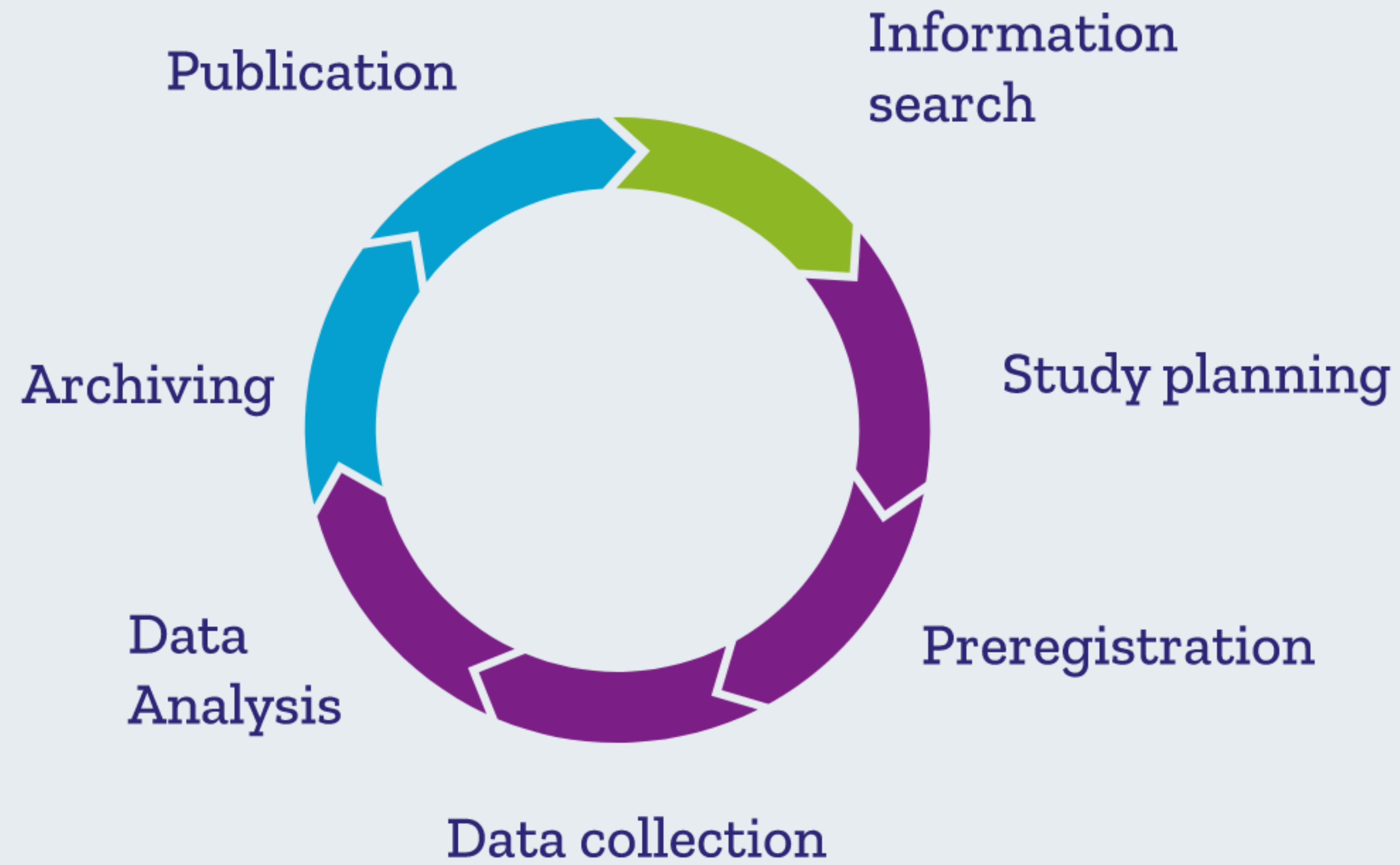


Case-study: GNU Guix in psychology research and teaching

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Users

Psychology scientists and students
Accustomed to SPSS and Windows
Moving to R/RStudio and Jupyter
Software “just works”

Problem 1: User management

 [leibniz-psychology/clumsy](https://github.com/leibniz-psychology/clumsy)

```
$ curl -X POST \  
  -d '{"username": "juser", "firstName": "Joe", "lastName": "User"}' \  
  http://localhost/  
{  
  "status": "ok",  
  "user": "juser1",  
  "password": "xk8tjt4tyv7cekgdmmh4kkhidgovoxrc",  
  ...  
}
```

```
$ curl -X DELETE http://localhost/juser1  
{  
  "status": "again",  
  "token": "/storage/home/juser1/confirm_deletion_p647ns7xjyvcmjl1670taia0ueun45rm"  
}  
$ touch /storage/home/juser1/confirm_deletion_p647ns7xjyvcmjl1670taia0ueun45rm  
$ curl -X DELETE http://localhost/juser1  
{  
  "status": "ok"  
}
```

Problem 2: Workspaces

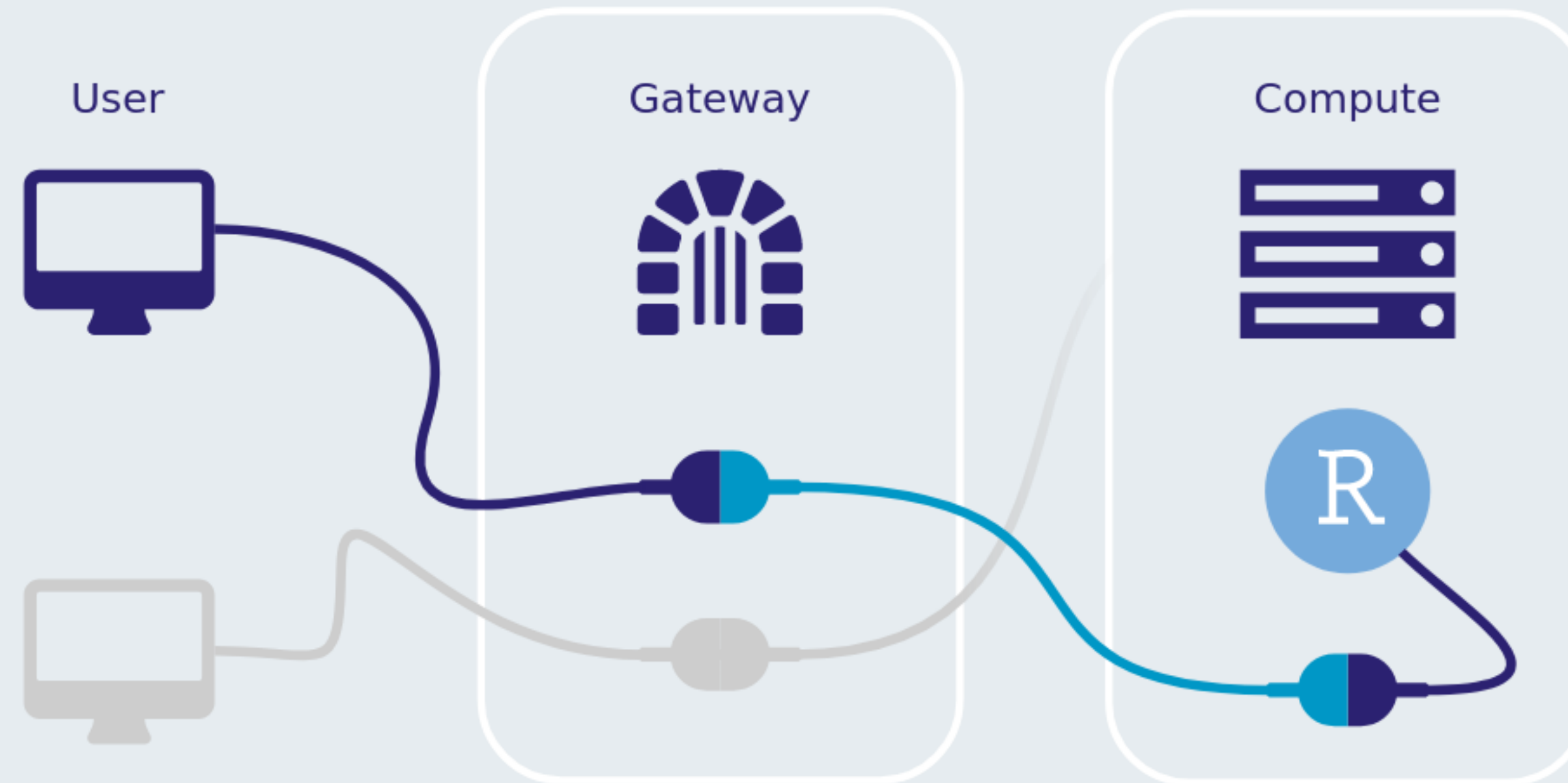
 leibniz-psychology/mashru3

```
$ guix pull -C channels.scm
$ guix search '^(\rstudio-server|python-jupyterlab)$'
name: rstudio-server
version: 1.3.1093
...
name: python-jupyterlab
version: 2.2.9
...
$ guix environment -C -N -u joeuser --no-cwd -m manifest.scm \
  --share=/storage/public/juser1/my_new_fancy_workspace=/home/joeuser
```

```
$ cd `workspace create my new fancy workspace`
$ find
.config/workspace.yaml
.config/guix/manifest.scm
.config/guix/channels.scm
.config/guix/current
.guix-profile
$ $EDITOR hello.R
$ workspace run rstudio
```

Problem 3: Reverse proxying

 [leibniz-psychology/conductor](https://github.com/leibniz-psychology/conductor)



Problem 4: Usability

 [leibniz-psychology/bawwab](https://github.com/leibniz-psychology/bawwab)

Projects

Projects can be set up and accessed here. Projects are collections of analysis scripts, data, and other materials.

[+ New project](#)

My projects

Shared projects

Title	Description	Actions
Hello	World	 

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[Back to projects](#)

 Edit

 Share

 Copy

 Delete

Hello

 Owned by notebooktest2

World



RStudio Web. IDE for R.



JupyterLab. Create code-base documents.

 Run

 Run

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Starting application...



The screenshot displays the RStudio interface. The top menu bar includes File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, and Help. The top right corner shows the project name as "Project: (None)".

The left pane contains the Console, Terminal, and Jobs tabs. The Console shows the following output:

```
R version 4.0.3 (2020-10-10) -- "Bunny-Wunnies Freak Out"
Copyright (C) 2020 The R Foundation for Statistical Computing
Platform: x86_64-unknown-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

During startup - Warning messages:
1: Setting LC_CTYPE failed, using "C"
2: Setting LC_COLLATE failed, using "C"
3: Setting LC_TIME failed, using "C"
4: Setting LC_MESSAGES failed, using "C"
5: Setting LC_MONETARY failed, using "C"
6: Setting LC_PAPER failed, using "C"
7: Setting LC_MEASUREMENT failed, using "C"
> |
```

The right pane contains the Environment, History, Connections, and Tutorial tabs. The Environment pane shows "Global Environment" and "Environment is empty".

The bottom pane contains the Files, Plots, Packages, Help, and Viewer tabs. The Files pane shows the following table:

	Name	Size	Modified
<input type="checkbox"/>	Home		
<input type="checkbox"/>	.Rhistory	0 B	Nov 10, 2020, 1:43 PM

Future work

Project export: Archive, Docker?

Speed up environment startup

Run Guix System

Takeaway

GNU Guix is awesome for sharing software environments

In production use at ZPID

Get RStudio/JupyterLab on Guix now:  [guix-science/guix-science](https://github.com/guix-science/guix-science)

Questions?

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