Statistical Animations Using R

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Did you know that there are three kinds of statisticians – those that can count and those that can’t.

Statistics are like a bikini; What is revealed is interesting; What is concealed is crucial.

http://www.ilstu.edu/%7Egcrambey/Gallery.html
Outline

- The animation package
- Demonstrations
- Future developments
The animation package

- To turn ideas into animations (as quickly & faithfully as possible...)
- Based on the common characteristic of animation and some statistical procedures
- To produce animations in various formats
The animation package (cont)

```r
for (i in 1:360) {
  plot(1, ann = FALSE,
       type = "n", axes = FALSE)
  text(1, 1,
       "Animation", srt = i,
       col = rainbow(360)[i],
       cex = 7 * i/360)
  Sys.sleep(0.01)
}
```
Demonstrations

- **Package features**
  - Animations using R windows graphics devices
  - Creating animations in HTML pages (animated by JavaScript)
  - Third-party software
    - ImageMagick: GIF, MPEG (convert)
    - SWF Tools: Flash (png2swf, jpeg2swf, pdf2swf)
- **Statistical animations**
  - Not “Tom & Jerry”, but stuff like CLT, kNN, …
Future developments

- More animations in statistics
- Interactivity in the Web via “Rweb”
- Probably a GUI? (Tcl/Tk, gWidgets)
- SWF Tools utility “swfc”
Thanks

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