Practical use of *R* by blind People

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This presentation will highlight the successes and failures blind people have had when using *R* for their university studies and in their working lives. Primary focus is on the Windows operating system but consideration of the use of *R* under Linux will also be briefly discussed. A practical demonstration from the author (himself blind) completing some basic tasks in *R* using a free open source screen reader known as NVDA will be given.

The benefits of *R* to the blind user are numerous [2]. Of particular note are: *R* is extensible; *R* is not reliant on a graphical user interface (GUI); *R*'s help functionality is available in plain *HTML*; *R* has strong links to LATEX; and, *R* can be used within minutes of installation as there are no additional setup tasks to complete.

Major issues with *R* are therefore relatively few when compared to other statistical software options [3]. In the majority of situations, these difficulties are easily avoided — some might say that the shortcomings are limited to those bells and whistles that are optional for any other *R* user. perhaps the most important request would be to use scalar vector graphics (*SVG*) as a standard file type for graphs, including being an option for the `savePlot` command and the `save as` item in the pull down menu of a graphics device window.

Further to this is a secondary list of "nice to have's" including: Creation of all package vignettes into *HTML* instead of pdf files, perhaps using the **knitr** package [4] which is currently only an option for package developers; An accessible integrated development environment (IDE) because RStudio is not yet an accessible option; and, more accessible options for a GUI that aids the novice user that is blind.

Developments in the **BrailleR** package [1] have started to meet the needs of blind users but there are some stumbling blocks. Critical among these are the lack of assigned classes to graphical objects, and finding substitutes for the not fully accessible *R* console under Windows, such as being able to open a script window when working with *R* in terminal mode.

References

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