

# 10: Dynamic Interaction with Graphs

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```
doFigs <- FALSE
```

```
fig10.1 <- function(){  
  ## ---- rgl-demo ----  
  ## The Rcmdr and rgl packages must be installed  
  if(!requireNamespace('rgl', quietly=TRUE))stop("Package 'rgl' must be available.")  
  if(!requireNamespace('car', quietly=TRUE))stop("Package 'car' must be available.")  
  if(!require(DAAG, quietly=TRUE))stop("Package 'DAAG' must be available.")  
  rgl::open3d()          # Precedes the call to par3d()  
  rgl::par3d(cex=0.75)    # Optional  
                          # Other params: see help(par3d)  
  with(nihills, car::scatter3d(x=log(dist), y=log(climb),  
                              z=log(time),  
                              grid=FALSE,  
                              surface=FALSE,  
                              point.col="black",  
                              axis.scales=FALSE))  
}
```

```
supp10.1 <- function(){  
  if(!require(googleVis))stop("Package 'googleVis' must be available.")  
  if(!exists("WorldBank"))stop("Requires dataset 'Worldbank' to be available.")  
  M <- gvisMotionChart(WorldBank, idvar="country",  
                      timevar="year",  
                      xvar="life.expectancy",  
                      yvar="fertility.rate",  
                      colorvar="region", sizevar="population",  
                      options=list(width=700, height=600))  
  ## Now display the motion chart  
  plot(M)  
}
```

Figure 1: Snapshot of 3-D dynamic display.

```
fig10.1()
```