

Non-Visual Strategies for Making Statistical-Computing Accessible

JooYoung Seo

School of Information Sciences
University of Illinois at Urbana-Champaign

How Do I Use Computer?

Interaction with Computer

Input



Output



Non-Visual Interaction

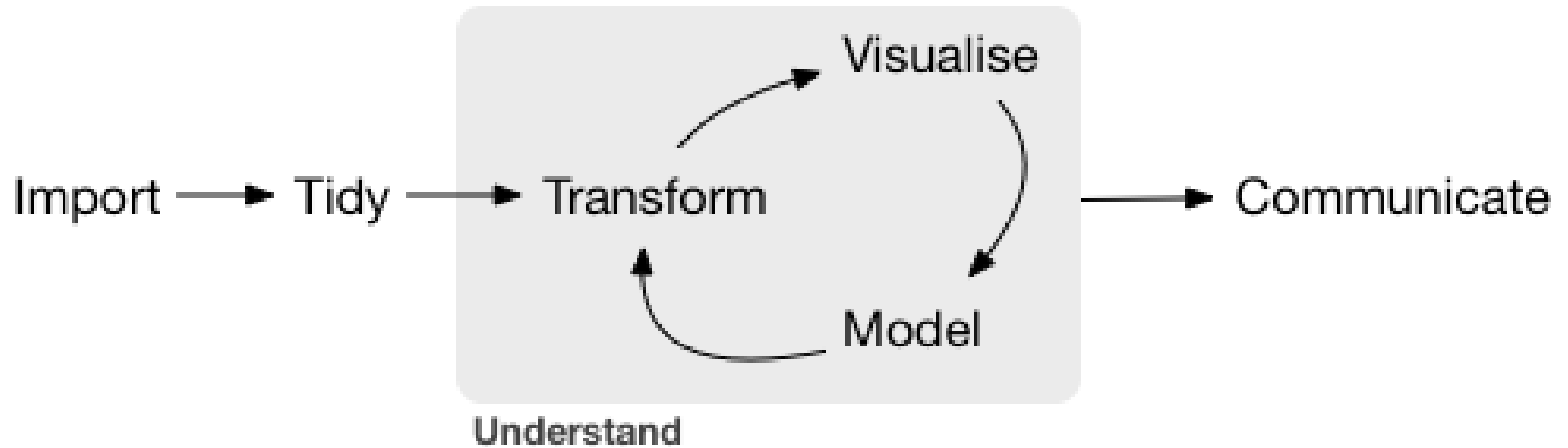
Input



Output

Statistical-Computing

Data Science



Program

Why R .

- CLI == fully accessible via keyboard.
- Rmd -> reproducibility -> accessibility.
- Accessible open-source packages.

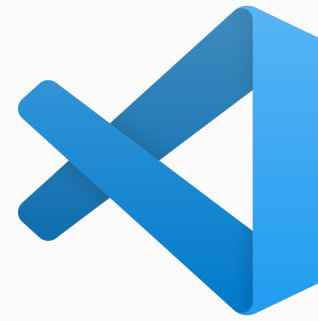
What about IDE Accessibility?

RStudio IDE



- Desktop \geq v1.3
- Server \geq v1.3 (recommendable)

VSCode



Extensions

- **vscode-R**
- **VSCode-R-Debugger**


Using RStudio Server in Windows WSL2


Options

 General

 Code

 Appearance


 Pane Layout


 Packages

 R Markdown


 Sweave

 Spelling

 Git/SVN

 Publishing

 Terminal

 Accessibility

General

Announcements

Assistive Tools

- ☒ Screen reader support (requires restart)
- ☐ Entire page has application role (requires restart)

Milliseconds after typing before speaking results

Maximum number of console output lines to read

Other

- ☒ Reduce user interface animations
- ☐ Tab key always moves focus

 [RStudio accessibility help](#)

Contact at accessibility@rstudio.com

OK

Cancel

Apply

Create Project



New Directory

Start a project in a brand new working directory



Existing Directory

Associate a project with an existing working directory



Version Control

Checkout a project from a version control repository



Accessible Packages

- `{gt}`: data.frame and tibble.
- `{sonify}`: scatter plot and line chart.
- `{BrailleR}`: histogram, barplot, and boxplot.
- `{shiny}`: interactive navigation.
- `{rmarkdown}`: Swiss army knife for accessibility.

Demonstration

Data Science Requires *Insight* (NOT Sight)

Contact

- ✉: jseo1005@illinois.edu
- 🐦: [@seo_jooyoung](https://twitter.com/@seo_jooyoung)
- 🌐: jooyoungseo.github.io