

# Pillars of KDE: Flake



## Introduction

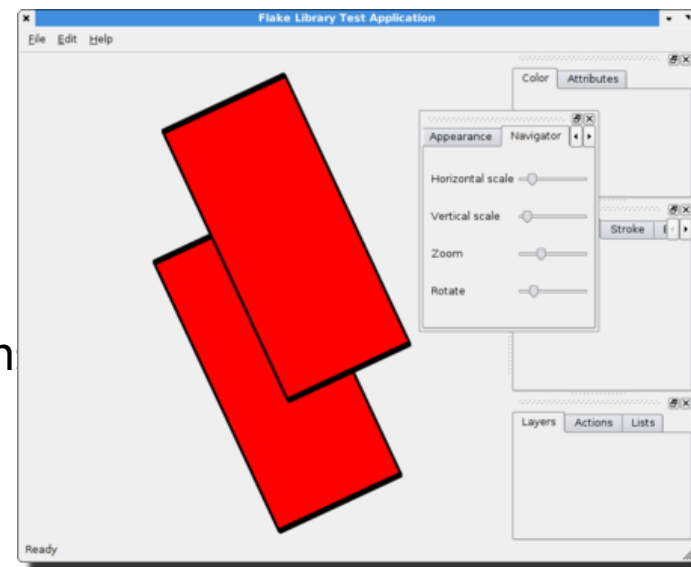
### Flake: Compound Documents

Compose your documents from individual objects:

text frames, images, vector graphics, tables, connectors

Suitable for:

presentations, text documents, spreadsheets, charts, graph images, drawings



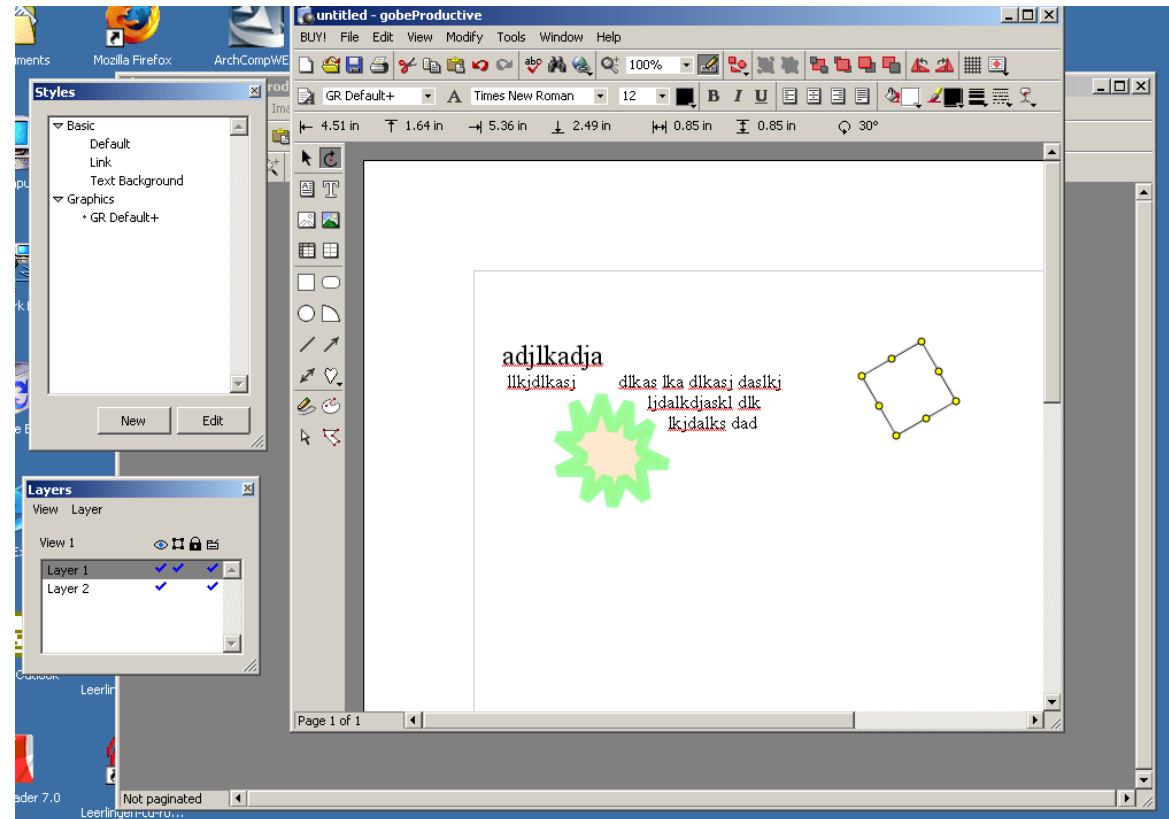
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## History

Claris/GoBe  
Apple's OpenDoc  
Microsoft OLE  
KDE's KParts  
OpenOffice's XP-COM

Flake



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Why not?

Widgets?

Embedded documents?

QGraphicsView?

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## What Flake is and is not

Is:

Flexibly object composition resulting in compound documents on a specialized base document type

Not:

A canvas -- applications provide a specific canvas

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Controller, model, view

KoTool

KoShape

KoCanvasBase

KoTextTool

KoTextShape

KWord Canvas  
(page based)

KoPathTool

...

KoPathShape

Krita Canvas  
(infinite sheet)

Freehand,  
Selection...

KritaImageShape

KSpread Canvas  
(tabbed sheets)

NotationTool

MusicShape

KPresenter  
(slides)

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And View begat Tool and Tool  
begat Shape

- \* A KoTool creates a KoShape
- \* A KoShape is added to the KoShapeController
- \* The KoShapeController adds the KoShape to a KoCanvas
- \* The KoCanvas asks the KoShape to paint itself
- \* The View Widgets passes QEvents to the Tool Proxy
- \* The ToolProxy passes events to the Tool that belongs to the current Shape
- \* The Tool alters the data associated with the Shape
- \* The Shape asks to the Canvas to repaint

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## Shapes

- \* Shapes are created by Factories
- \* Shapes can be created from templates
- \* Shapes can be nested, grouped, aligned
- \* Shapes know how to draw themselves
- \* Shapes can save and load themselves
- \* Decorated with borders

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## Tools

- \* For every input device for every view, a tool instance
- \* Tools are associated with shapes; when a shape is selected the default tool for that shape is activated.
- \* Tool implementations are plugins
- \* Tool settings are visible in the Option Widget
- \* Tools get all events -- the shape does not handle events
- \* Tools handle undo/redo



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## Canvases

Not a single canvas implementation

But specialisations: pages, sheets, infinite sheet

OpenGL, Arthur

Managed by KoCanvasController for scrolling, zooming, panning, decorating with shadows, drag and drop

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## Resolution

Big problem in KOffice 1.x

In 2.0: shapes are internally in postscript points

Translated to screen and printer ppi and dpi

So, for raster graphics, three units:

- \* raster ppi (or dpi) (300 ppi)
- \* postscript resolution (72 ppi)
- \* output resolution (on my laptop, 129 x 127)

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## Color Management

### Pigment

- \* input color description (scanner or camera profile)
- \* Working color profile (sRGB for all of KOffice except Krita)
- \* Output color profile (printer, pdf, cmyk, rgb\_)

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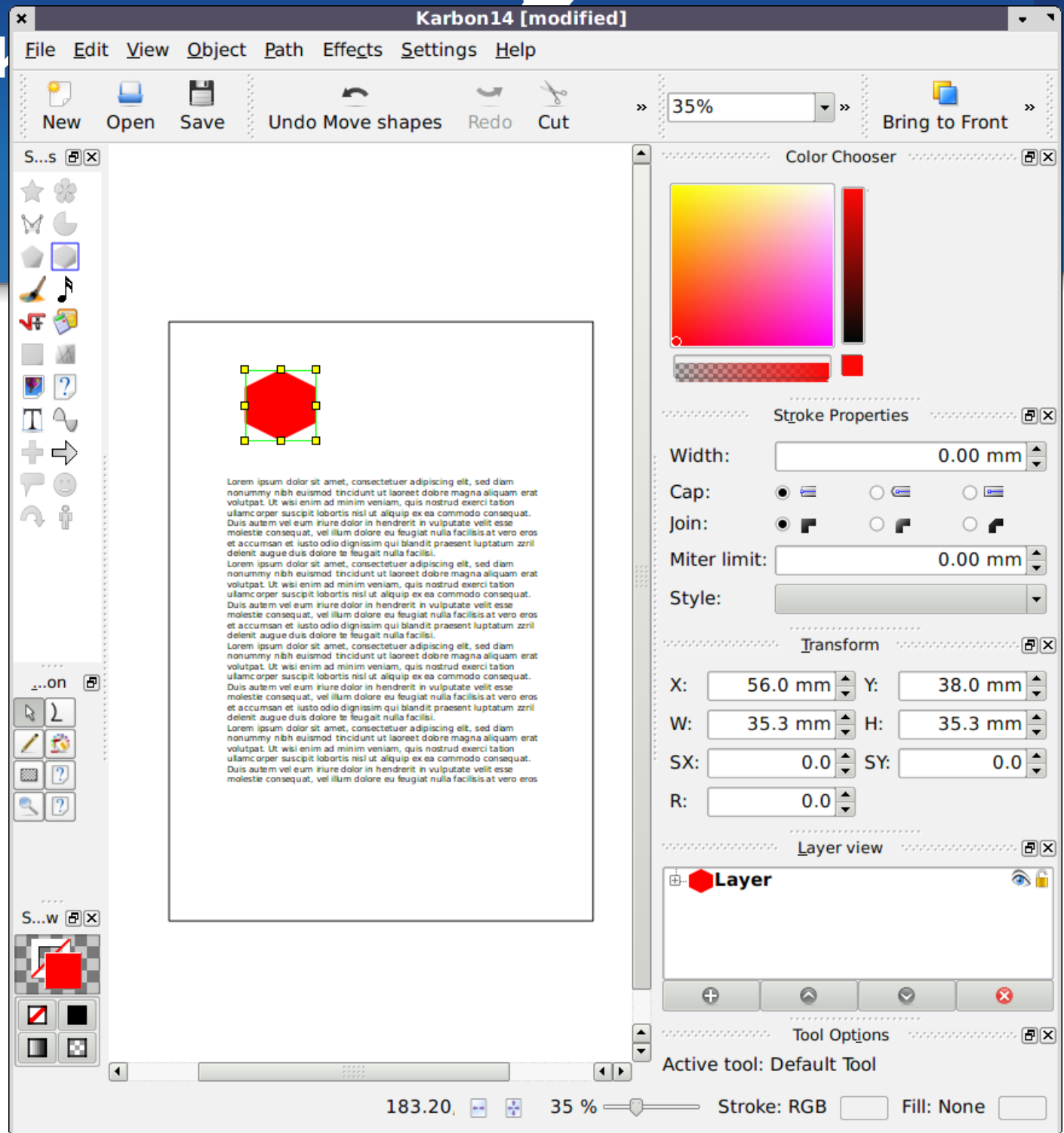
## ODF, saving and loading

- \* Saving/loading, but also: cut/copy/paste
- \* either inline, or in frame objects
- \* it does push ODF: we are using ODF in a way that conforms to the standard, but we are innovating
- \* OpenRaster

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## User Interface



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## Integration

Open Clipart

Get Hot New Stuff

Scriptability

Nepomuk

availability of flake, odf and pigment outside KOffice?

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## State of The Art

KWord  
Karbon  
Krita  
KPresenter  
KSpread  
Kivio  
KChart  
KPlato  
Kexi  
Kugar  
KoShell

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## Shapes We're Sorely Missing

- \* Textual Table Shape
- \* Video Shape
- \* Map Shape