

datto

Inkscape **OSS vector drawing tool**

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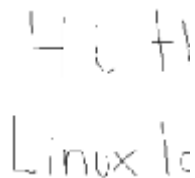
Agenda

- What is vector drawing
- What is it good for
- Inkscape features

What is vector drawing

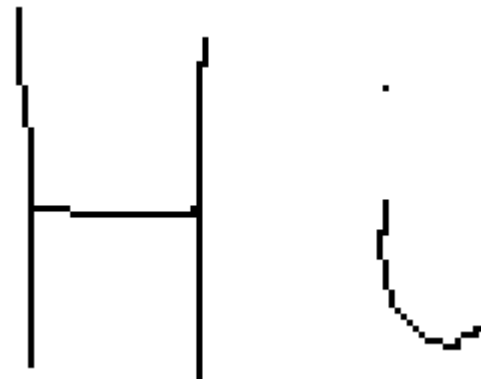
- Most drawing tools are actually pixel-level painting tools
- Once an object has been created, it is lost in a sea of pixels
- Changing the scale triggers rescaling and either resampling or pixelization

*Lossy resampling
on scaling down to
25%*



Hi there
Linux lovers!

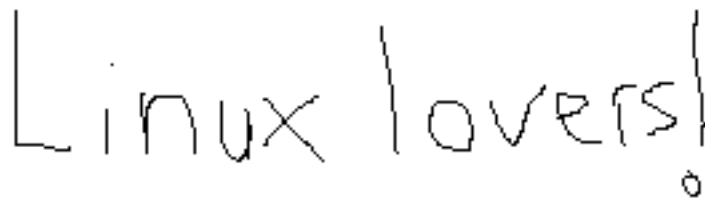
*Pixelization on
scaling up 3x*



Hi there
Linux lovers!



Hi there



Linux lovers!

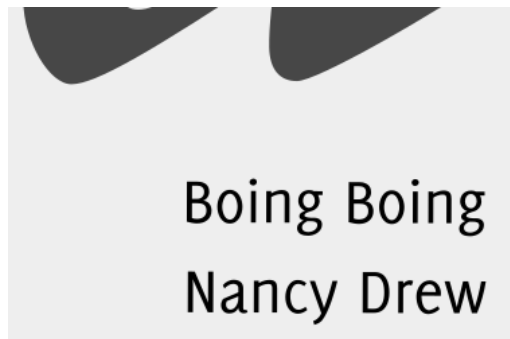
Original pixel drawing

What is vector drawing (cont'd)

- Compare with vector drawing
- Objects are geometrically defined
- Pixel rendering is recomputed at each zoom level
- Allows perfect zoom in or out, perfect resizing.
- Modern fonts are already vectorially defined, so text scaling comes “free”.



Sample drawing



Zoom on red box

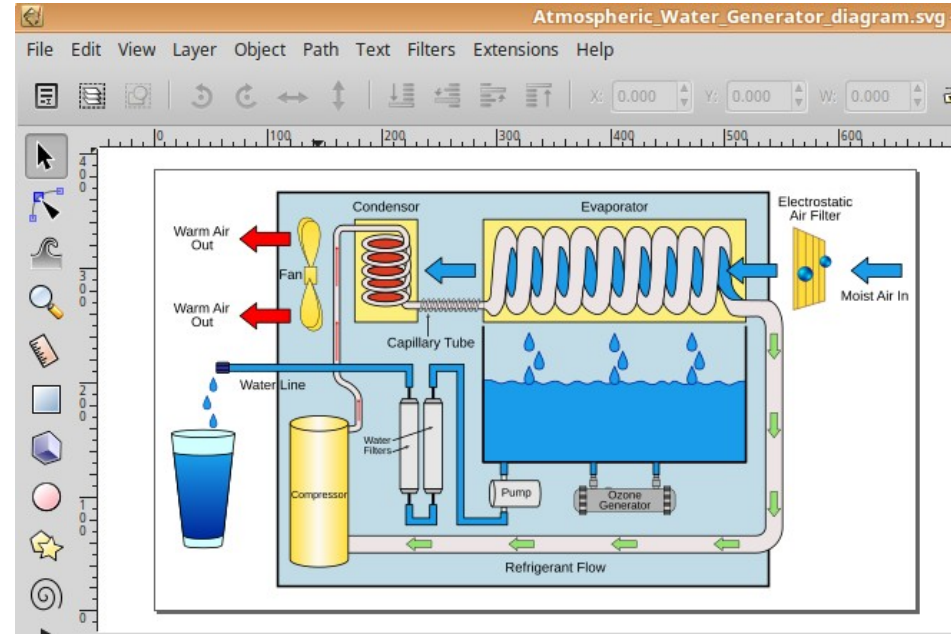
Inkscape

- An OSS application to create and edit vector drawings
- Binaries for Linux, MacOS, Win
- Actively developed, just released v 0.9.2
- Numerous manuals, tutorials and video online
- Produces Scalable Vector Graphics files (SVG is an XML format)
- Can edit a lot of vector drawing formats (Illustrator, Photoshop, WMF)
- Some formats (e.g., WMF) are so generic that compatibility is iffy



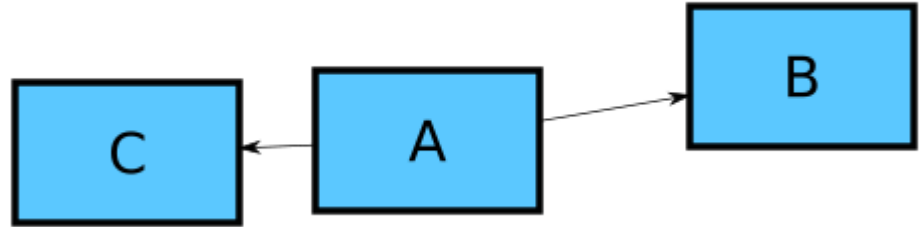
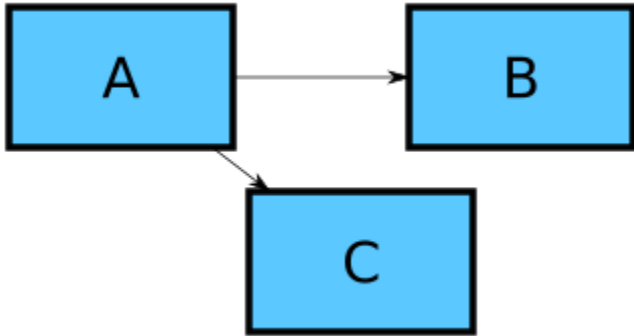
What is it good for?

- I use it for:
 - Technical drawing
 - Bloc diagrams
 - UI prototypes
- SVG is a well-supported format:
 - Numerous graphic libraries generate SVG
 - Many tools output or export to SVG
 - SVG is in active development at the W3C
 - Most browser view SVG directly.



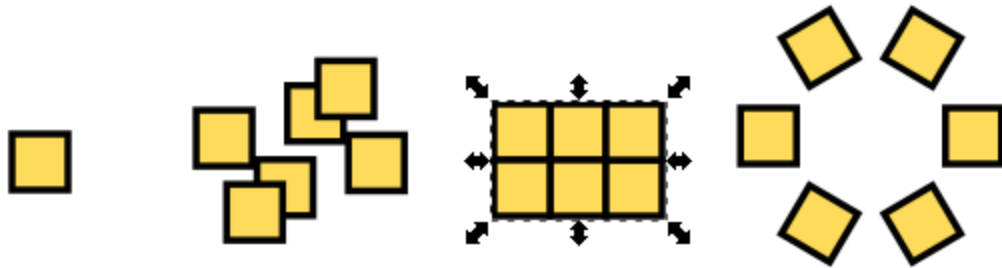
Some useful features: Connectors

- Very useful for diagrams
- Move the objects, the connectors follow



Some useful features: Grid/Arc Arrangement

- Make an object
- Duplicate it
- Arrange it in a matrix
- Or in a circle or arc



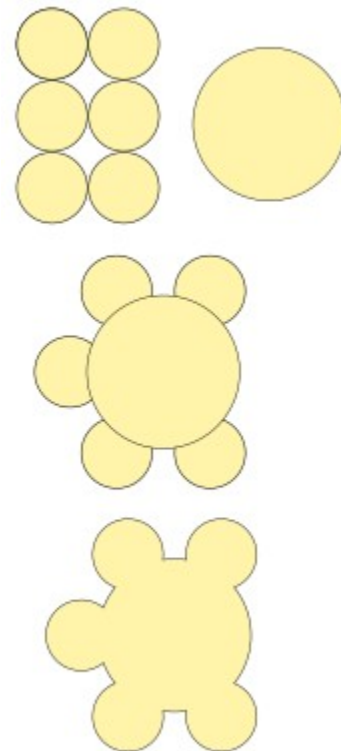
Useful features for bitmaps

- Import/export bitmaps
 - Turn objects into bitmaps
 - Edit bitmaps
- Turn drawings into vectors
 - Scan a drawing
 - Turn it into a set of vector objects
 - Smooth and simplify the resulting objects



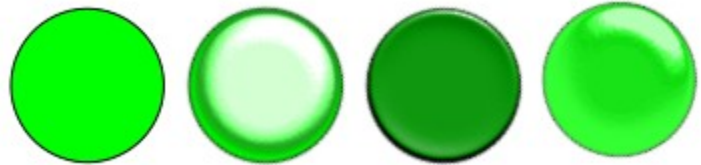
Useful features: Union and intersection

- Make complex objects from simple shapes
- Example: Start with 6 small circles and a large one
- Arrange small circles around large one
- Remove one of the small circles
- Union of the remaining ones



Some useful features: Bezels effect, distortions

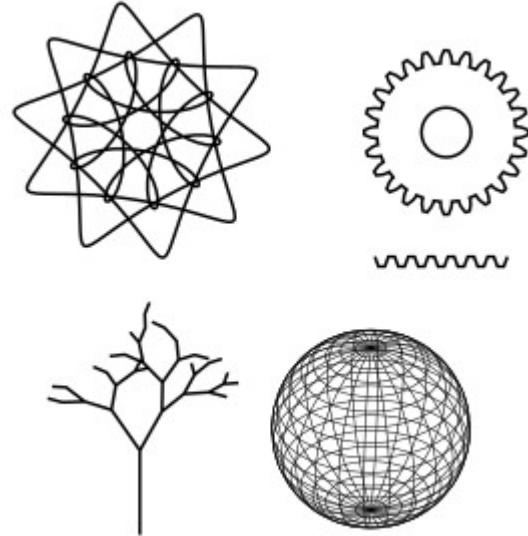
- Filters are small programs (Python) that apply a certain algorithm on a selected object
- The community supplies a lot of interesting filters
- Many useful filters out of the box
- Example: Use the bezel filters to make buttons
- A filter is just the way the object looks, it can be removed



Buttons made from a simple circle with some bezel filters

Extensions

- Extensions are programs that generate new objects or modify existing objects
- The Render extension in particular are useful for technical illustration
- Examples:
 - Spirograph
 - Gears
 - Random trees
 - Wireframe
 - Etc.



Questions?