**Progress tracking**

For lessons, we want to save students’ progress so that:

* The results cannot be altered
* The results can be saved per answer (instead of the whole tutorial)
* More data can be gathered (optional: first success, tries before first success, latest success, tries, etc.)

**Learnr progress storage**

By default, learnr saves progress per tutorial (per version) per section and question with unique ID. Learnr uses this to allow users to resume their tutorial, but might be usable for us too.

The files are in .rds format and contain pretty much all we’re looking for, and have descriptive names with creation times. However, the exercises are overwritten, even if they were correct originally. Additionally, each tutorial comes with a “start over” button, which clears this folder.

**location**

Where is learnr progress stored?

“Locally run tutorials store user work in the local filesystem and tutorials run from a server store user work within the storage provided by the end user’s web browser.”

For Rstudio server, I think it is always in ~/.local/share/R:

file.path(rappdirs::user\_data\_dir(), "R", "learnr", "tutorial", "storage")

Source: <https://stackoverflow.com/questions/50783797/learnr-how-to-invalidate-stored-worked-locally-by-changing-id-and-version>

On my PC, this is at ~/.local/share/R/learnr/tutorial/storage/siebrenf/prototype/.

**problem**

We need to store each successful exercise submission. I think we can add this to the checking functionality, or this may be built deeper into learnr.

If not, we need to send our own signals whenever a code chunk is executed/evaluated.

**Solution**

See <https://rstudio.github.io/learnr/publishing.html#Events> perhaps.

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