Strategies for Reproducible Research with Packrat

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Packrat

At RStudio we use packrat everyday in production on shinyapps.io
Aggressive Packrat

Project Life Cycle: Today

1. Empty Library, Sources, Lockfile
2. Do Some Work
3. Packrat Snapshot
4. Packrat Project

install.packages('ISLR')
packrat::snapshot()

Project Life Cycle: Future

5a. Use Packrat Library
5b. Restore From Sources

packrat::on()
packrat::restore()
Passive Packrat

Project Life Cycle: Today

1. System Library
2. Do Some Work
3. Packrat Snapshot
4. Packrat Lockfile

```
library('ISLR')
packrat::.snapshotImpl(
  snapshot.sources = False
)
```

Project Life Cycle: Future

```
packrat::restore()
packrat::on()
```

5. Restore using Packrat Lockfile
Packrat: Lockfile

PackratFormat: 1.4
PackratVersion: 0.4.8.1
RVersion: 3.4.0
Repos: CRAN=https://cran.rstudio.com/

Package: ISLR
Source: CRAN
Version: 1.0
Hash: 4237d9b22334fd7980d2a6b6739a14ef

Package: babynames
Source: github
Version: 0.2.0
Hash: 60a9b79e5ccce9a0f8816bcde68d34ef
GithubRepo: babynames
GithubUsername: Hadley
GithubRef: 8fea945
GithubSha1: 8fea945acbfbff6a8a9c4f0da155f99dbdceadfc

Package: packrat
Source: CRAN
Version: 0.4.8-1
Hash: 6ad605ba7b4b476d84be6632393f5765

Package: praise
Source: github
Version: 1.0.0
Hash: c4ca6e084d5b87e89589a22d2bdfccaf
GithubRepo: praise
GithubUsername: MangoTheCat
GithubRef: master
GithubSha1: d53333cf2c9adb6c658e5b69c569acbeb9971fbd
## Summary

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<td><strong>Start</strong></td>
<td>Empty Library</td>
<td>System Library</td>
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<td><strong>During</strong></td>
<td>Install packages and sources</td>
<td>Record packages in-use</td>
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<td><strong>Later</strong></td>
<td>Restore from sources (Automatic)</td>
<td>Restore by installing packages (Semi-Automatic)</td>
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Either Way: Global Cache

packrat::restore()

packrat::set_opts(use.cache = TRUE)

R_PACKRAT_CACHE_DIR
Alternatives

checkpoint
Automatic restore from a nightly snapshot of CRAN called MRAN

pkgsnap
Automatic restore of packages in the system library to certain versions. Manual management of .libPaths()

develtools::session_info
Lets Chat!
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