

Quick Introduction to psychTestR

Klaus Frieler

Max Planck Institute for Empirical Aesthetics
Frankfurt/Main

LongGold Workshop
Hannover
17^h February 2023



Max-Planck-Institut
für empirische Ästhetik



psychTestR

- psychTestR was developed by **Peter Harrison** in context of the LongGold project.
- psychTestR is written in **R** based on the web framework **Shiny**.
- Allows **standalone lab-based** as well as massive **online experiments**.
- Supports building test batteries from **modular components**.
- Supports **internationalization** to provide tests in several languages at once.
- psychRCAT: add-on package to implement **adaptive testing**.
- In 2019, we switched to psychTestR and abandoned Concerto.
- Small community of developers (KGF, Peter, Kilian, Viola, Frank, Robin, Nick, Seb)
- Various documentation: Peter's tutorial (on Github), Pausch et al. (2023).



psychTestR

- All tests and questionnaires are implemented as R packages on GitHub
 - open source
 - easy to install
 - easy to customize
- Modularization and reusability of test components by plugging them together to complex test batteries, while adding customer specific parts, if needed.
- Can also be used in conjunction with other online survey platforms via IDs and backlinks.
- Over 40 tests and questionnaires available as of now.
- Questionnaires in psyquest package, performance tests in own packages.
- Many more under development or in planning: Gamification (Seb Silas)

Go

Shiny

- Shiny is a **web development framework** for **R**.
- Package Shiny + Shiny Server (integrated in RStudio for local use).
- Main purpose is building **interactive data visualization** tools.
- But can be used for much more, e.g. games, static websites, online testing.
- Shiny produces dynamic **HTML pages**, powered with **Bootstrap CSS** and **jQuery JavaScript**.
- Reactive Programming Paradigm: **Event-based** instead of linear program flow.
- Main components: an **User Interface (UI)** and a **server** function. psychTestR encapsulates all this away from the user.

psychTestR

- A psychTest battery consists of two elements:
 1. A psychTestR::timeline (needed for internationalization) or a simple list of test_elements.
 2. A call to psychTestR::make_test
- For example

```
timeline <- psychTestR::join(  
  psychTestR::one_button_page("Give me some good GMS please!"),  
  psyquest::GMS(short_version = T),  
  psychTestR::final_page("The end")  
)  
test <- psychTestR::make_test(elts = timeline)  
shiny::runApp(test)
```

psychTestR

Try yourself!

https://shiny.gold-msi.org/mupsy_longgold_demo/



https://shiny.gold-msi.org/longgold_monitor/



- DOTS (DGM Online Testing Server)
 - Shiny test server (needed for psychTestR)
 - powered by Deutsche Gesellschaft für Musikpsychologie
 - Supported by MPI for Empirical Aesthetics
 - easy and free access for society members.
 - excellent and fast support by experienced staff (= me) 😊
- Accompanying monitor apps (Shiny) are easily provided.
- Model for Open Testing Movement?
 - Open Testing is a vision modeled along Open Source / Open Science movement.
 - Provide free, state-of-the-art test modules and resources.
 - Community of developers contribute to growing set of testing resources.
 - Define standards for tests and questionnaires



Thank you!

Contact me anytime in regard to psychTestR/DOTS
klaus.frieler@ae.mpg.de