Interactive Parallel Coordinates Plot
Based on Qt

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• next generation of GGobi
  – interactive statistical graphics in R

• infrastructures:
  – painting (drawing): qtbase & qtpaint (connect R with Qt)
  – data structure: plumbr & objectSignals (mutaframes, reference classes, signals)
  – aesthetics: scales
• cranvas is still under active development
  – histogram, scatter plot, mosaic plot, parallel coordinates plot, bar plot, maps, ... (see later talks)

• all available at http://github.com/ggobi (to be released on Bioconductor & CRAN)
  – refer to the wiki for installation under Linux & Mac
  – of course, we are trying to make Windoze happy too
Usage

1. create a data object (mutaframe) from a data frame

> library(cranvas)
> mf = qdata(df, color = "black", fill = "grey30",
+   size = 1, brushed = FALSE, visible = TRUE)

2. plot it

> qhist(variable, data = mf)
Common Features

• color palettes (using scales)

> mf = qdata(df, color = x1, fill = x2, size = x3)

• mouse interactions
  – left click and move the brush; right click to resize the brush
  – brush mode and identify mode (use ? to toggle)

• keyboard interactions
– selection mode: AND, OR, XOR, NOT, COMPLEMENT (use the initial letters)
– Delete makes elements invisible; F5: all visible
– + and − changes the alpha transparency
– PageDown and PageUp navigates through brush history
Parallel Coordinates Plot

• idea: each variable is plotted on an axis; all axes are parallel (in theory, can plot infinitely many variables)

• problems with static par-coords plots:
  – the order of axes (it matters a lot!)
  – easy to get messy (lines twisting together like spaghetti)

• demo time!
Questions & Comments?

• Testing and bug reports (https://github.com/ggobi/cranvas/issues) are welcome (a little bit early, though).

• Thanks!