

# Enhancing Reproducibility and Collaboration via Management of R Package Cohorts

Switchr, switchrGist, GRANBase



What's the  
point?

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# Library

```
> .libPaths()
```

```
[1] "/home/piotrp/R/x86_64-suse-linux-gnu-library/3.6"
```

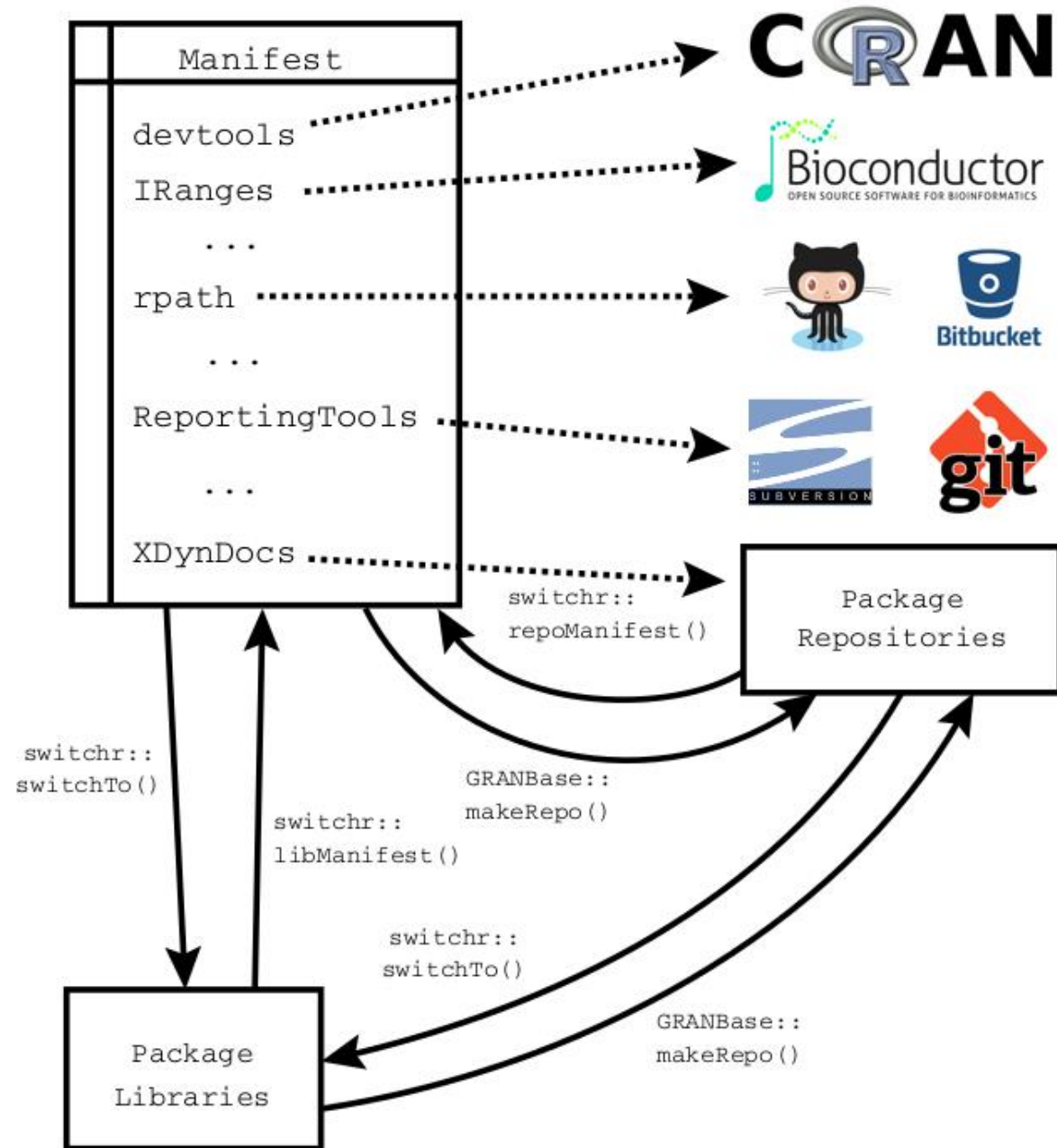
```
[2] "/usr/lib64/R/library"
```

# Manifest

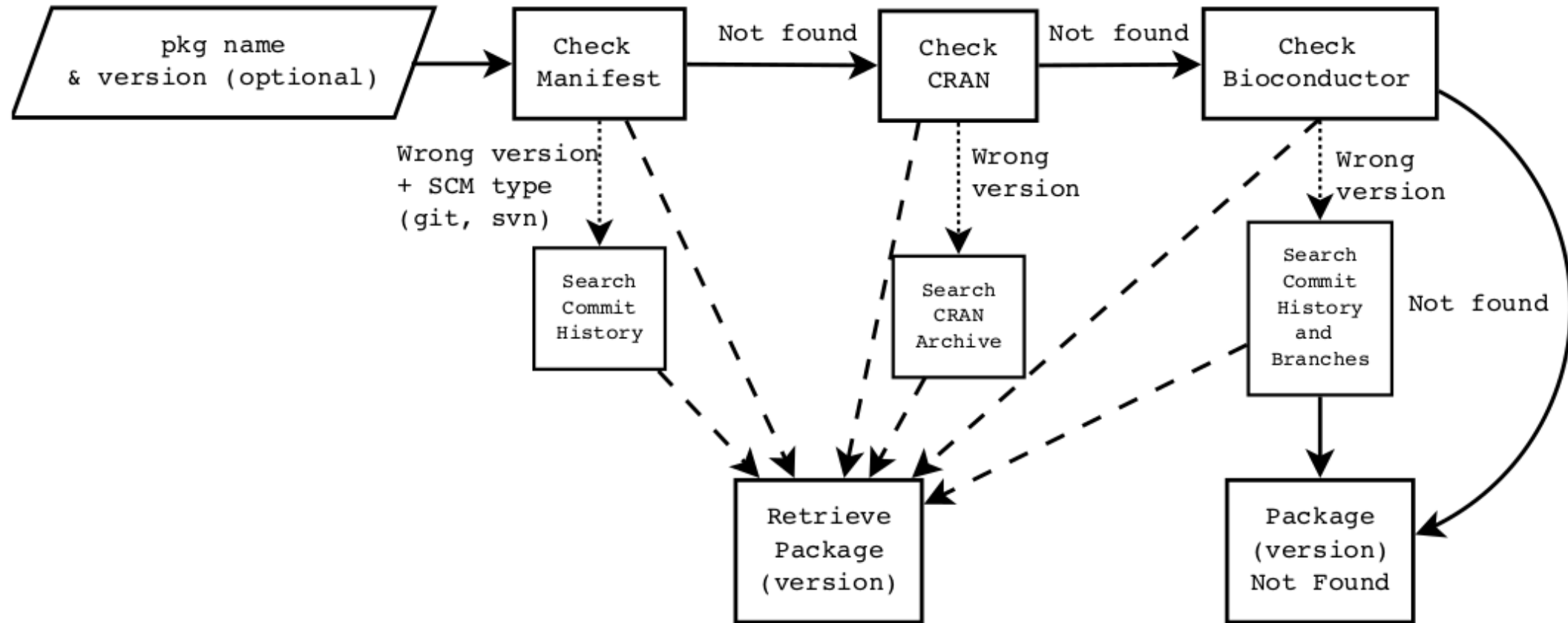
```
# R manifest
# Manifest type: session
# Dependency repositories: 5
# repo: http://cran.rstudio.com
# repo: http://bioconductor.org/packages/3.1/bioc
# repo: http://bioconductor.org/packages/3.1/data/annotation
# repo: http://bioconductor.org/packages/3.1/data/experiment
# repo: http://bioconductor.org/packages/3.1/extra
"name","url","type","branch","subdir","extra","version"
"randomForest","http://cran.rstudio.com/src/contrib","CRAN","trunk",".",NA,"4.6-10"
"nlme","http://cran.rstudio.com/src/contrib","CRAN","trunk",".",NA,"3.1-120"
"git2r","https://github.com/ropensci/git2r/","git","master",".",NA,"0.10.1"
"latticeExtra","http://cran.rstudio.com/src/contrib","CRAN","trunk",".",NA,"0.6-26"
"lattice","http://cran.rstudio.com/src/contrib","CRAN","trunk",".",NA,"0.20-31"
"RColorBrewer","http://cran.rstudio.com/src/contrib","CRAN","trunk",".",NA,"1.1-2"
```

# Repository

- Natural, existing mechanism for representing and publishing packages
- Requires server
- Fast



# Search algorithm



# Discussion

## What's next?

- Generalizing the base R installation mechanism (democracy & decentralized repos)
- Mapping seeding manifests to DOIs (*digital object identifiers*)
- Dynamic documents and reproducibility (compendium within)
- Approximating software contexts based on historical CRAN states (snapshots)