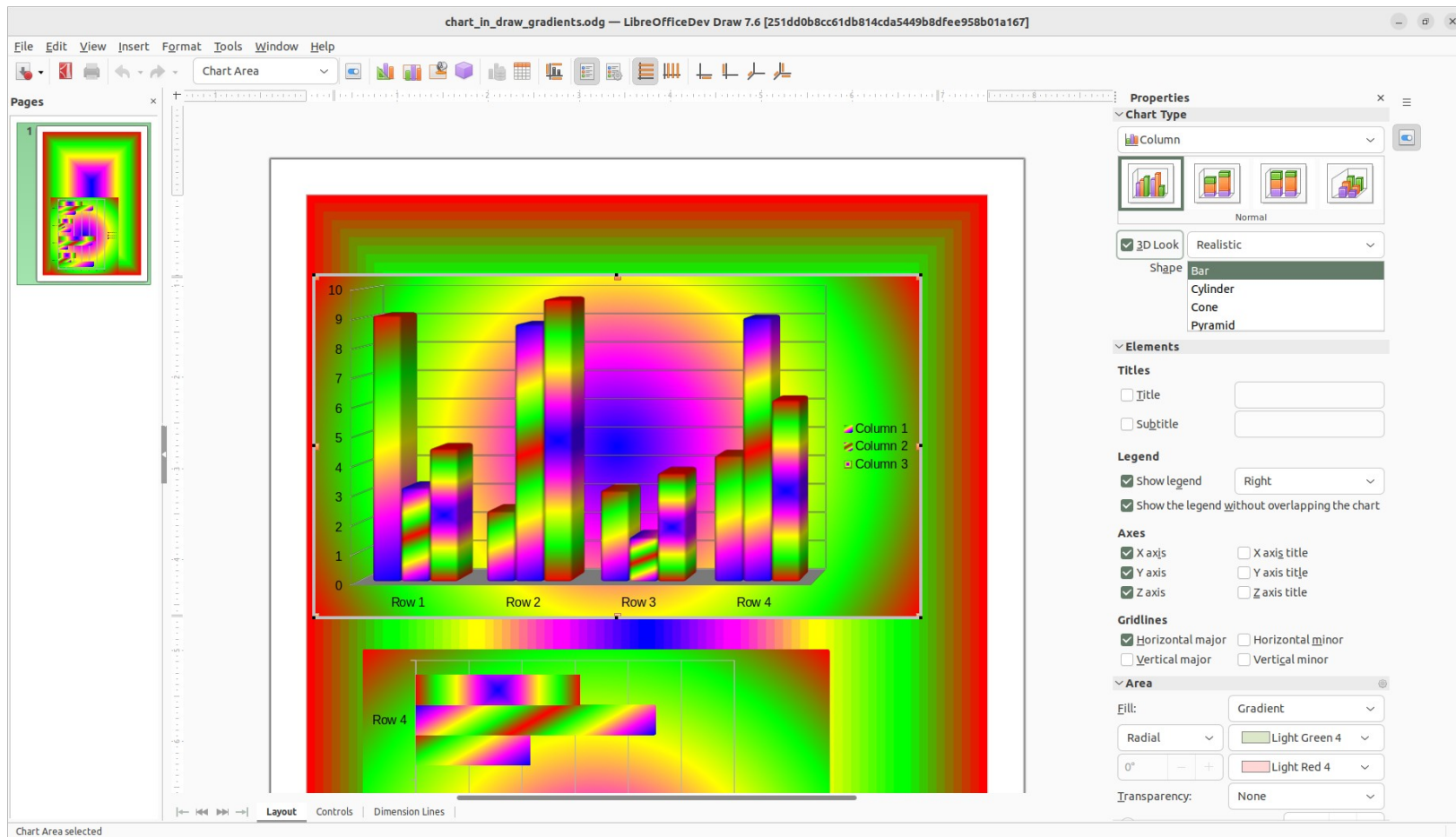
# Charts and Backgrounds





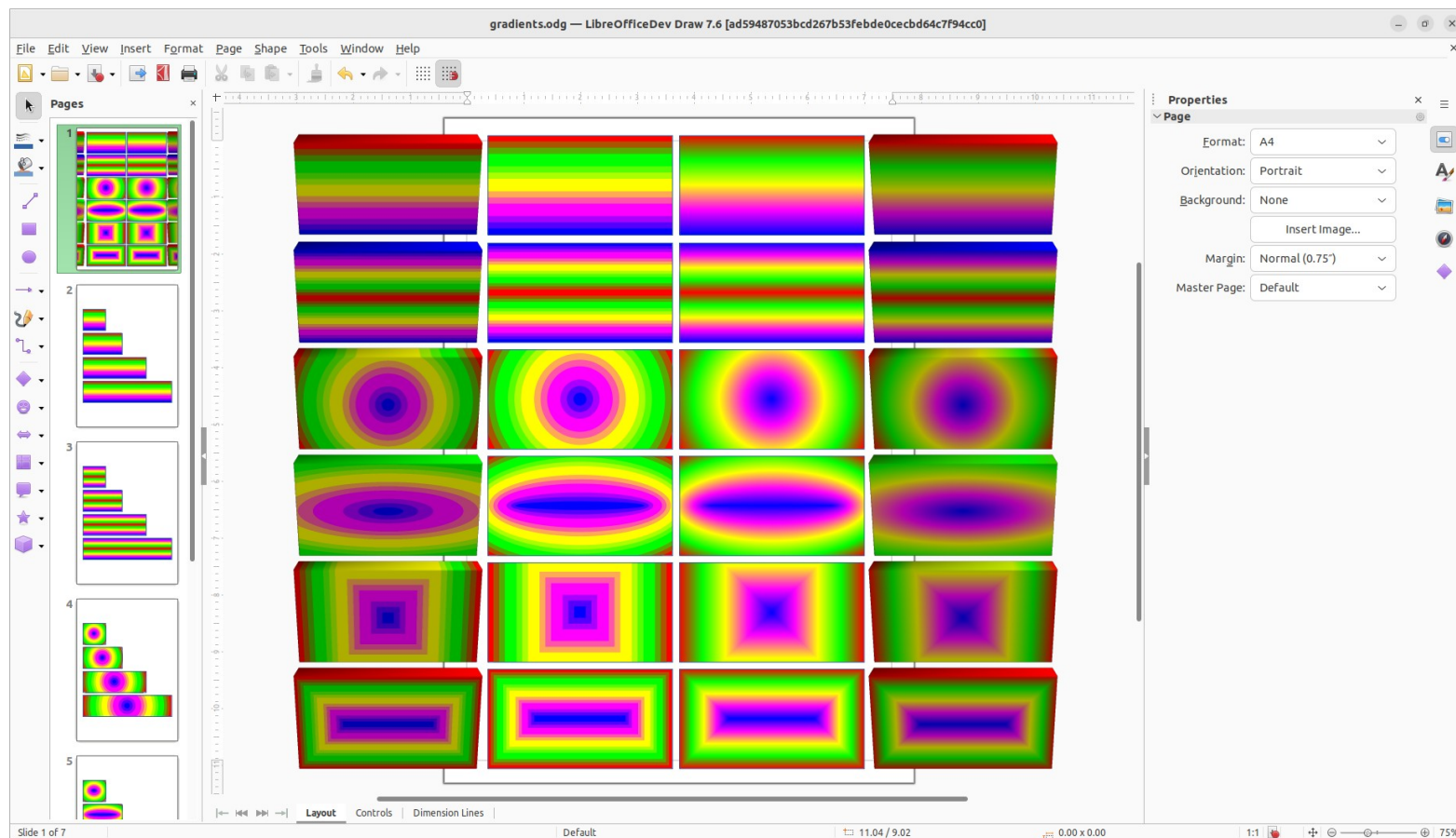


# 3D Charts and Backgrounds



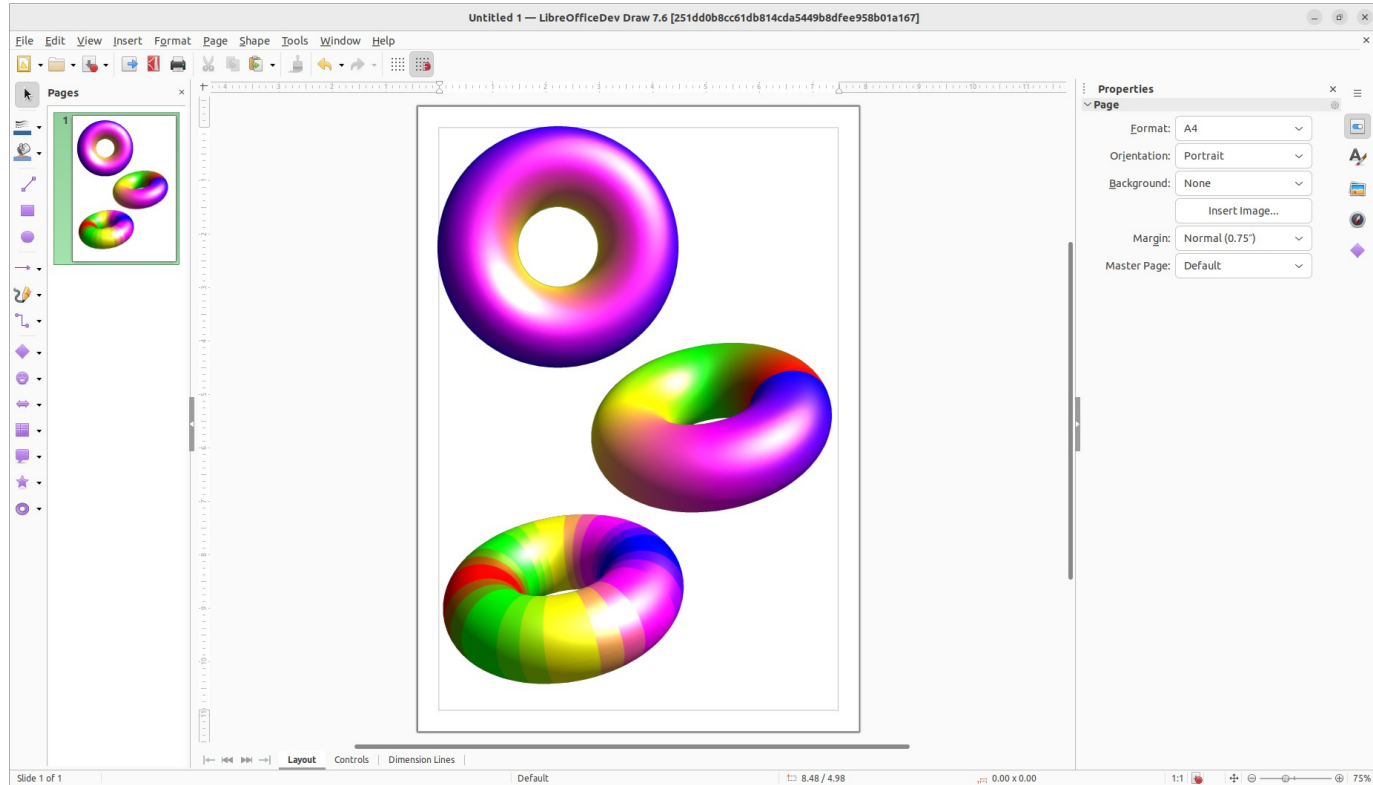


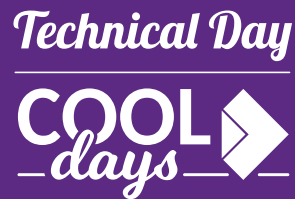
# More 3D with Lighting





# More 3D Shapes & Discrete Steps





# Thank you!

*Thorsten Behrens*



[www.allotropia.de](http://www.allotropia.de)