java in the Dynamical Astronomy Division

- Okay for floating point?
  - No, too slow.
  - Therefore:
    - java can be used for front end only.
    - Must be able to link both java and C++ modules into main executable, or else be able to start up an outboard (C++) app from within a java program.
- We hear that java is weak in file I/O and in printing.
  - Using java as a GUI, we would only require simple ASCII file I/O.
  - Printing not likely to be an issue for Newcomb.

java in the Dynamical Astronomy Division

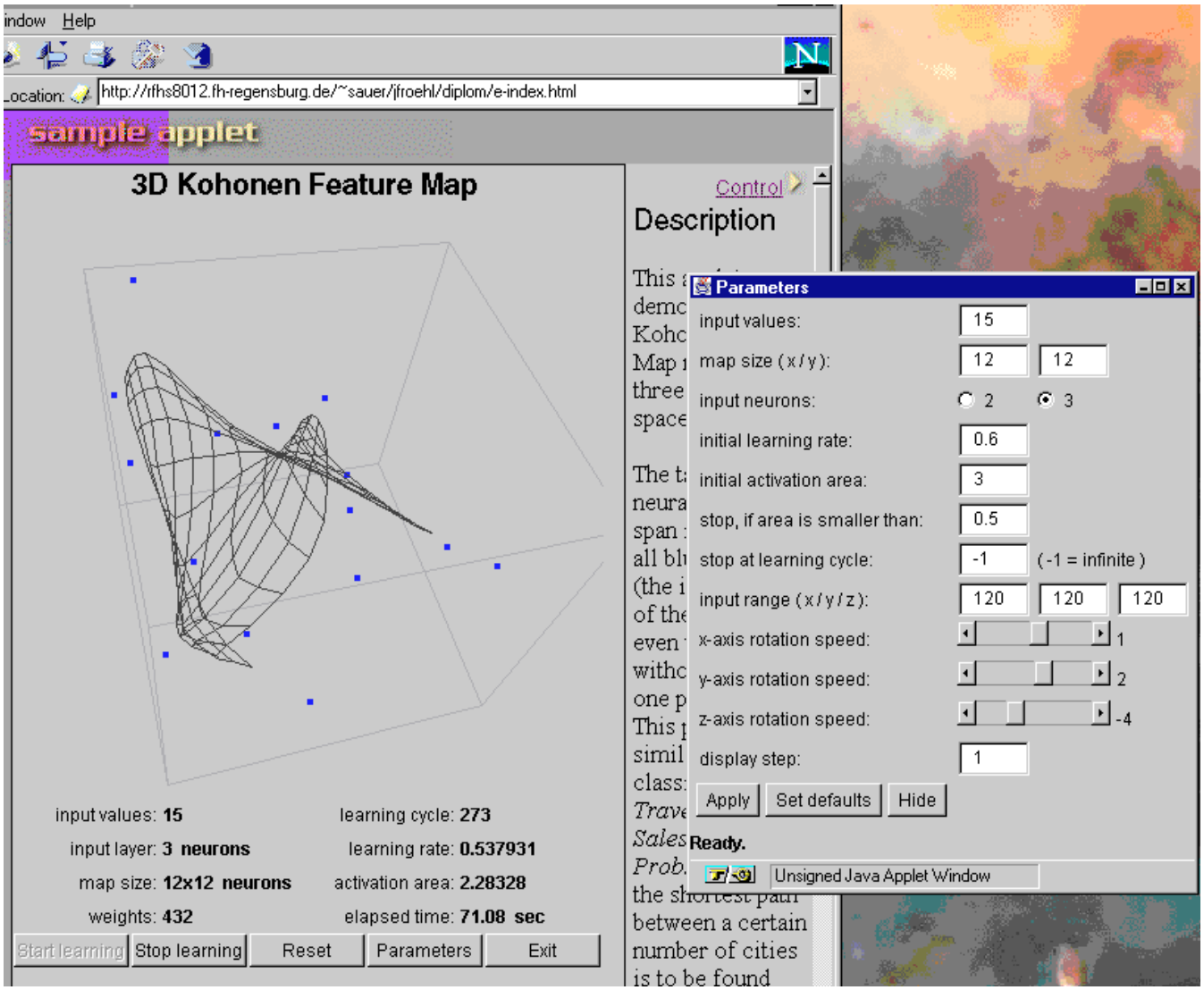
- Does java have a minimum set of useful GUI widgets?
  - Short answer: yes.
  - What's more, others have already done the GUI widget grunt work. For example, Rogue Wave Software "JWidgets" library contains java code for:
    - button
    - groupbox
    - toolbar
    - status bar
    - progress bar
    - tree list
    - tabbed dialog
    - tables
- Do code development environments and/or resource workshop programs exist for generating GUI code?
  - Yes.

java in the Dynamical Astronomy Division

- Can we write standalone applications as well as web-based applets? Currently, we don't know.
  - C++ app with java components?
  - java app with C++ modules?
- Our options right now:
  - OWL
    - Would limit Newcomb to Windows platforms.
      - probably not a substantial drawback
    - JLH would have to learn OWL.
    - JLH would have to get a PC.
      - will probably be getting one anyway
    - We already have some experience with OWL (MAM).
  - java
    - Still some major questions that require looking into.
  - MFC
    - same issues as OWL
    - technically inferior to OWL but MS giant is behind it

A java Example – A Neural Net Application

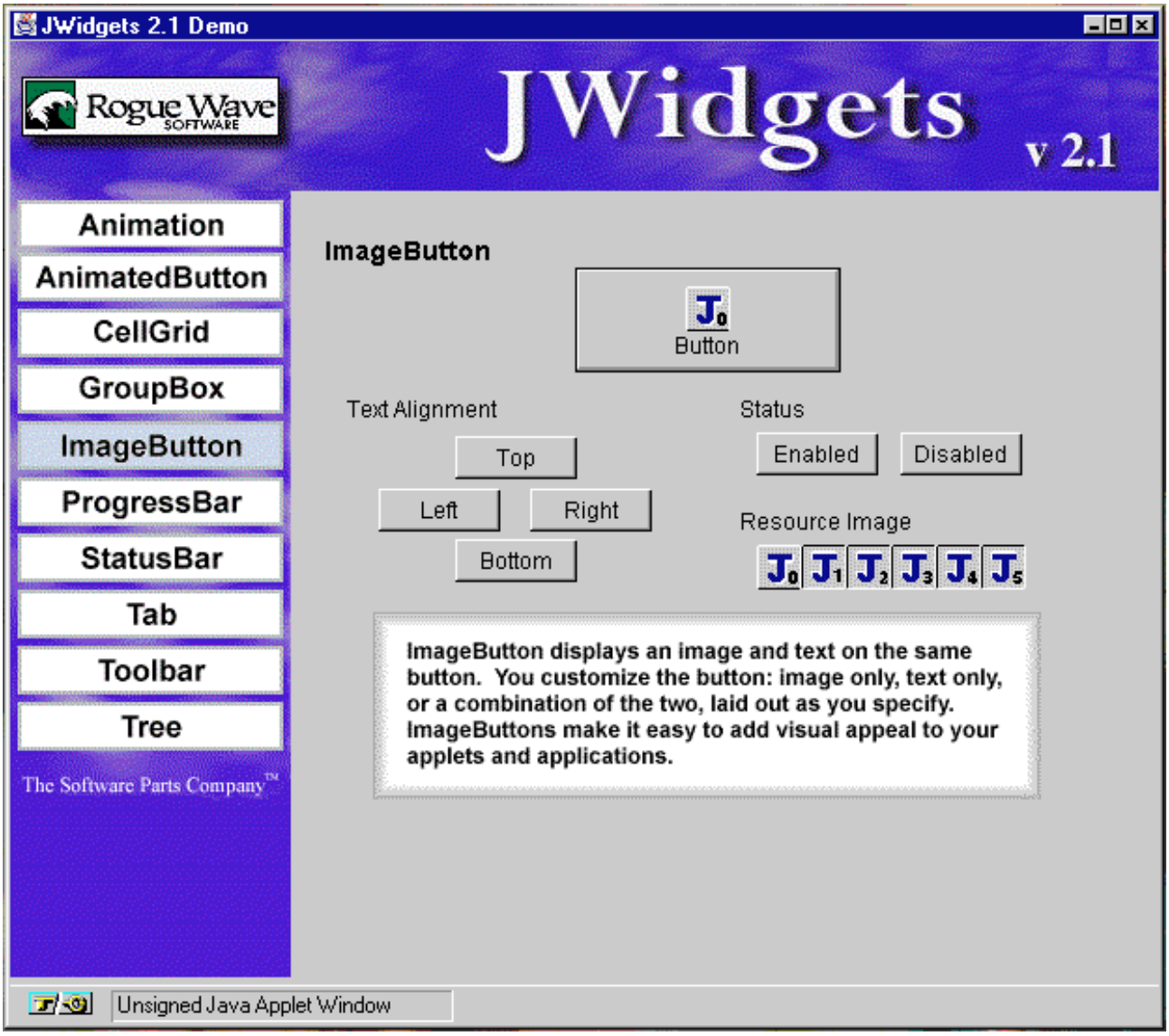
- from http://rfhs8012.fh-regensburg.de/~sauer/jfroehl/diplom/e-index.html



- Things to Notice:
  - floating point app
  - tight interaction between interface and app
  - *useful* dialog box

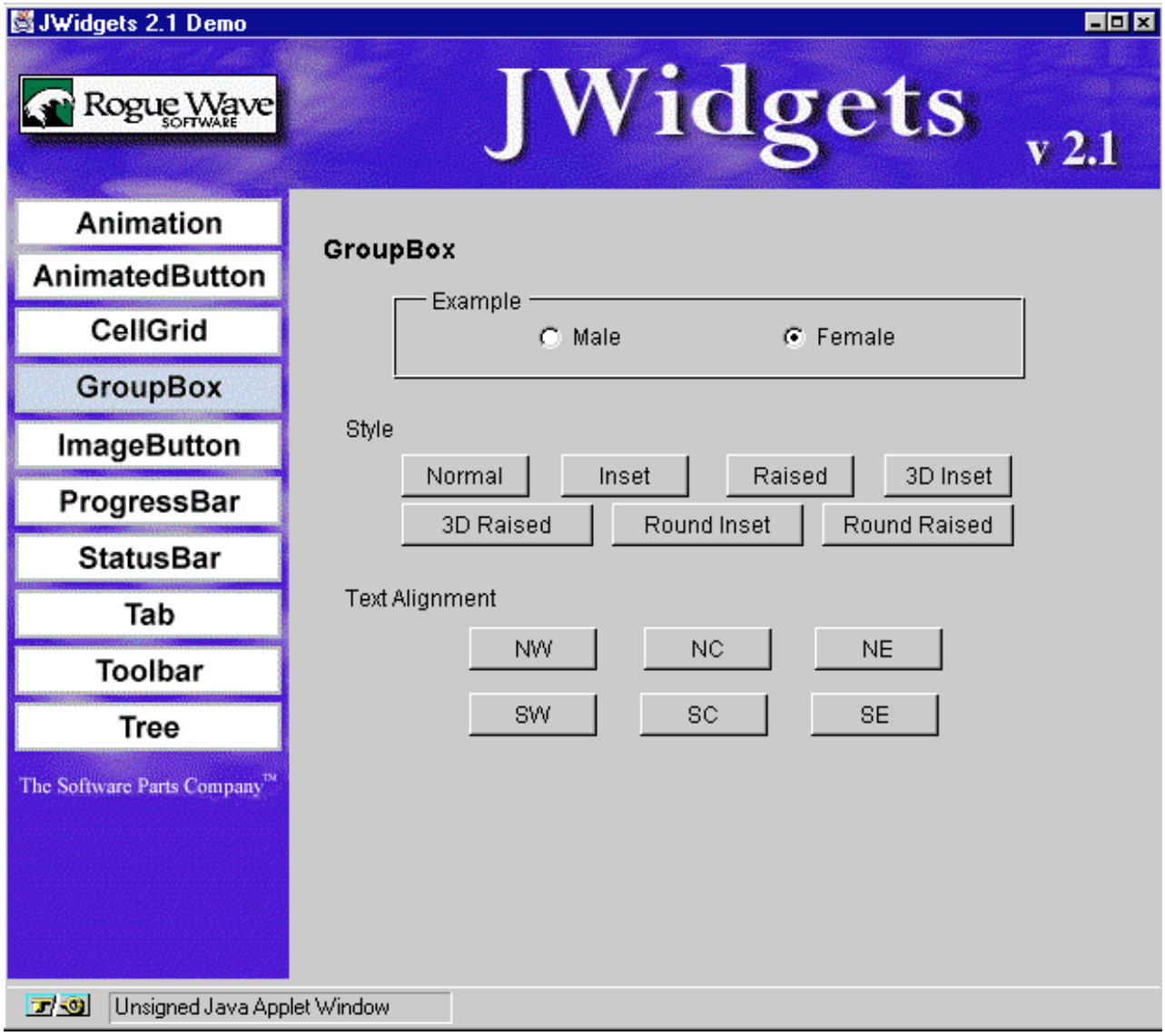
Rogue Wave JWidgets Examples

- Following are examples of the Rogue Wave Software JWidgets library of java inteface components.
- Buttons



Rogue Wave JWidgets Examples

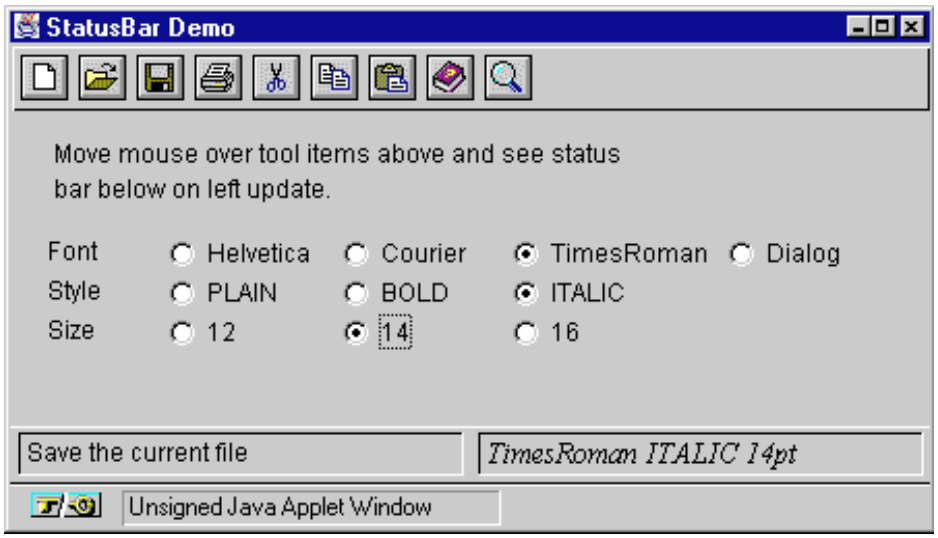
- Group Boxes



Rogue Wave JWidgets Examples

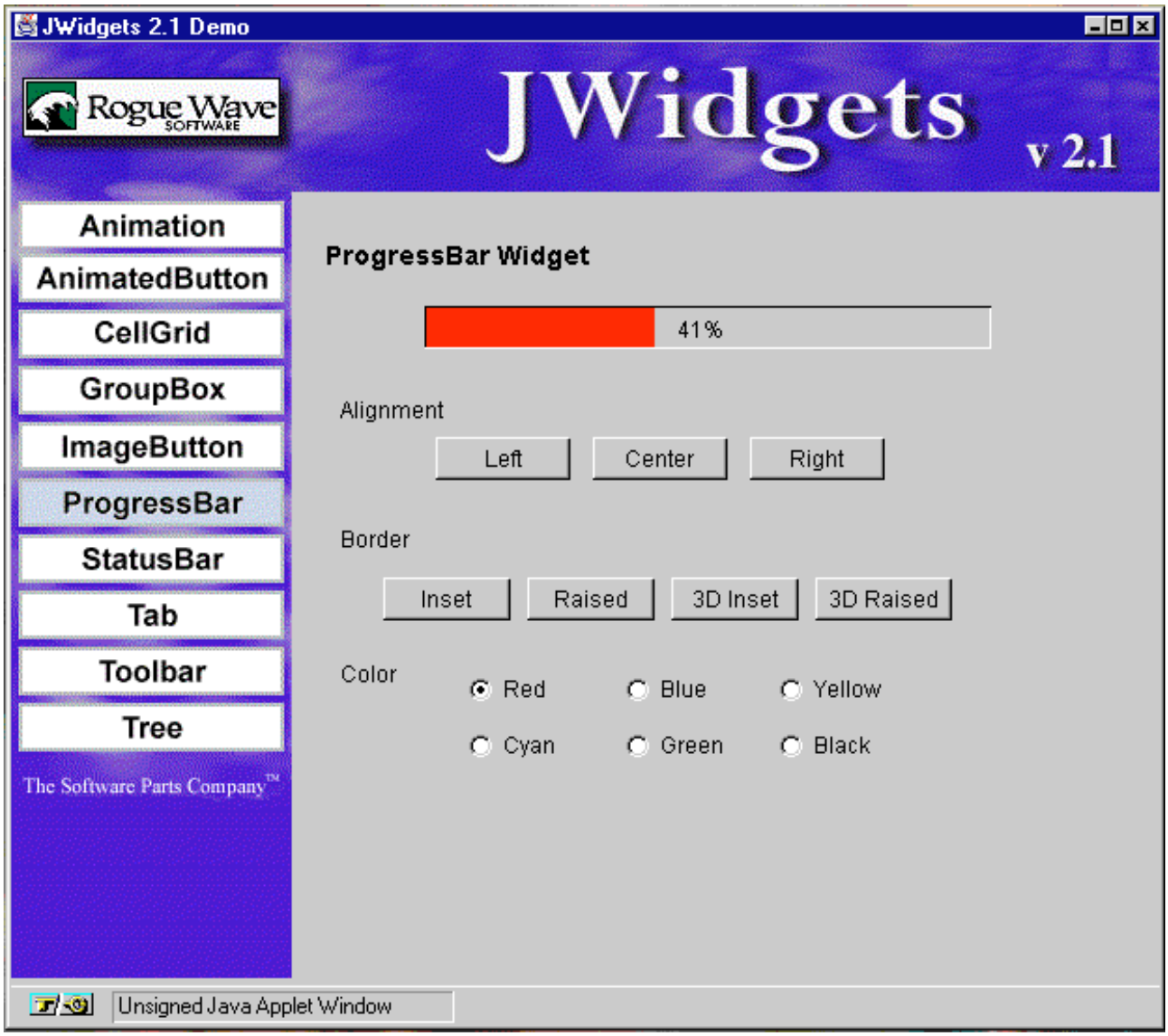
- Toolbar

- Status Bar



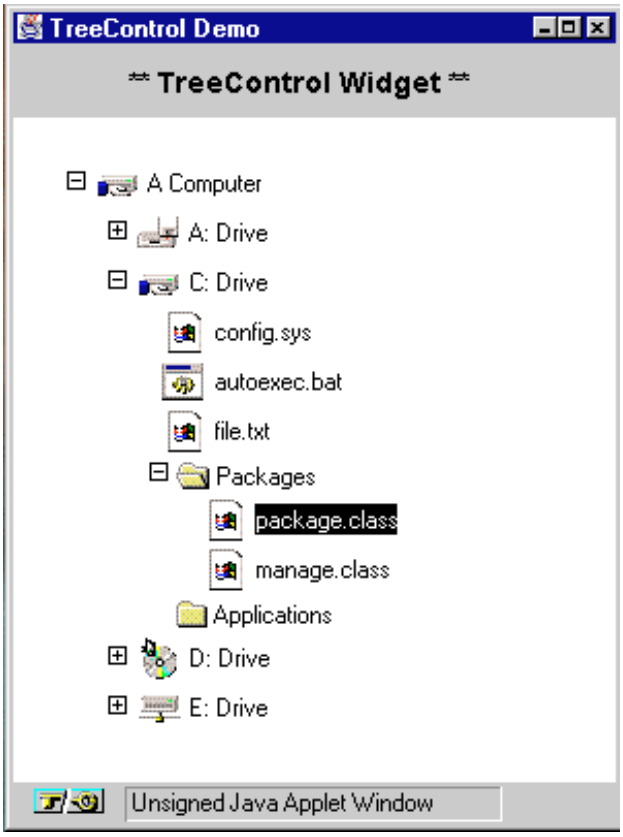
Rogue Wave JWidgets Examples

- Progress Bar



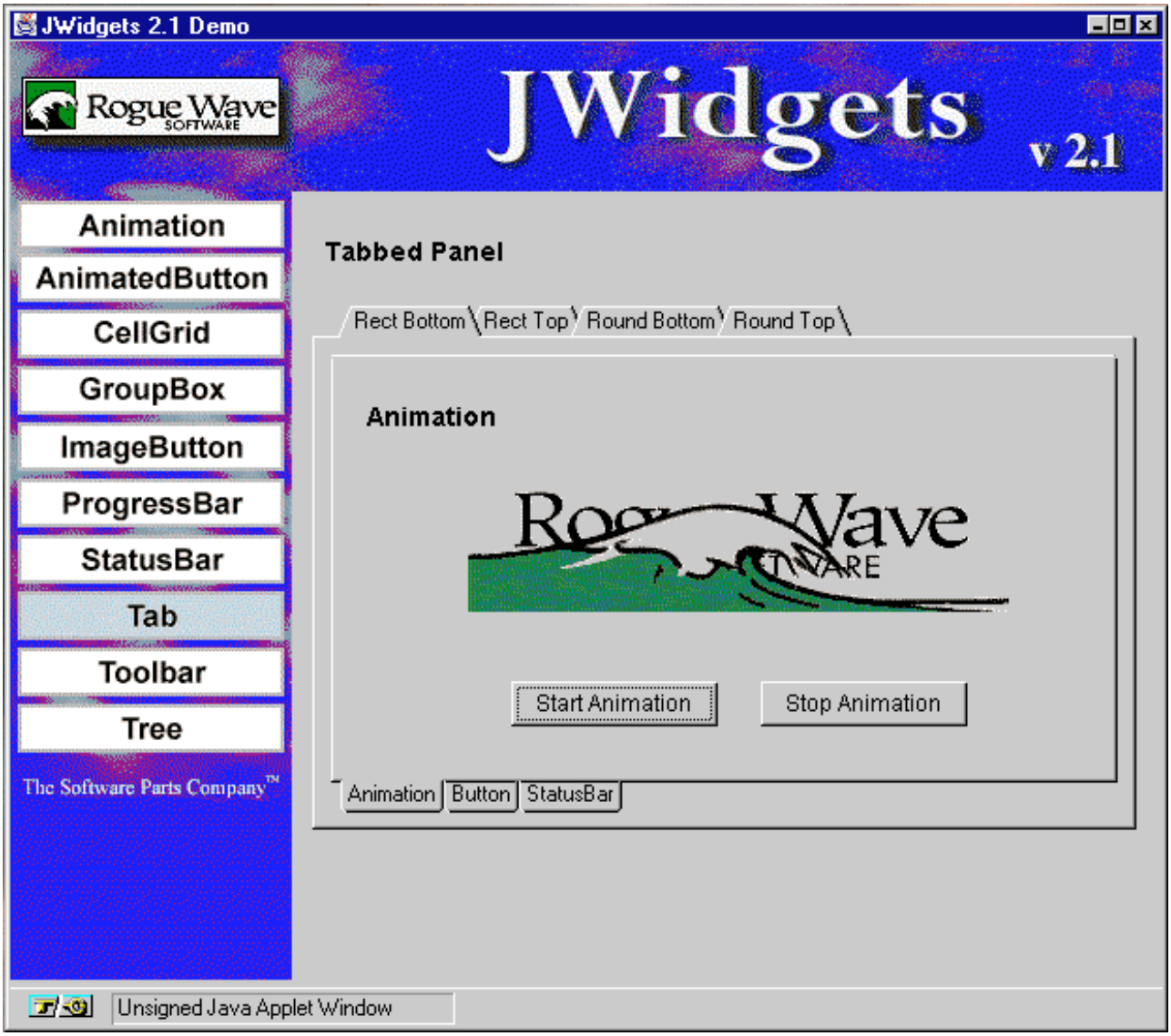
Rogue Wave JWidgets Examples

- Tree List



Rogue Wave JWidgets Examples

- Tabbed Dialog



Rogue Wave JWidgets Examples

- Table

CellGrid Demo

Global | All Cells | Column Labels | Row Labels | Selected Cells

	1	2	3	4	5	6
1	r1,c1	r1,c2	r1,c3	r1,c4	r1,c5	r1,c6
2	r2,c1	r2,c2	r2,c3	r2,c4	r2,c5	r2,c6
3	r3,c1	r3,c2	r3,c3	r3,c4	r3,c5	r3,c6
4	r4,c1	r4,c2	r4,c3	r4,c4	r4,c5	r4,c6
5	r5,c1	r5,c2	r5,c3	r5,c4	r5,c5	r5,c6
6	r6,c1	r6,c2	r6,c3	r6,c4	r6,c5	r6,c6
7	r7,c1	r7,c2	r7,c3	r7,c4	r7,c5	r7,c6
8	r8,c1	r8,c2	r8,c3	r8,c4	r8,c5	r8,c6
9	r9,c1	r9,c2	r9,c3	r9,c4	r9,c5	r9,c6
10	r10,c1	r10,c2	r10,c3	r10,c4	r10,c5	r10,c6
11	r11,c1	r11,c2	r11,c3	r11,c4	r11,c5	r11,c6
12	r12,c1	r12,c2	r12,c3	r12,c4	r12,c5	r12,c6
13	r13,c1	r13,c2	r13,c3	r13,c4	r13,c5	r13,c6
14	r14,c1	r14,c2	r14,c3	r14,c4	r14,c5	r14,c6
15	r15,c1	r15,c2	r15,c3	r15,c4	r15,c5	r15,c6
16	r16,c1	r16,c2	r16,c3	r16,c4	r16,c5	r16,c6
17	r17,c1	r17,c2	r17,c3	r17,c4	r17,c5	r17,c6
18	r18,c1	r18,c2	r18,c3	r18,c4	r18,c5	r18,c6
19	r19,c1	r19,c2	r19,c3	r19,c4	r19,c5	r19,c6

Unsigned Java Applet Window