



Many sample scripts have been prepared to illustrate how you might use the features of the TNT products' scripting language for scripts and queries. These scripts can be downloaded from [www.microimages.com/freestuf/scripts.htm](http://www.microimages.com/freestuf/scripts.htm).

## Script Excerpt for Deconflicting Labels (LabelDecon.sml)

```

proc OnLayoutDrawEnd (
  class GRE_LAYOUT layout,
  class GRE_VIEW view
) {
  group = layout.GetGroupByName("Group 1");
  g_group = group;
}
func OnViewDataTipShowRequest (
  foregroundcolor.name = "red2";
  offset.x = 10;
  offset.y = 10;
  imagegc = imgdev.CreateGC();
  while (layer) {
    labels = layer.GetLabels(view);
    labels.GetItemAtLocation(point, place, 10);
    reg = place.GetRegion();
    places = labels.GetItemsOverlappingRegion(reg);
    numeric number = places.GetNumItems();

    if (number > 1) {
      groupreg.Clear();
      for q = 1 to number {
        groupreg.UnionRegion(places[q].GetRegion());
      }
      groupextents = groupreg.Extents;
      groupcenter = groupextents.center;
      groupextents.Expand(10, 10);
      reg.Clear();
      for q = 1 to number {
        place = places[q];
        center = place.GetRegion().Extents.center;
        angle = groupcenter.GetAngle(center);
        place.SetCopyOnWrite(1);
        while (place.GetNumAttachments()) {
          place.DeleteAttachment(place.GetAttachment(1).Element);
        }
        zoom = 30 / place.GetRegion().Extents.GetHeight();
        if (zoom < 1.0) zoom = 1.0;
        place.Zoom(zoom);

        dTheta = 0;
        SolutionFound = false;
        while (!SolutionFound && dTheta < 360) {
          delta.x = cos(angle);
          delta.y = sin(angle);
          extents = place.GetRegion().Extents;
          offset.x = groupcenter.x - extents.center.x;
          offset.y = groupcenter.y - extents.center.y;
          extents += offset;

          while (groupextents.Overlaps(extents)) {
            offset += delta;
            extents += delta;
          }
          SolutionFound = reg.TestRect(extents, "FullOutside");
          if (!SolutionFound) {
            dTheta += 10;
            angle += 10 / deg;
          }
        }
        offsets[q] = offset;
        place.Move(offset);
        reg.UnionRegion(place.GetRegion());
      }
      groupdelta.x = -reg.Extents.x1;
      groupdelta.y = -reg.Extents.y1;
      imgdev.Create(reg.Extents.GetHeight()+5, reg.Extents.GetWidth()+5);
      imgdev.SetPixelSizeMM(view.PixelSizeMillimeters,
        view.PixelSizeMillimeters);
      imgdev.Clear("white");
      imagegc = imgdev.CreateGC();
      imagegc.SetOutputScale(view.GetMapScale());
      maskdev.Create(imgdev.GetHeight(),imgdev.GetWidth());
      maskdev.SetPixelSizeMM(view.PixelSizeMillimeters,
        view.PixelSizeMillimeters);
      maskdev.ClearAll();
      maskgc = maskdev.CreateGC();
      maskgc.SetOutputScale(view.GetMapScale());
      maskgc.SetPixelFunction("Set");
      place.DrawSample(maskgc, foregroundcolor);
      newpt.x = oldcenter.x - imgdev.GetWidth() / 2;
      newpt.y = oldcenter.y - imgdev.GetHeight() / 2;
      offset = newpt - point;
      datatip.SetImageTip(imgdev, maskdev, offset);
      return (1);
    }
  }
}

```

procedure called after layout is drawn

function called when DataTip event is triggered

set text color and offset so label is not under cursor

find the extents of the labels in the view to deconflict

expand the extents for good looking balloon leaders

compute zoom and position to deconflict

exclude leader line from zoom calculation

exclude leader line from zoom calculation

new label position

show the deconflicted labels

how to handle a single label (no overlap)

move out from center until label no longer intersects actual label extents

ensure enlarged labels do not overlap

get new extents and move the label copy

draw the label to be used

draw the label to be used

new label position

show the DataTip