What features should a visualization tool include?

1. Illustration Programs
2. Graphics Programming
3. Chart Typologies
4. Visualization Toolkits
5. Visual Analysis Tools
Visualization Tools

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For the highest level graphics (elegant, custom, expensive), enter the crunched data or the graphical output into Adobe Illustrator. This program gives complete control over typography, line weight, color, grids, layout—just what we need for doing graphical work.

It is a serious, complex design program; you may want to work with real graphical designers who will surely know their way around Illustrator.


http://processing.org
Visualization Tools

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Chart Typology

Data Sets: State Quick Facts

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<th>People under 5</th>
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Data State Model
[Chi 98]
Prefuse & Flare
Operator-based toolkits for visualization design
Vis = (Input Data \rightarrow Visual Objects) + Operators

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Today’s first task is not to invent wholly new [graphical] techniques, though these are needed. Rather we need most vitally to recognize and reorganize the essential of old techniques, to make easy their assembly in new ways, and to modify their external appearances to fit the new opportunities.


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**Chart Typologies**
Excel, Many Eyes, Google Charts

**Visual Analysis Languages**
Tableau VizQL, ggplot2, HiVE

**Component Model Architectures**
Improvise, Prefuse, Flare

**Graphics APIs**
OpenGL, Java2D, GDI+, Processing

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**Resources**

- **Protovis (JS)** http://protovis.org
- **D3 (JS)** http://mbostock.github.com/d3
- **Prefuse (Java)** http://prefuse.org
- **Flare (Flash)** http://flare.prefuse.org
- **Processing** http://processing.org

**Protovis Tutorial**
vis.stanford.edu/jheer/talks/protovis/tutorial/