{shinytest2}

Regression testing for Shiny applications

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Is this talk for me?!?

- No testing experience?

  - 📖 R Packages, Chapter 12: Testing
  https://r-pkgs.org/tests.html

  - 📖 Mastering Shiny, Chapter 21: Testing
  https://mastering-shiny.org/scaling-testing.html

- Familiar with `{shinytest}` and `{testthat}`?

  - Image your `{shinytest}` test script
  inside a `{testthat}` test

  - `shinytest2::migrate_from_shinytest()`

- Why use `{shinytest2}`?

  - Consistent App behavior over time

  - Working with a team

  - Critical features must always exist

  - Wanting to make large code changes

  - Updating dependencies

  - Too many features to remember!!

Demo!

All too familiar Shiny workflow

1. Add some reactivity

2. Click "Run App"

3. **Experiment** with it in the viewer to see if it works

4. Rinse and repeat

- Formal Unit tests

  - `expect_equal(x, y)`

  - `expect_snapshot_file(test_file)`

- Goals

  - Fewer bugs

  - Better code structure

  - Easier restarts

  - Robust code

- **Regression Testing** for Shiny applications
  - Test **existing App behavior** for consistency over time

- `record_test()`

- `AppDriver`

  - Expectation methods leverage `testthat::expect_snapshot_file()`

  - `variant` support!

- Built on `{chromote}`

  - View live test App

  - Familiar debugging tools in Chrome
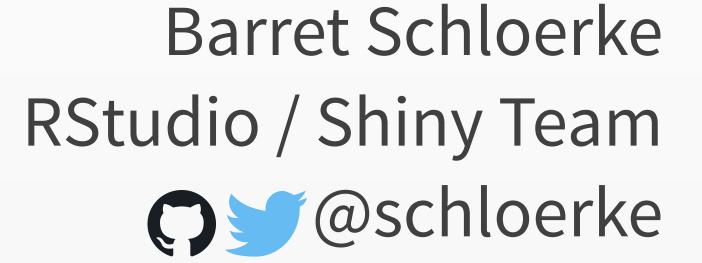
Demo!

Limitations

- Try to limit testing to objects that you own

  - Use `shiny::exportTestValues()`!

- Initial snapshot file expectations **must be verified** by hand

  - Comparisons against **static values** are *always valid*

- Minimize usage of `AppDriver$expect_screenshot()` calls

  - Cannot compare across Operating Systems or R Versions

`{shinytest2}`
Regression testing for Shiny applications

- Slides: INSERT_LINK_TO_SLIDES

- Website: https://rstudio.github.io/shinytest2/

  - Getting Started article
    Many other articles!

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- 📖 R Packages, Chapter 12:
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Questions?

How does {`shinytest2`} orchestrate everything?