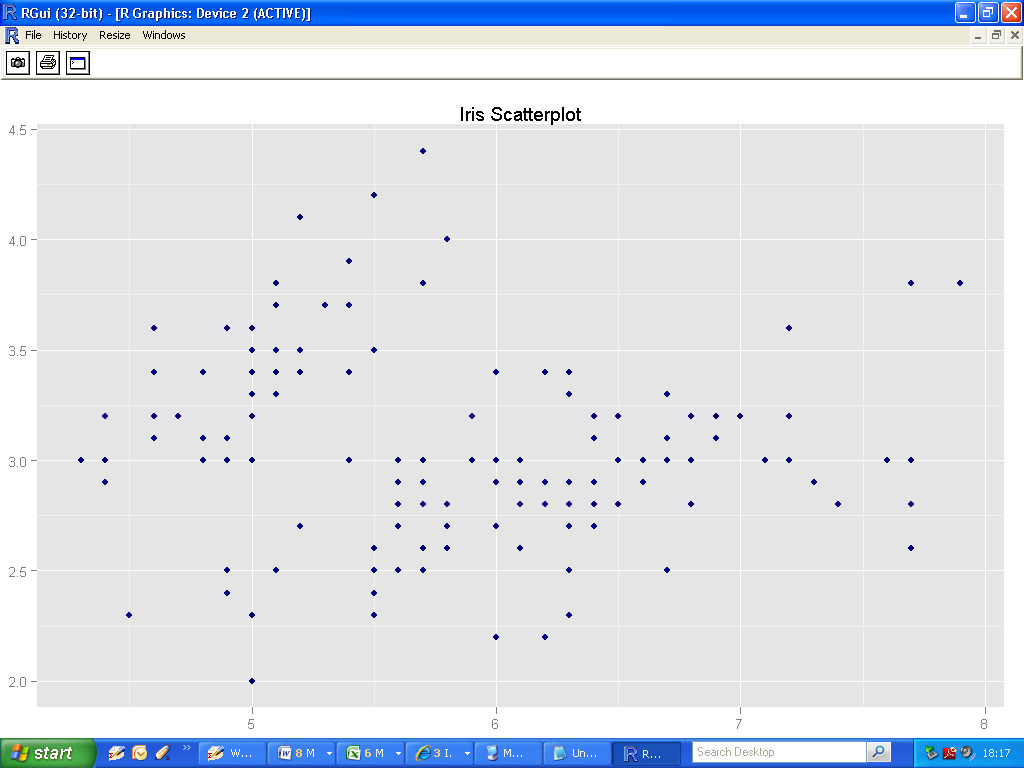
**Basic Plot Types: Geoms**

Geoms are the fundamental building blocks of ggplot2, useful in their own right, and in conjunction to make more complex plots.  
  
geom\_area : draws an area plot  
geom\_bar : bar-chart  
geom\_line : produces a line plot  
geom\_point : produces a scatter plot.  
geom\_polygon: draws polygons, which are filled paths.  
geom\_text :   add labels at the specified points  
geom\_tile :   makes an image plot or level plot.

|  |
| --- |
| > P <- ggplot(iris,aes(Sepal.Length,Sepal.Width))  + xlab(NULL) + ylab(NULL)  >  > P + geom\_point(colour="navyblue")  + opts(title ="Iris Scatterplot") |



* Navy blue glyphs
* No axes labels
* Title on plot (“Iris Scatterplot”)

## 5.2 Overall Layering strategy

1. to display data
2. to display a statistical summary of the data
3. to add additional metadata, context and annotations

## 5.3 Basic Plot Types

|  |
| --- |
| df <- data.frame(  x = c(3, 1, 5),  y = c(2, 4, 6),  label = c("a","b","c")  )  p <- ggplot(df, aes(x, y, label = label)) +  xlab(NULL) + ylab(NULL)  p + geom\_point() + opts(title = "geom\_point")  p + geom\_bar(stat="identity") +  opts(title = "geom\_bar(stat=\"identity\")")  p + geom\_line() + opts(title = "geom\_line")  p + geom\_area() + opts(title = "geom\_area")  p + geom\_path() + opts(title = "geom\_path")  p + geom\_text() + opts(title = "geom\_text")  p + geom\_tile() + opts(title = "geom\_tile")  p + geom\_polygon() + opts(title = "geom\_polygon") |

## 5.4 Displaying distributions

|  |
| --- |
| Depth\_dist +  Geom\_histogram  Depth\_dist + geom\_histogram(aes(fill=cut),binwidth =0.1,position =”fill”) |

## 5.5 Dealing with overplotting

## Narrower glyphs

## Jitter

* Alpha blending

## 5.6 Surface plots

* Ggplot2 does not support 3d graphics.
* However it does support ways of presenting 3d surfaces in 2d: contour plots, coloured tiles and bubbleplots.

## 5.7 Map Data

Ggplot2 has incorporated some tools that make it easy to combine maps into projects, for example the borders () function.

## 5.8 Revealing uncertainty

|  |  |  |
| --- | --- | --- |
| X variable | Range | Range + Centre |
| Continuous | geom\_ribbon | geom\_smooth(stat=”identity”) |
| Discrete | geom\_errorbar | geom\_crossbar |
|  | geom\_linerange | geom\_pointrange |