Displaying Trees
Application Example: Visualization

A Unix directory tree
Formatted Preorder Listing

/usr
Mark
Book
  Ch1.r
  Ch2.r
  Ch3.r
Course
  Cop3530
    Fall05
    Syl.r
    Spr06
    Syl.r
    Sum06
    Syl.r
Junk
Alex
Junk
Bill
Work
Course
  Cop3212
    Fall05
Grades
  Prog1.r

Tree Visualization

Nguyen and Huang, Infovis 02
Nguyen and Huang, Infovis 02

Figure 12. Example with a medium large data set of approximately 150 nodes

Figure 14. Example with the data set of approximately 55000 nodes
(A run of the above layout takes approximately 5 CPU minutes on a 1000 Mhz Pentium III PC, using Java Applet)
**Layout: 3D**

**Layout: Hyperbolic**

- Changing geometry system changes nature of layout
Tree Layout: Focus+Context

- Hyperbolic

- Fisheye views
  - Polar
  - Cartesian

Treemap

- Divide space hierarchically by category size
  - Alternate directions of split
  - (R1,(Rp,R2), R3)
- Johnson and Shneidermap (UMCP) early ‘90’s

\[
\begin{array}{ccc}
R_1 & R_P & R_3 \\
 & R_2 & \\
\end{array}
\]
Treemap: Connection vs Containment

Node and link diagram

Treemap
Treemap

- World population

Treemap

- Map of the Market, SmartMoney.com
Treemap
Map of the Market

Treemap: Scale issues
Treemap: Cushion Variant