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\documentclass{article}
\usepackage{animate} % for animated figures

\title{Animations in \LaTeX{} via {\sf R} and Sweave}
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\begin{document}
\maketitle

<<echo=false, results=hide>>=
p <- seq(0.999, .9, len=10) # parameters for opening mouth
p <- c(rev(p), p) # add reversed parameters
pdf(file="pacman.pdf") # open pdf device
for (i in 1:length(p)){
  pie(c(1-p[i], p[i], 1-p[i]), # pac man like pie chart
      col=c("white", "yellow", "white"),
      border=NA, labels=NA)
  points(.3,.4, pch=16, cex=4) # add the eye
}
dev.off() # close pdf device
@

\begin{center}
\animategraphics[loop, width=.7\linewidth]{12}{pacman}{}{}\\
\vspace{-5mm} Click me!
\end{center}

<<eval=true, echo=false, results=hide>>=
pdf("limit.pdf") # open pdf device
msam <- NA # set up empty vector
ns <- 3 # sample size
for(i in 1:500){
  sam <- runif(ns) * 10 # draw sample
  msam[i] <- mean(sam) # save mean of sample
  h <- hist(msam, breaks=seq(0,10, len=50), # histogram of all means
           xlim=c(0,10), col=grey(.9),
           xlab="", main="", border="white", las=1)
  points(sam, rep(max(h$count), length(sam)),
         pch=16, col=grey(.2)) # add sampled values
  points(msam[i], max(h$count), # add sample mean value
         col="red", pch=15)
  text(10, max(h$count), paste("sample no", i))
  hist(msam[i], breaks=seq(0,10, len=50), # overlay sample mean
       xlim=c(0,10), col="red", add=T, # in histogram
       xlab="", border="white", las=1)
}
dev.off() # close pdf device
@

\begin{center}
\animategraphics[controls, width=.7\linewidth]{4}{limit}{}{}
\end{center}

<<echo=f, results=hide>>=
library(rgl) # load rgl library
x <- matrix(rnorm(30), ncol=3) # make random points
plot3d(x) # plot points in 3d device
par3d(params=list(
  windowRect=c(100,100,600,600)) # enlarge 3d device
view3d( theta = 0, phi = 0) # change 3d view angle
M <- par3d("userMatrix") # get current position matrix
M1 <- rotate3d(M, .9*pi/2, 1, 0, 0)
M2 <- rotate3d(M1, pi/2, 0, 0, 1)
movie3d(par3dinterp( userMatrix=list(M, M1, M2, M1, M),
  method="linear"), duration=4, convert=F,
  clean=F, dir="pics") # save frames in pics folder
@

\begin{center}
\animategraphics[controls, loop, width=.7\linewidth]{6}{pics/movie}{001}{040}
\end{center}

\end{document}

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