Tools for a Reproducible Workflow

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Slides available online at
https://github.com/BITSS/UCMerced2017

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Workflow

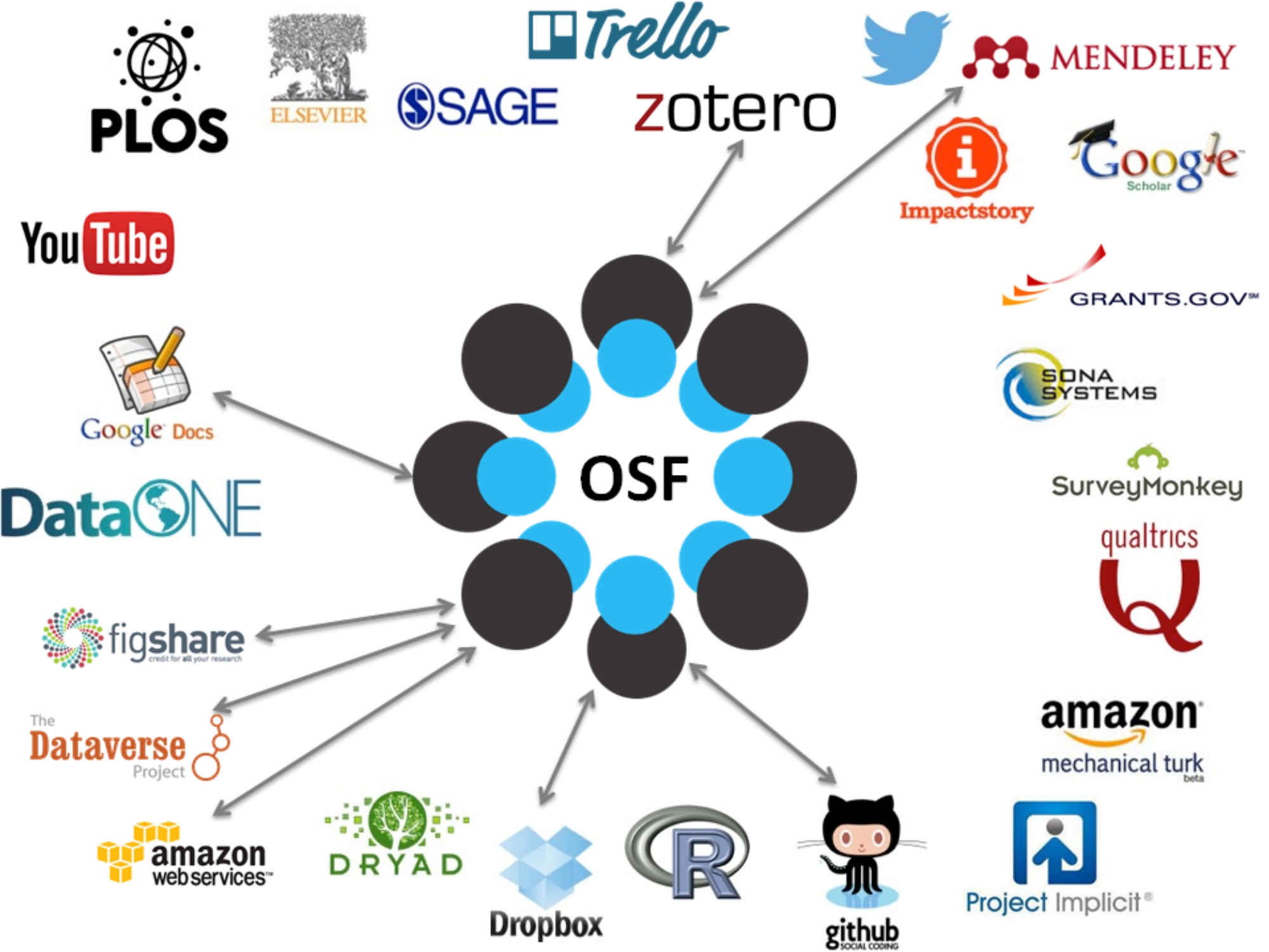
"Reproducibility is just collaboration with people you don't know, including yourself next week"
—Philip Stark, UC Berkeley Statistics

Workflow

- OSF
- Version Control
- Dynamic Documents

Put your work all in one place with the Open Science Framework Link

- Pre-Registration
- Data
  - Host
  - Link to Dataverse
- Version Control
- More to Come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The Dataverse Project
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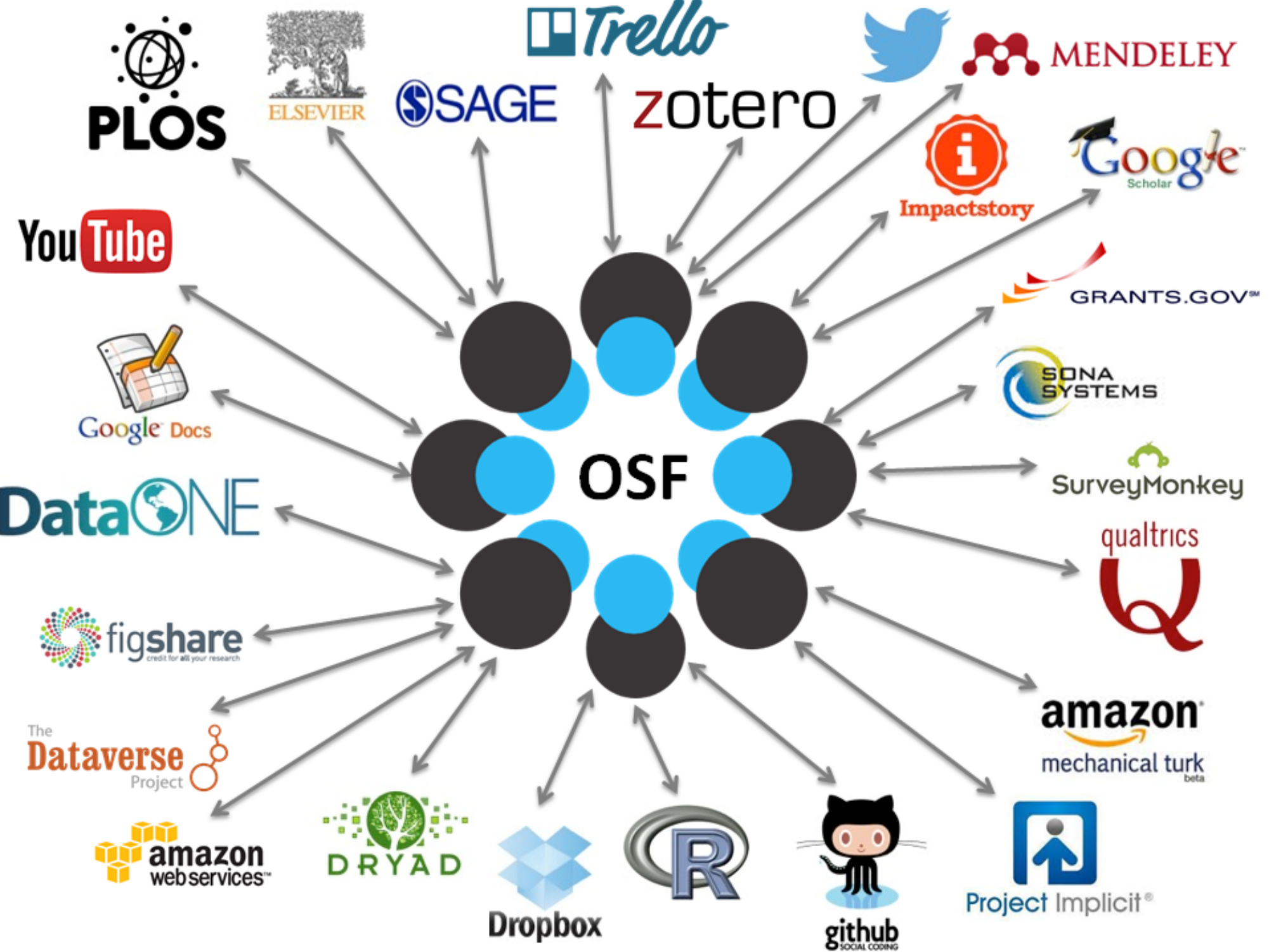
Project Implicit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Project Implicit

Dynamic Documents

Write your code and your paper in the same file so you won't lose information or make copy and paste mistakes.

- Include tables by linking to a file, instead of a static image.
- Include number by linking to a value calculated by an analysis file, instead of a static number typed manually.
- Automatically update tables and numbers.
- Produce entire paper with one or two clicks.

Dynamic Documents

Possible in Python, R, and to a lesser extent, Stata

- Jupyter—several (many?) languages
- R—use R Studio to manage projects with built-in version control, and R Markdown/knitr for publication-quality dynamic documents.
- Stata–combine with LaTeX for two click workflow
- Stata–use ‘markdoc’ ado for some dynamic ability.


R
Studio®


jupyter

Conclusion

OK, I'm convinced. How do I learn more?

- Work through my demos. ▸ Link
- Software Carpentry's tutorials ▸ Link