

KDE

The Compositing Desktop

Luboš Luňák

Akademy 2007

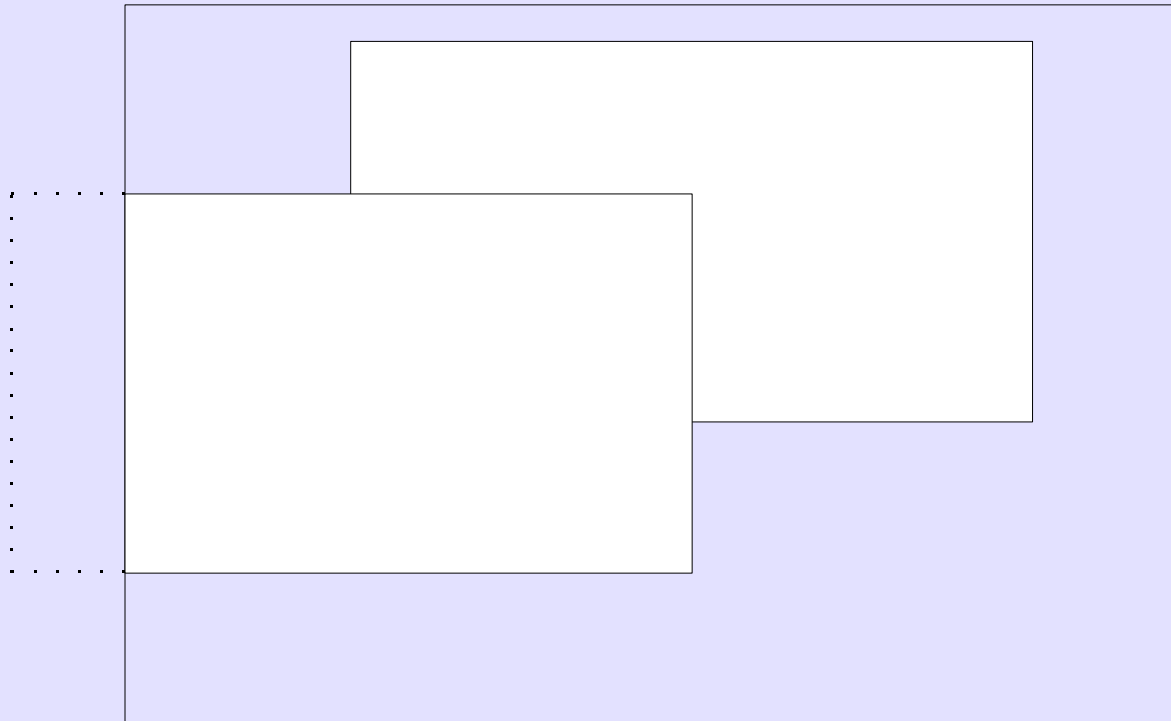
Contents

- boring part
- the other part

Non-composited X

- window contents are painted directly to the screen
- not-visible parts are thrown away
- no way to affect/transform painting

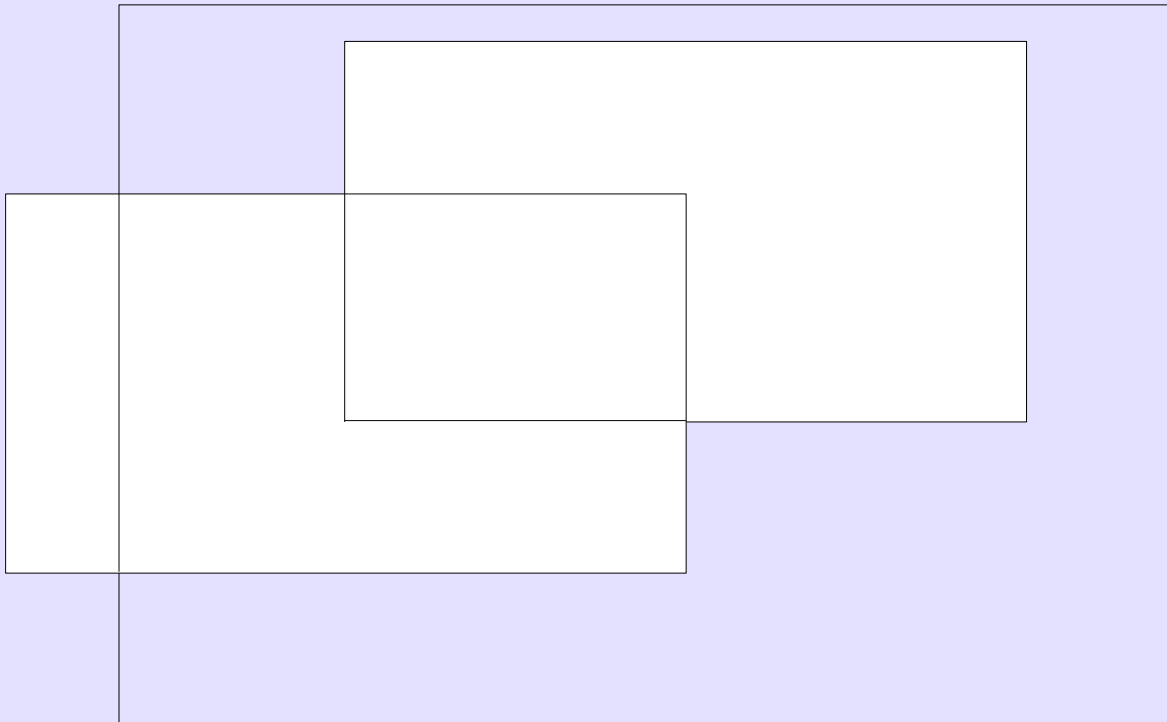
Non-composited X



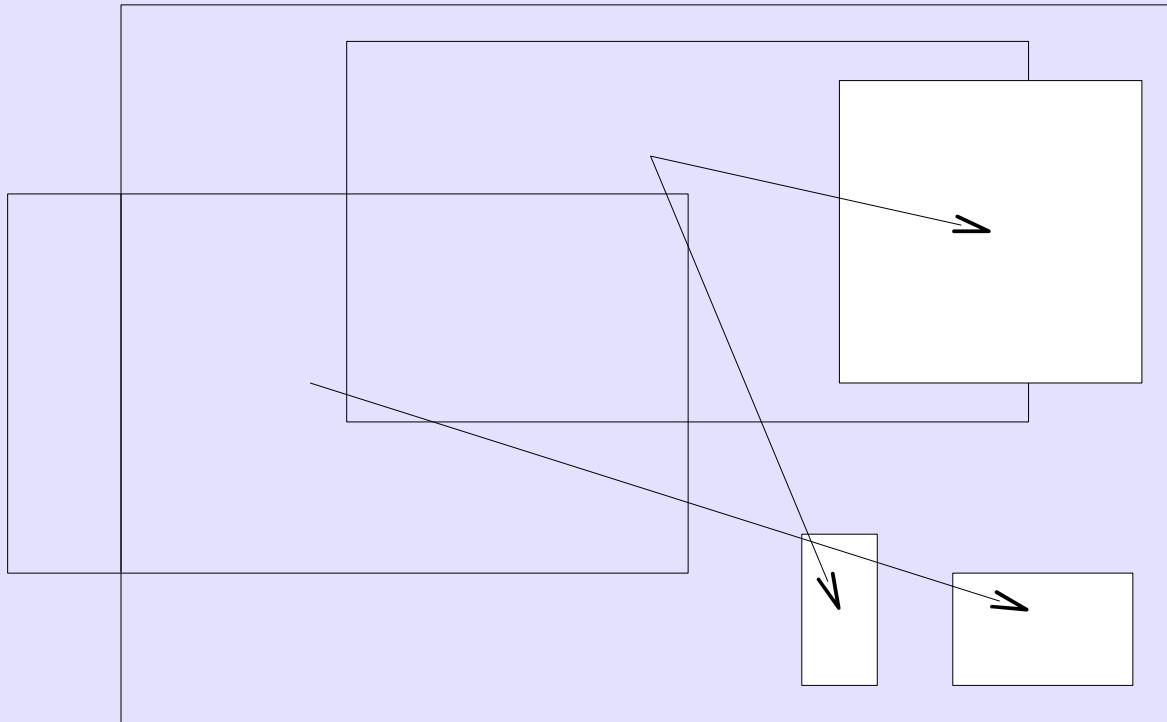
Composited X

- window contents are painted to an offscreen pixmap
- regardless of their visibility on the screen
- by default they are also painted to the screen
- a compositing manager can perform the painting to the screen instead

Composited X



Composited X



AIGLX, XGL, nVidia

- from the compositing manager's point of view, they seem about the same, except for different bugs
- different implementations of accelerated indirect rendering (video, OpenGL)
- having one that works should be generally enough :)

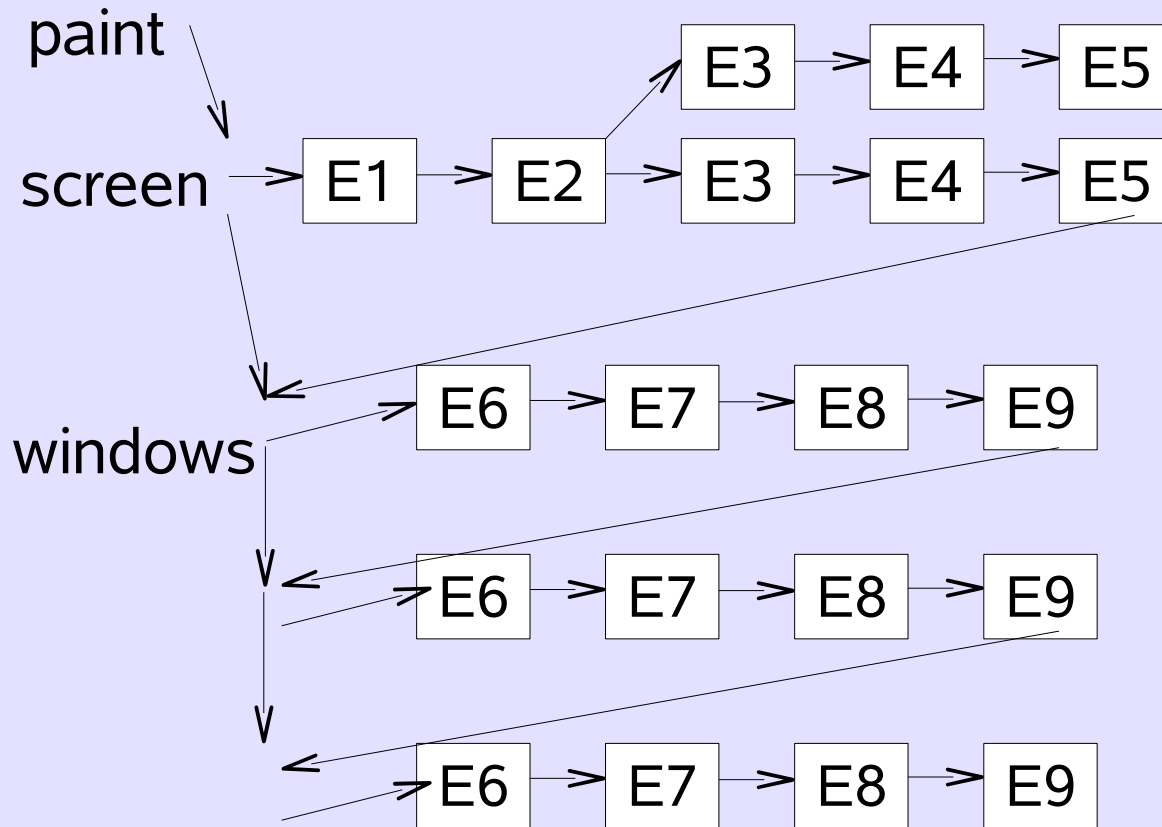
Compositing manager in KDE

- can be a separate application (Kompmgr)
- separate is not powerful enough, needs to be integrated with window manager
- Compiz - also replaces KWin as the window manager
- KWin - with compositing support

KWin compositing

- added one more pass for composited painting
- whenever changes are detected (XDamage extension for window contents), repaint is triggered
- added support for tracking unmanaged (override redirect) windows
- various small changes

Painting pass



Effects

- can affect painting of windows or the whole screen
- get notified about various events in the window system
- X/OpenGL code not necessary for many features
- API still under development
- no, can't use Compiz plugins

Example

Status

- Under development
- Unstable
- Kind of works
- Needs more (useful) effects

Future

?

(up to people to fill up)

Questions

- docs?
 - kwin/COMPOSITE_HOWTO
- where to help?
 - kwin@kde.org
- will it be absolutely cool?
 - don't ask me
- will it be useful?
 - that's the plan

...