What I've learned about running Shiny in production

Luis de Sousa <luisd@syeop.co.za>

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$ whoami


MEN IN GREEN
LIBERTY

SYEOP

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SYEOP

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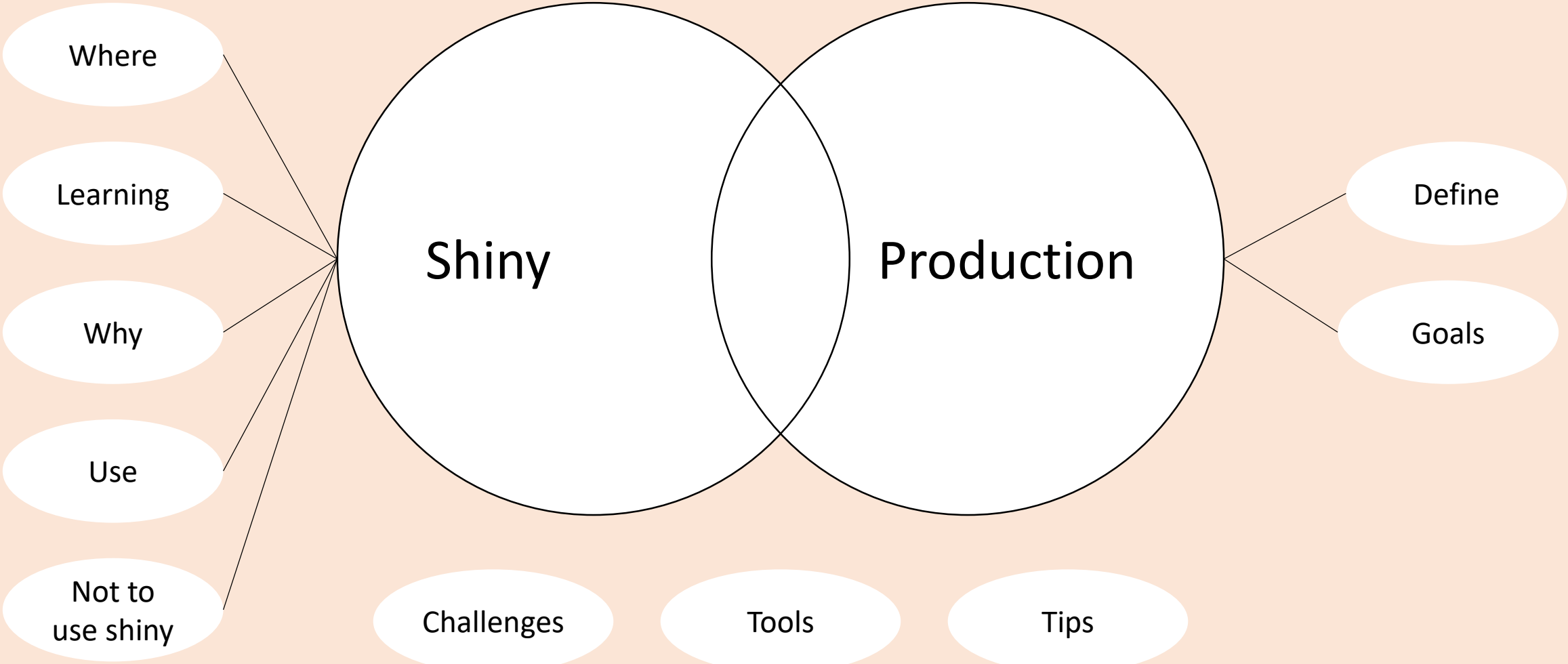
Agenda


Where
Learning
Why
Use
Not to use shiny
Shiny
Production
Define
Goals
Challenges
Tools
Tips

Where to run Shiny

- R Studio Connect
- Shiny Server
- ShinyApps.io
- Self Hosted

Learning about Shiny

- Documentation
- DataCamp
- https://shiny.rstudio.com/tutorial/
- Dean Attali - https://deanattali.com/
- Bootstrap

Why

- Low hanging fruit / fast prototyping
- Consistent R backend
- Model build in R - No code rewrite from dev to prod
- Functional vs OO

Reason not to use shiny

- Auth – difficult / expensive
- Inter language – slow
- Single page app
- Simple backend / you won't create twitter from R

Definition of Production

- Users relying on environment with consequences if it’s down

Goals of production

- Keep the software running
- Safe / Secure
- Correct / bug free
- Fast

Challenges to Shiny in Production

- Organisation - Proving it can be production ready
- Cultural – R developers not web or software developers
- Technical – Easy to create, not easy to load test

Tools: shinytest

- https://rstudio.github.io/shinytest/

Tools: shinyloadtest

- https://rstudio.github.io/shinyloadtest/

Tools: profvis

- https://rstudio.github.io/profvis/

Tools: Asynchronous programming

- https://rstudio.github.io/promises/

Tools: Feather

- https://github.com/wesm/feather
- Long running query that interrupts user experience

Tips: Setting up Production pipeline

- Linting
  - lintR - Hadley Wickham's R Style Guide / Google’s R style guide
- Version control
- Code review / documentation
  - Roxygen
- Testing
- Deployment
  - CI / CD
    - Docker and Kubernetes
  - RStudio Connect

Tips: Filter as close to source as possible

- Move data wrangling closer towards here you load you

Tips: Plot caching

- https://shiny.rstudio.com/articles/plot-caching.html

Tips: Architecture

- https://shiny.rstudio.com/articles/plot-caching.html

Conclusion

Thanks

- Claudio
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- Handre
- Lindsay