



Thot

Data Management and Analysis

Open Science

A story

Where are are now

Where we can go

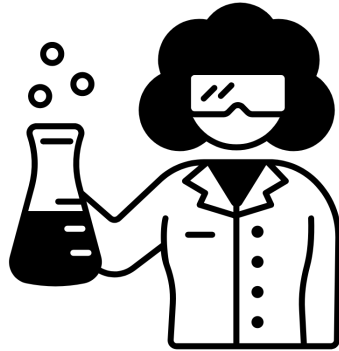
Data | Analysis

Open

Accessible

Findable

Transparent



Re-usable

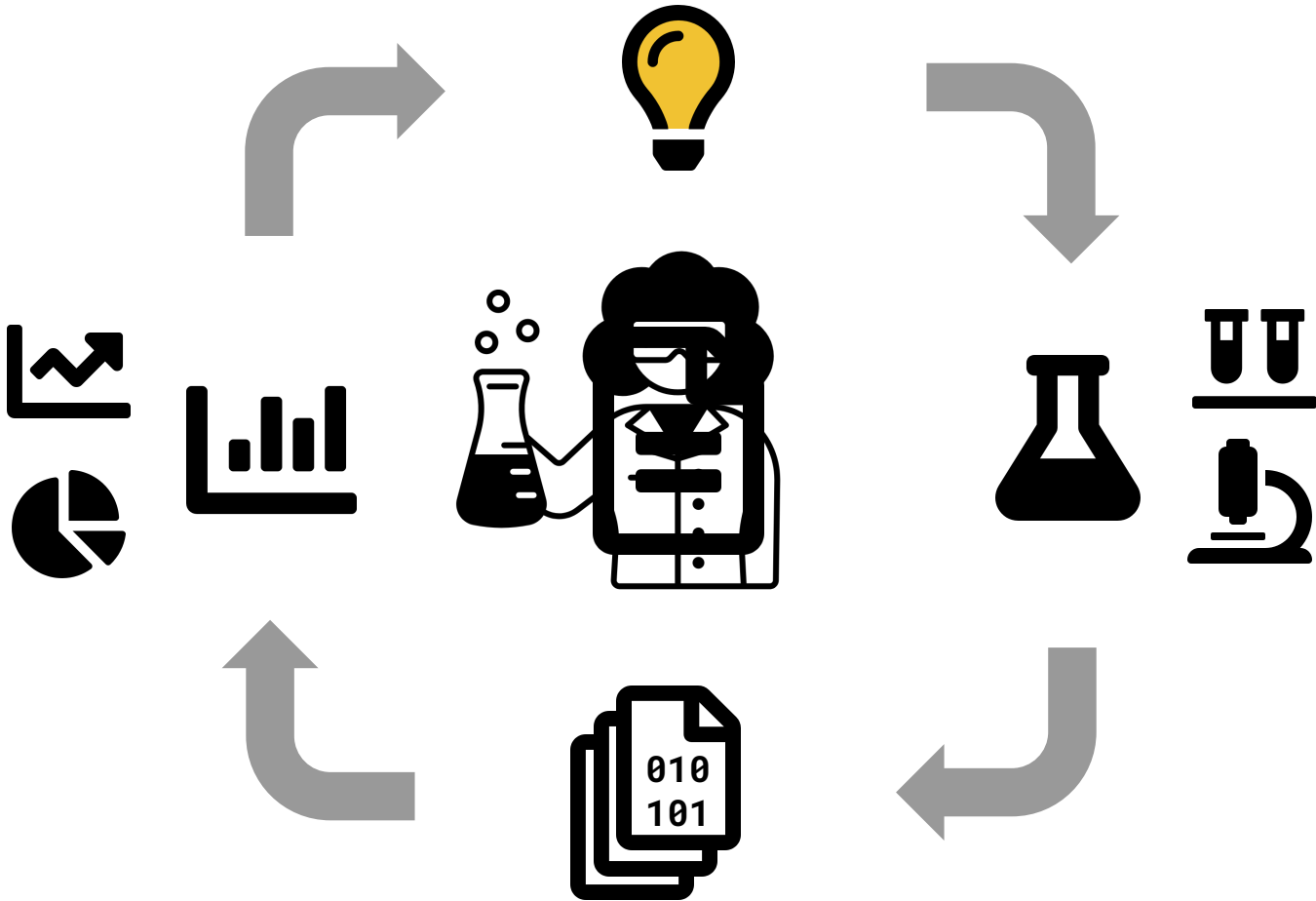
Structured

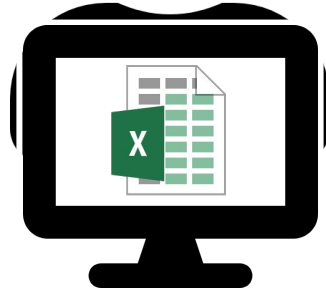
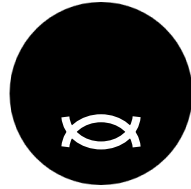
Modular

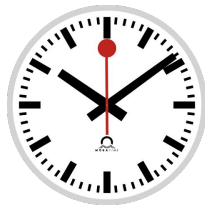
Scientists | Everyone else

Scientists | Machines

Story time

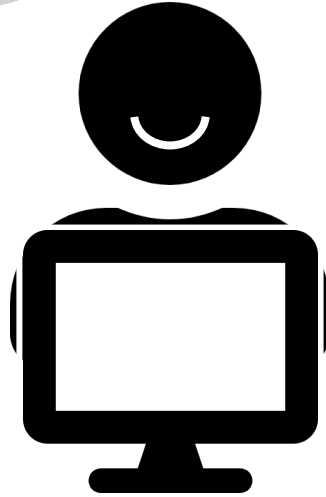




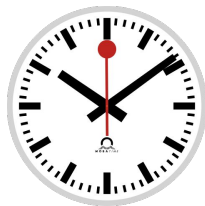


Dear Colleague.

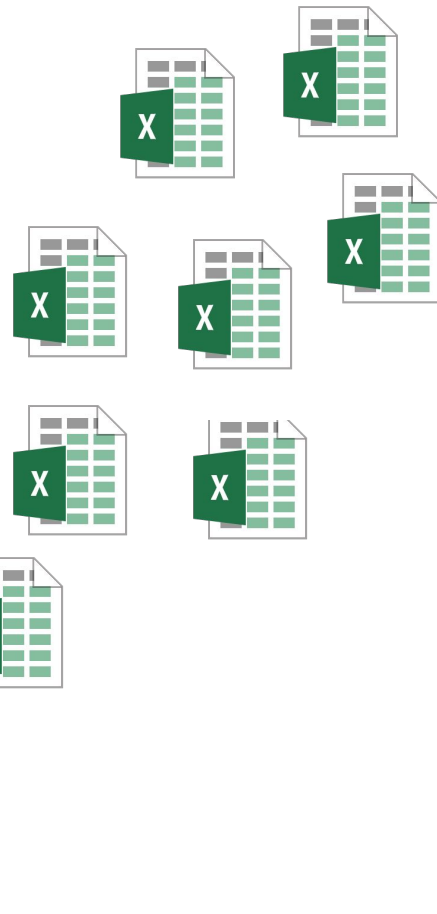
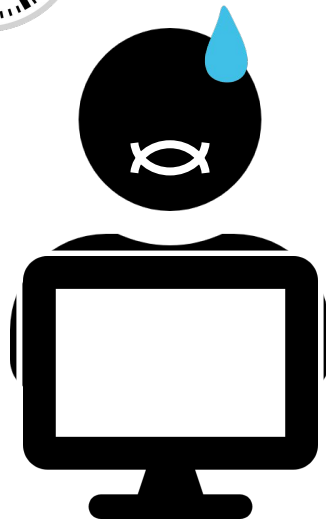
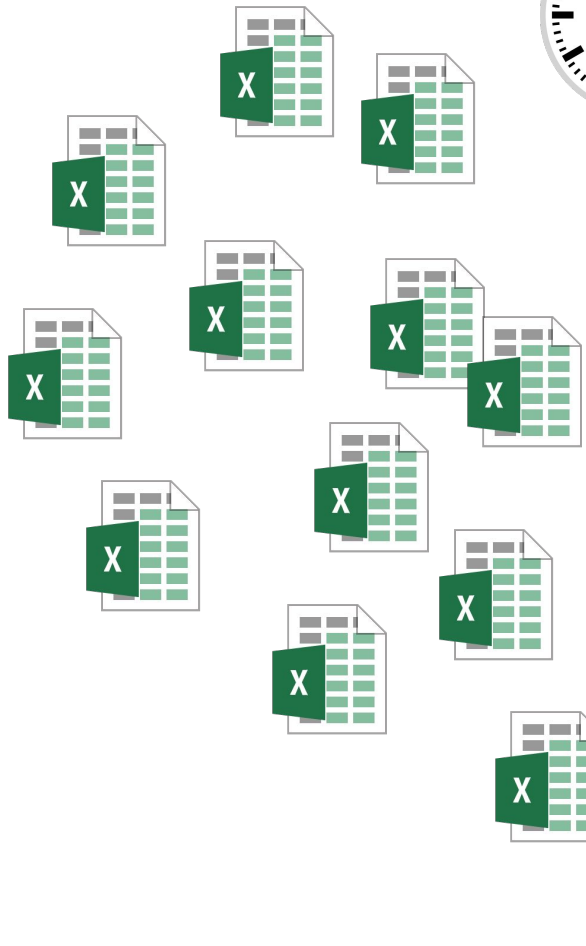
Can you please send me the experiments

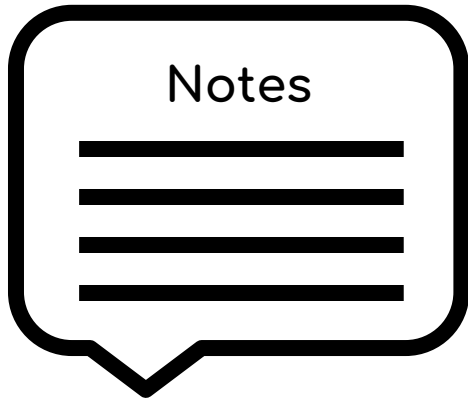
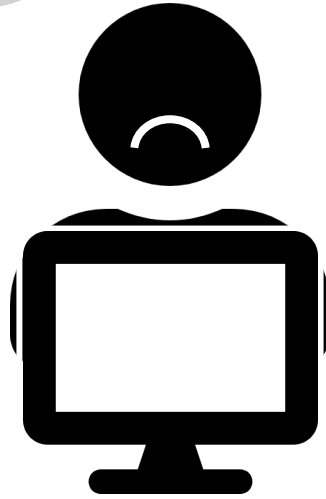
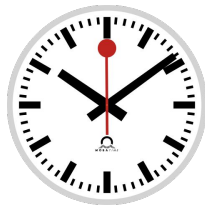


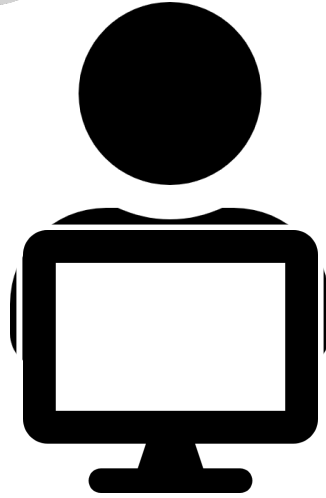
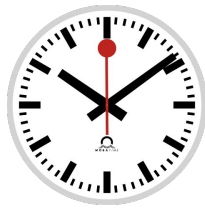
Of course! 



You have a new mail 





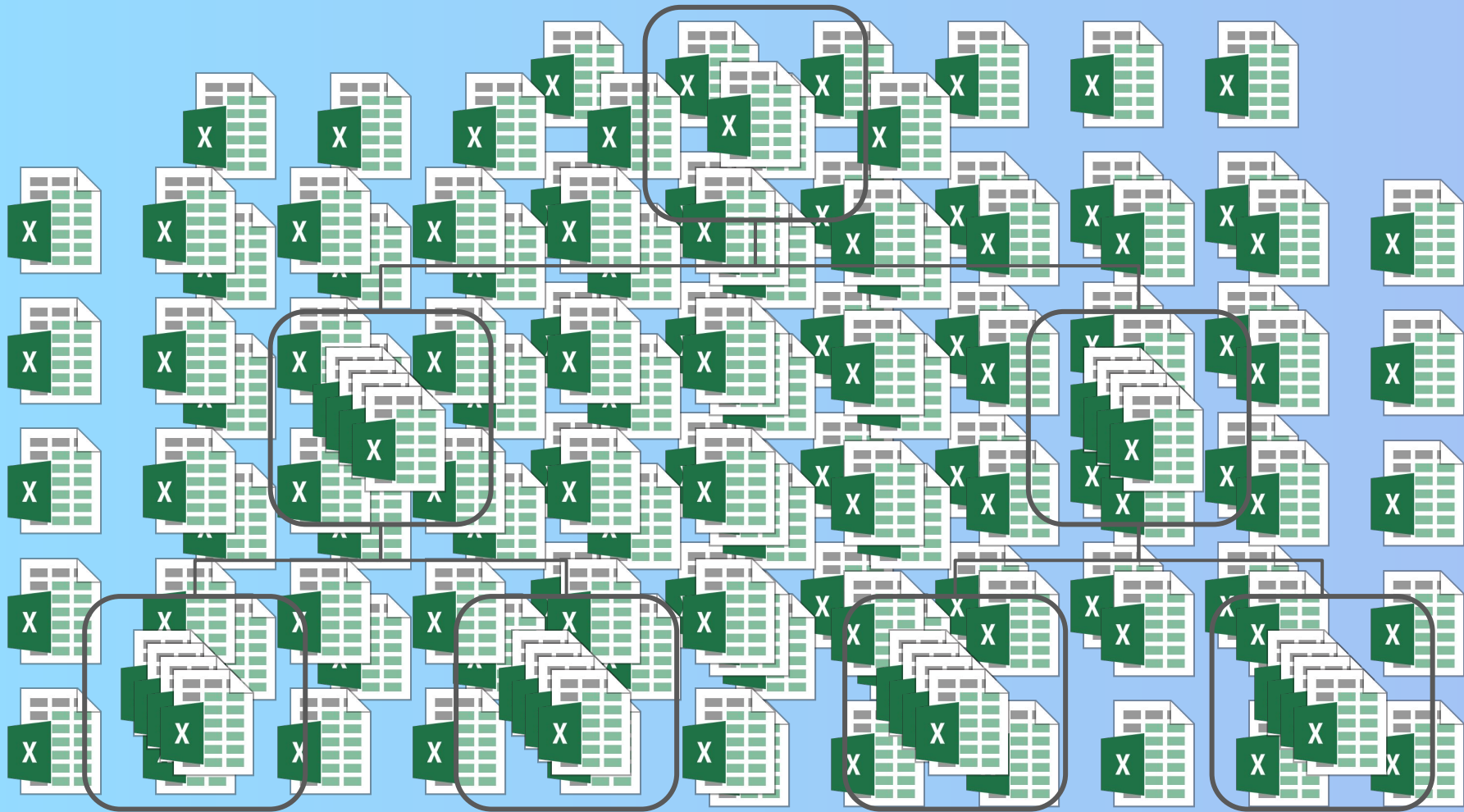


Submitted

What if?

What if?

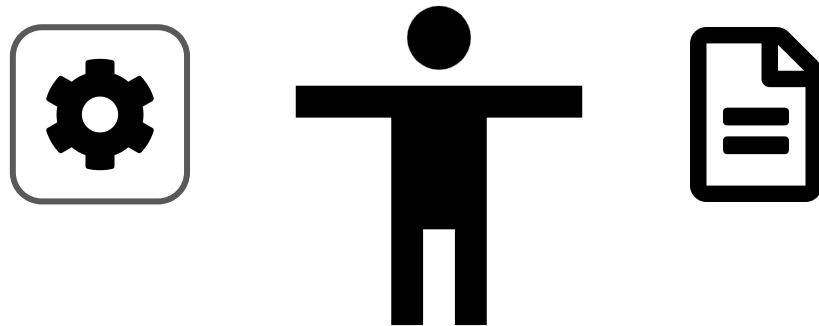
Structured



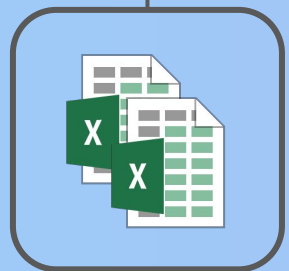
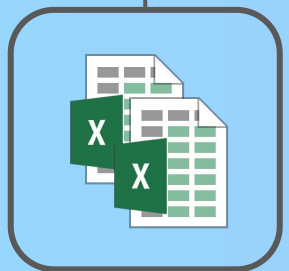


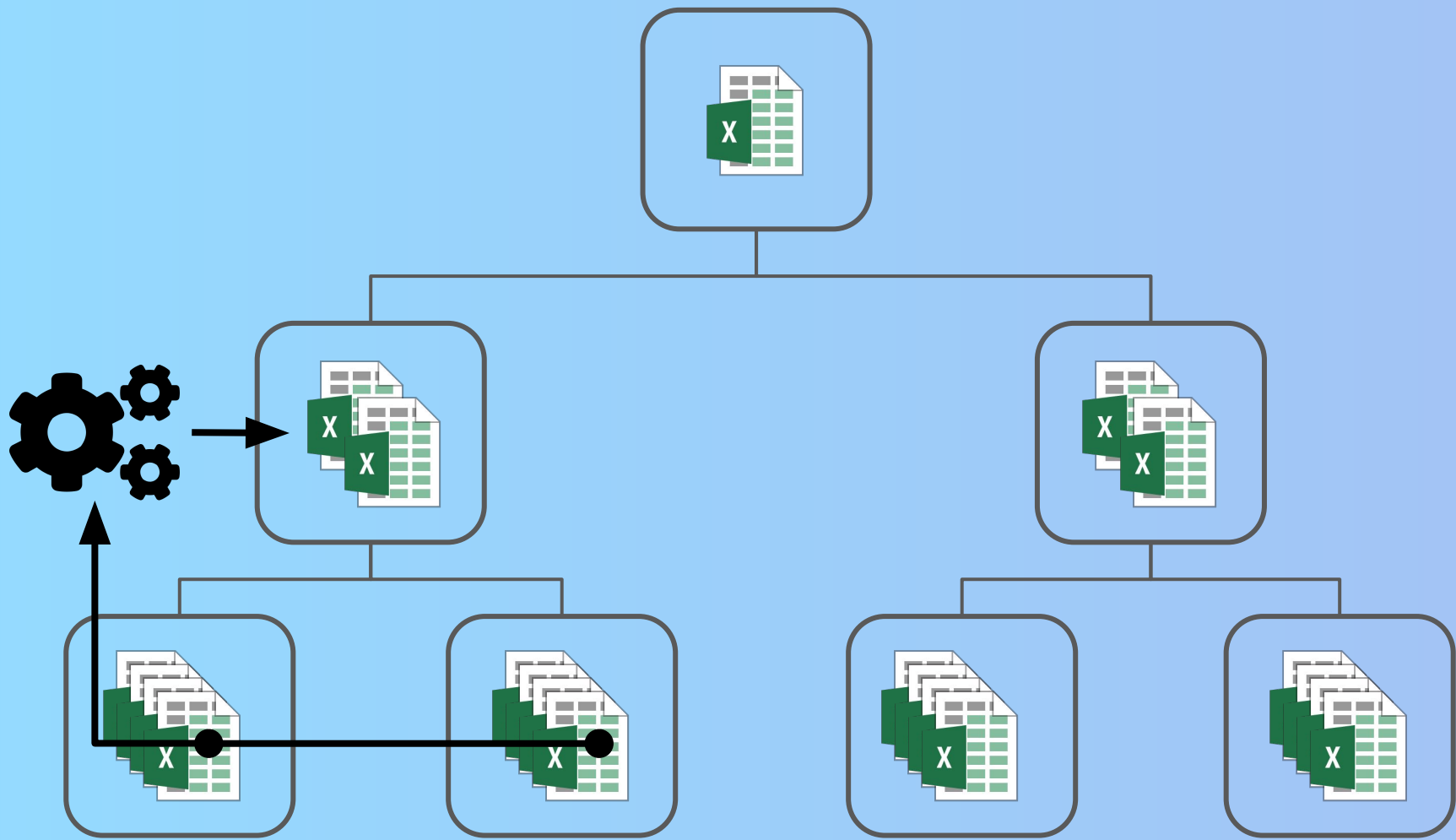
What if?

Modular



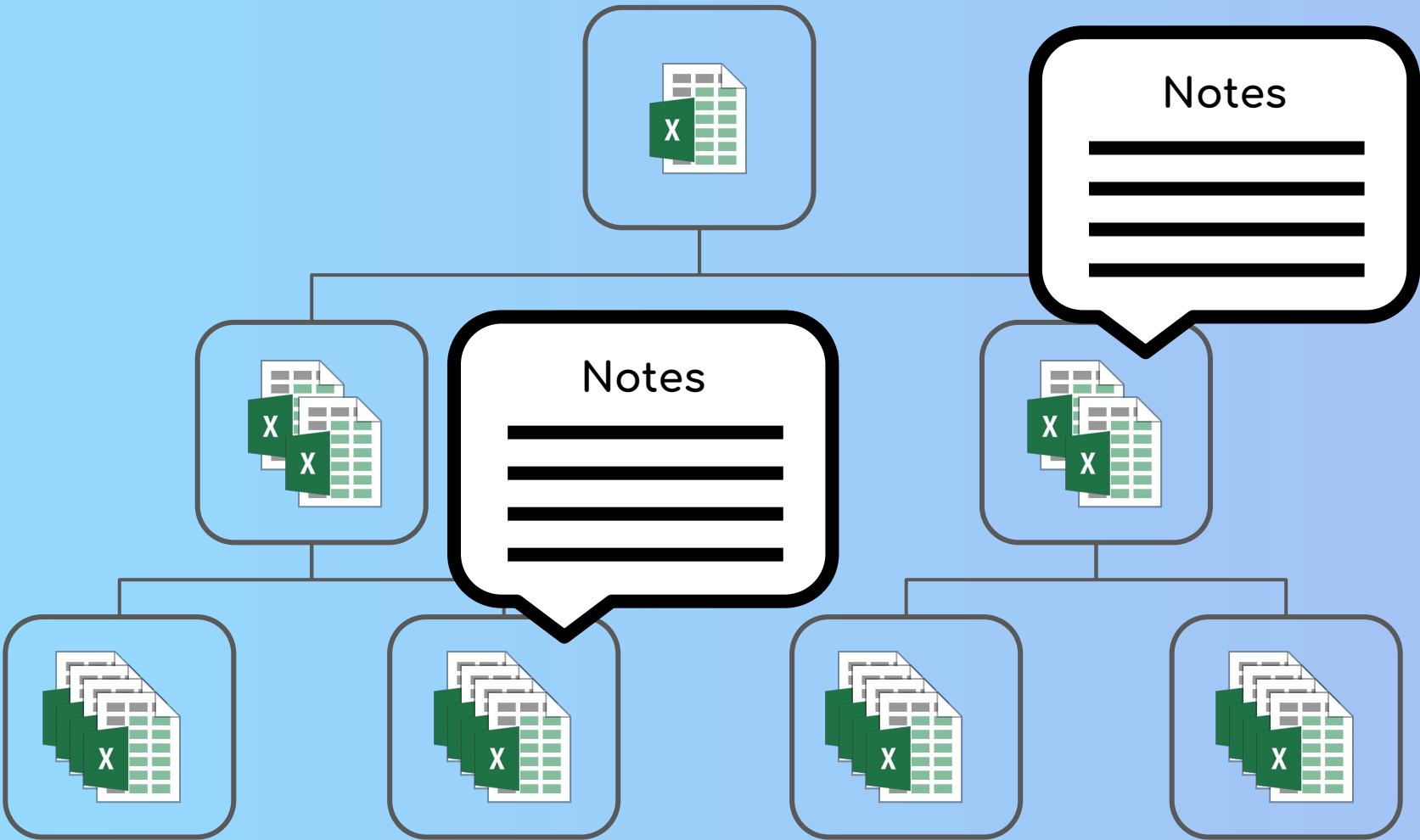
Analysis separate from data





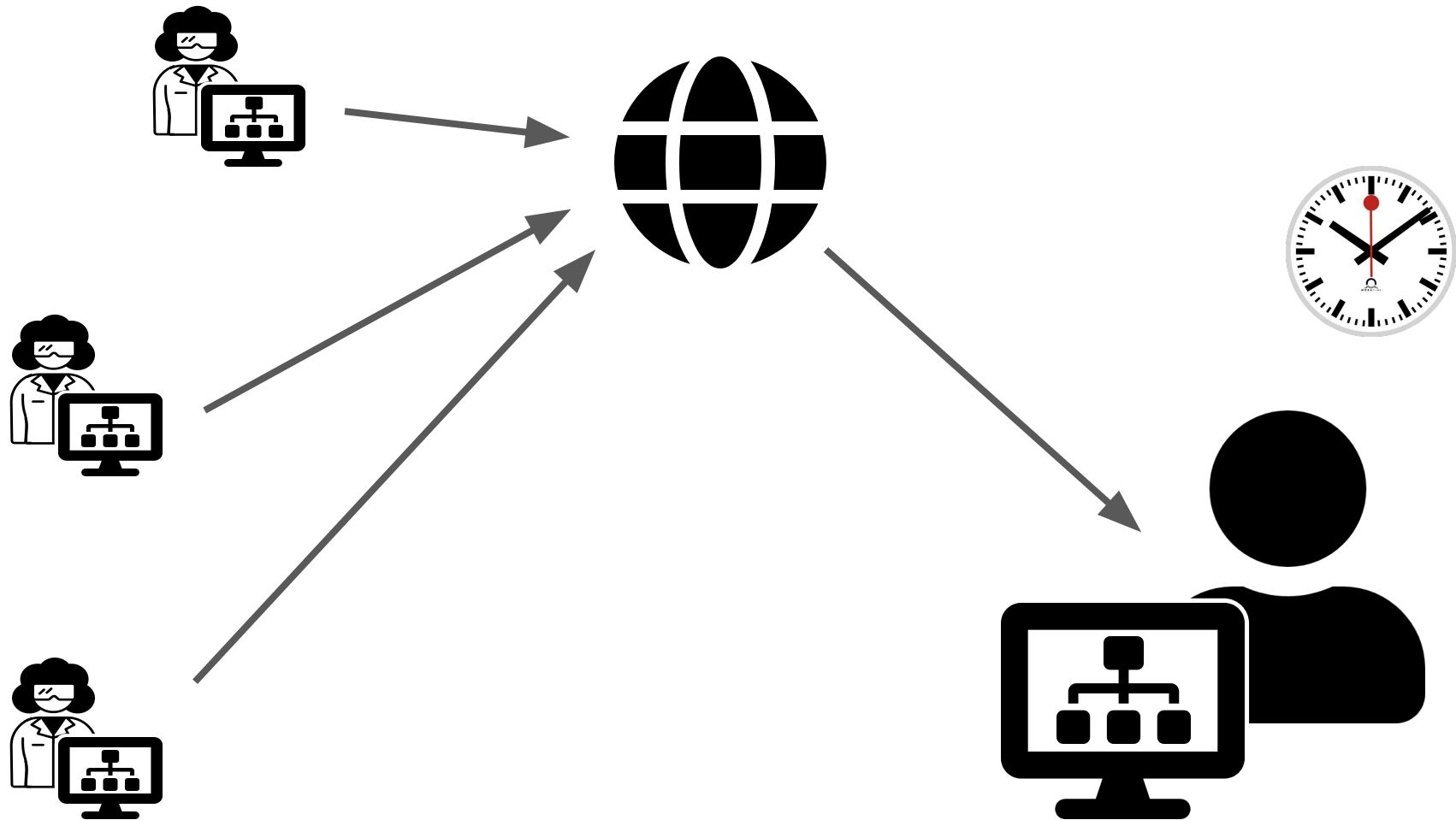
What if?

Integrated
notes



What if?

Repositories



Data | Analysis

Open

Accessible

Findable

Transparent

Re-usable

Structured

Modular

How close are we?

Analysis programs

- ✘ No organization
- ✘ No automation



Custom use

- ✘ Application specific
- ✘ Complicated



Data Repositories


- ✘ No analysis
- ✘ Additional steps




Lab notebooks

- ✘ Documentation separate from data
- ✘ Additional steps



B Brian 

My project 

Analyze 

Property

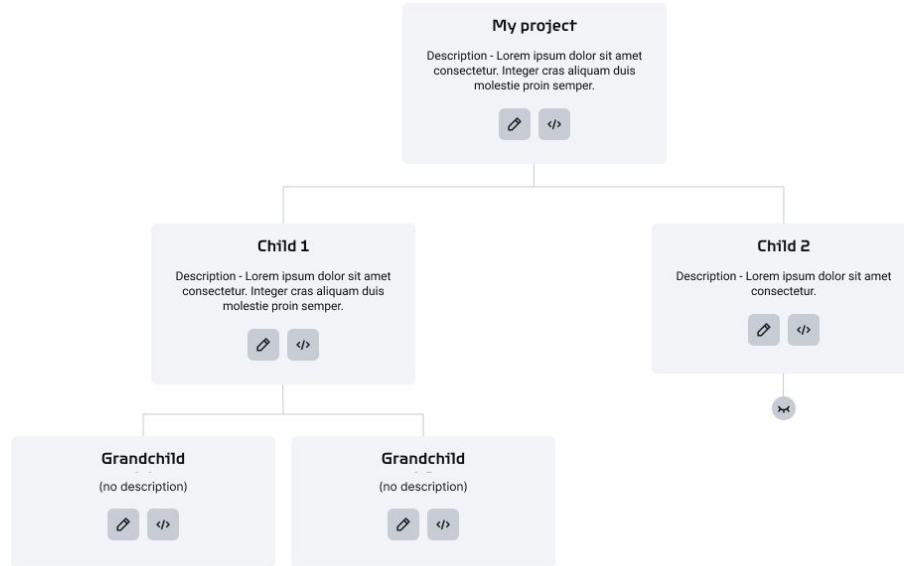
Select 

 Projects

 Scripts

Scripts

Add Script



 Switch to light mode

 Updates

 Help & Feedback

Log out



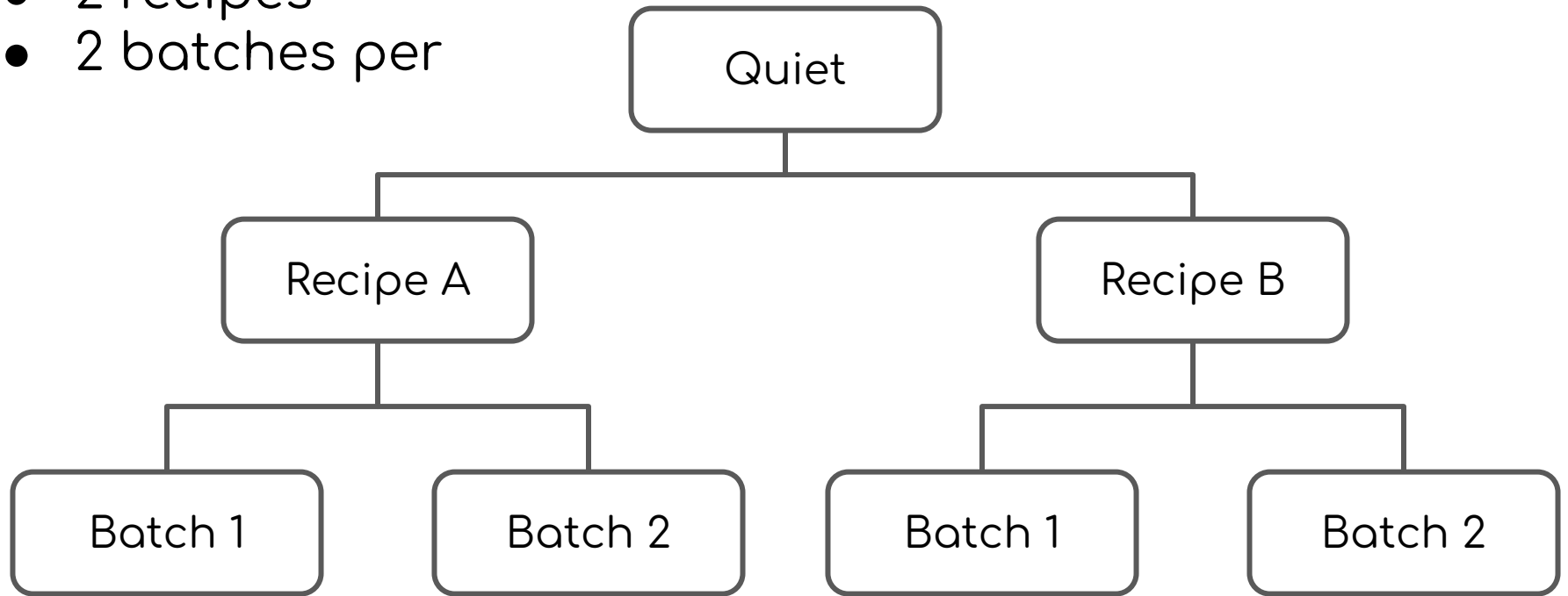
Thot

- 2 recipes: A + B
- 2 batches per recipe
- Noise measurements already taken

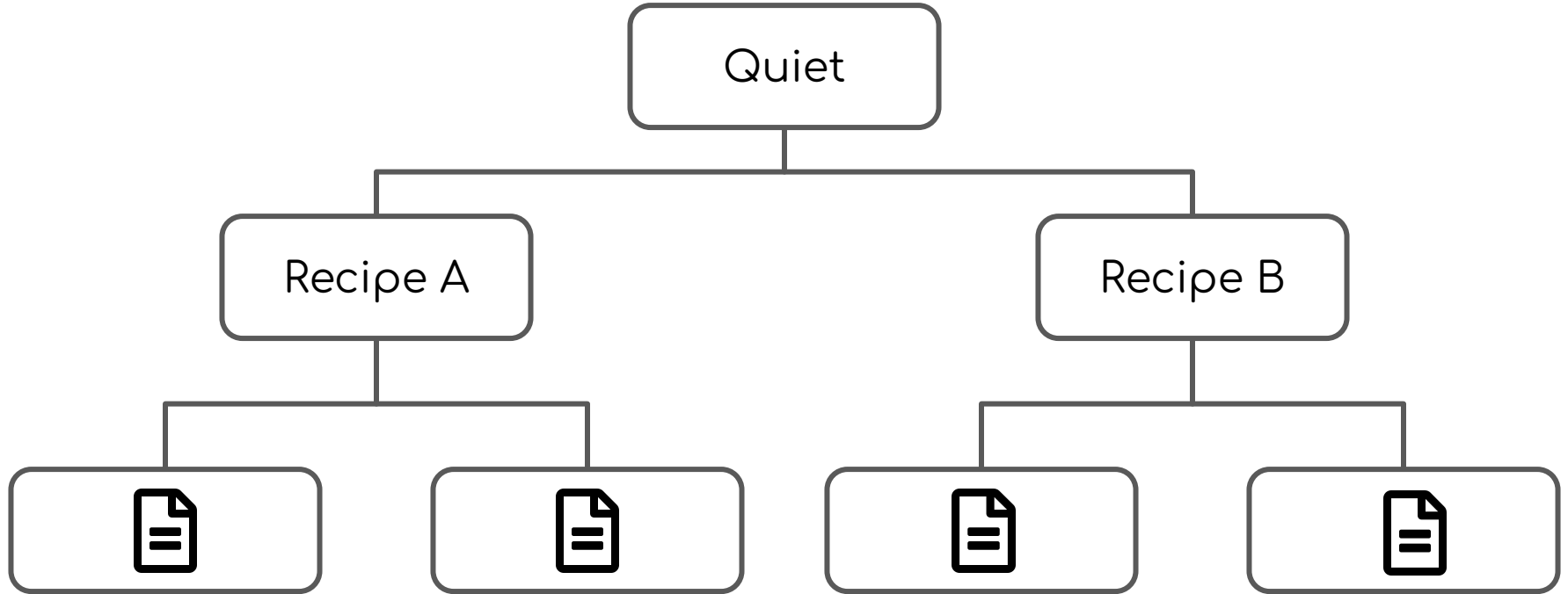


Structure Project

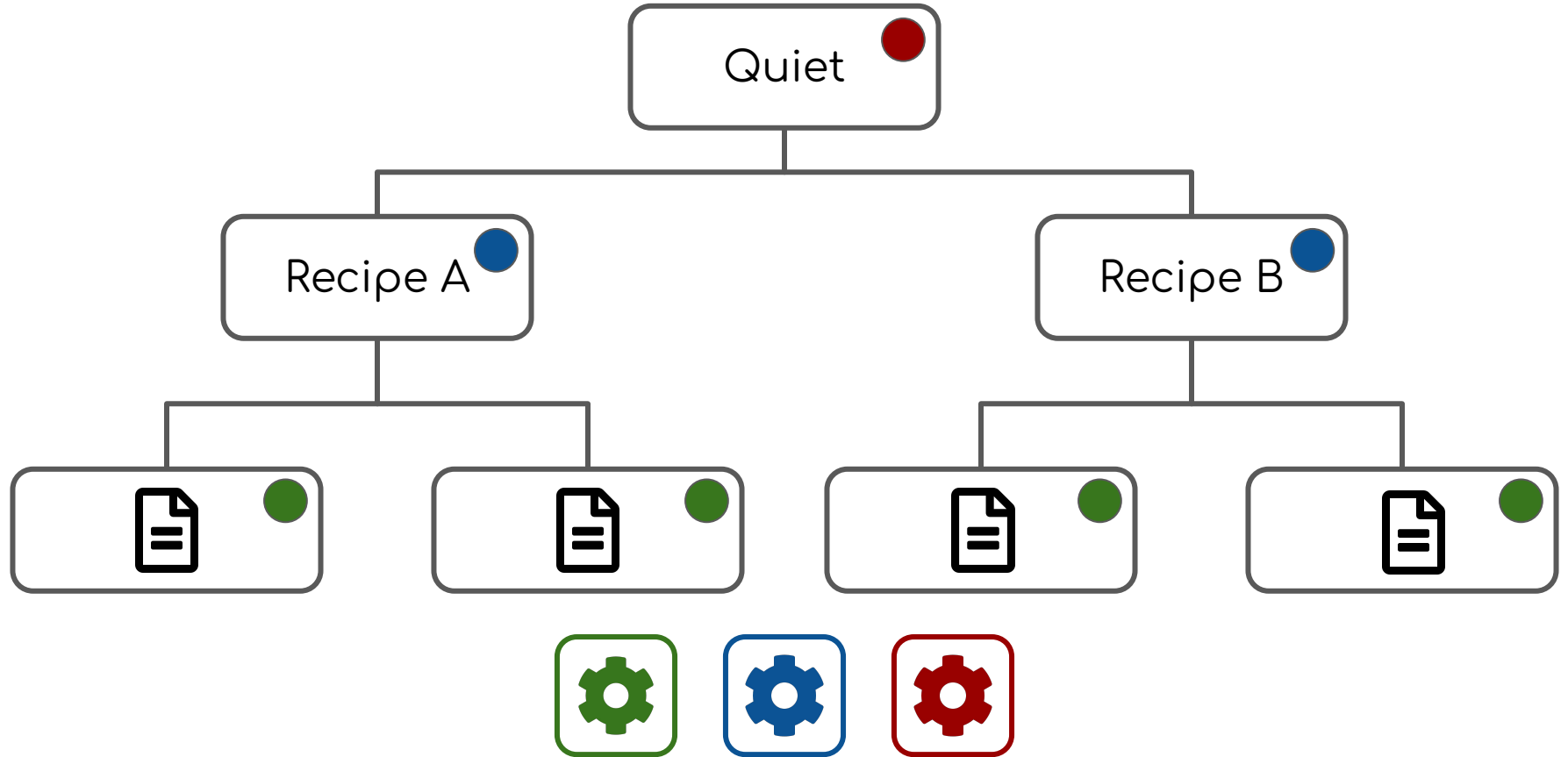
- 2 recipes
- 2 batches per



Add Data

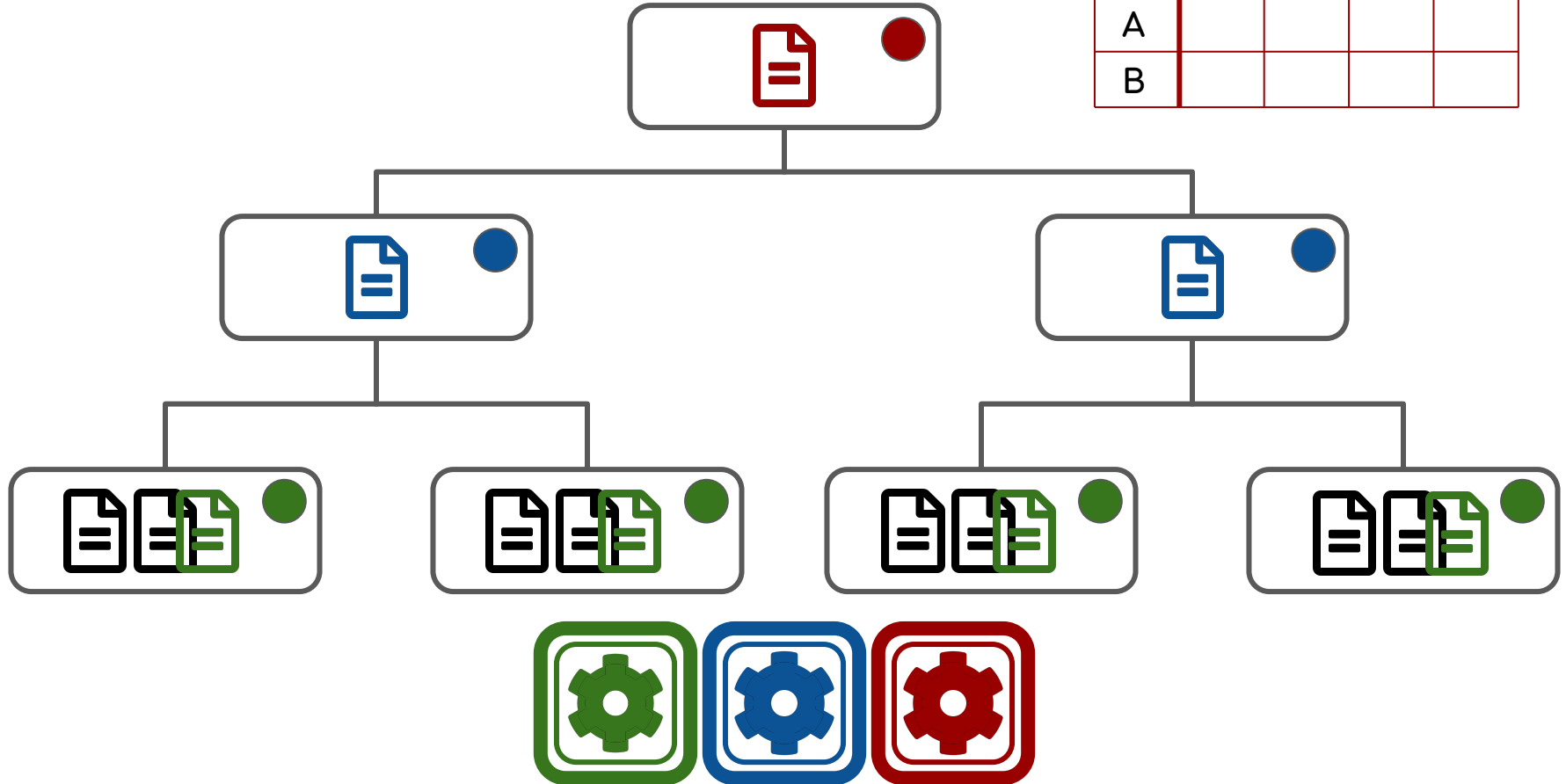


Assign Scripts



Analyze

A				
B				

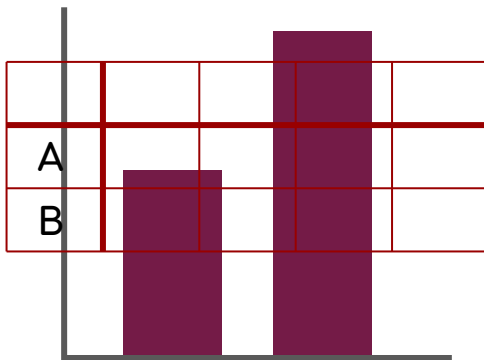




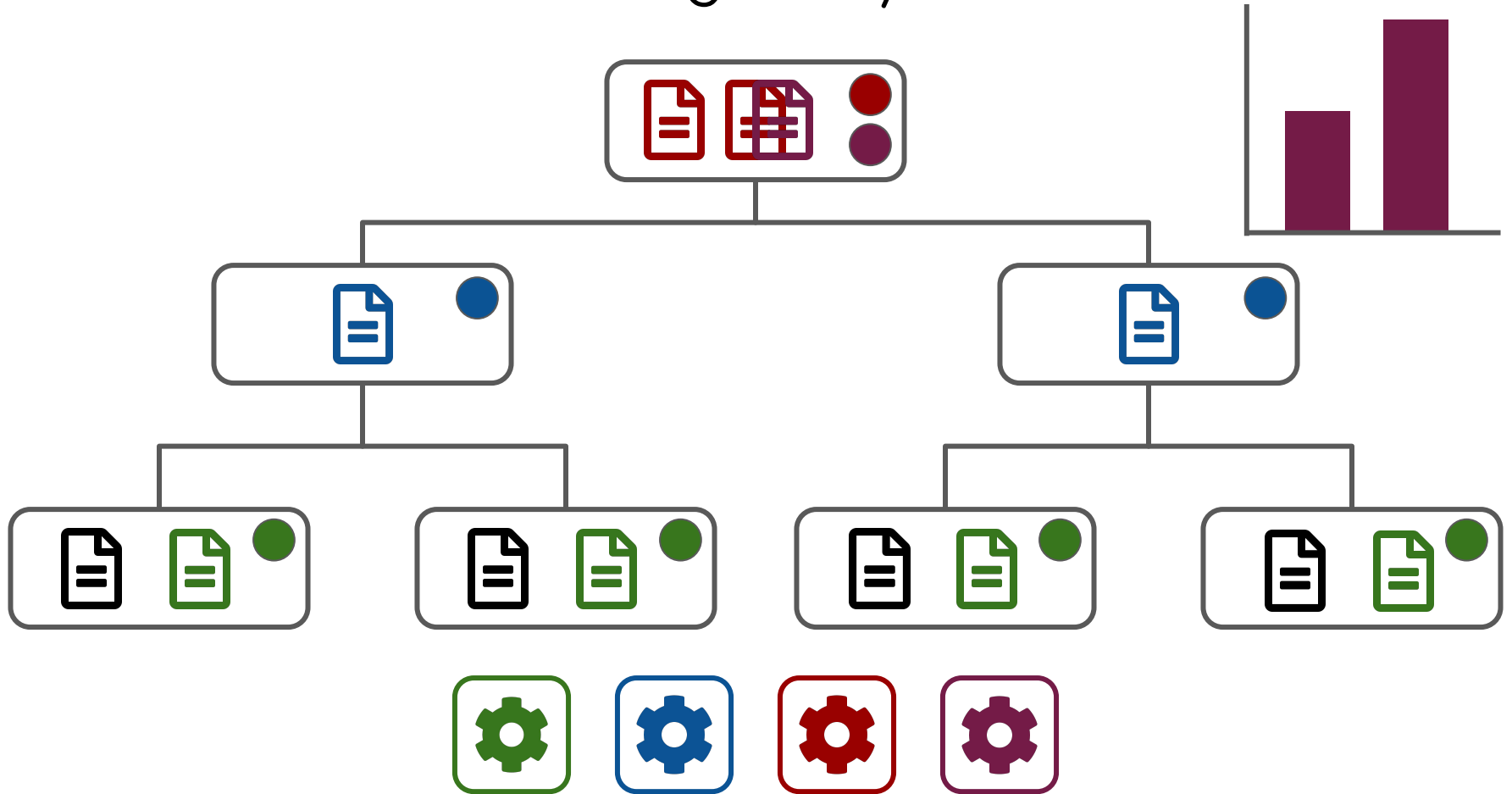
A

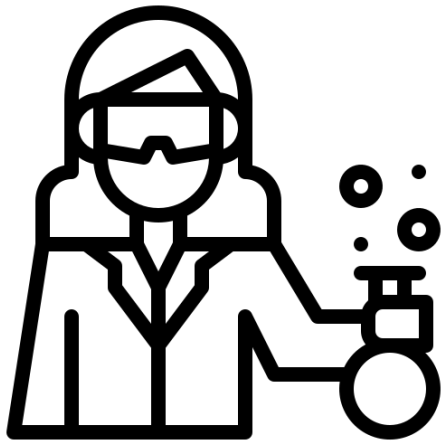


B



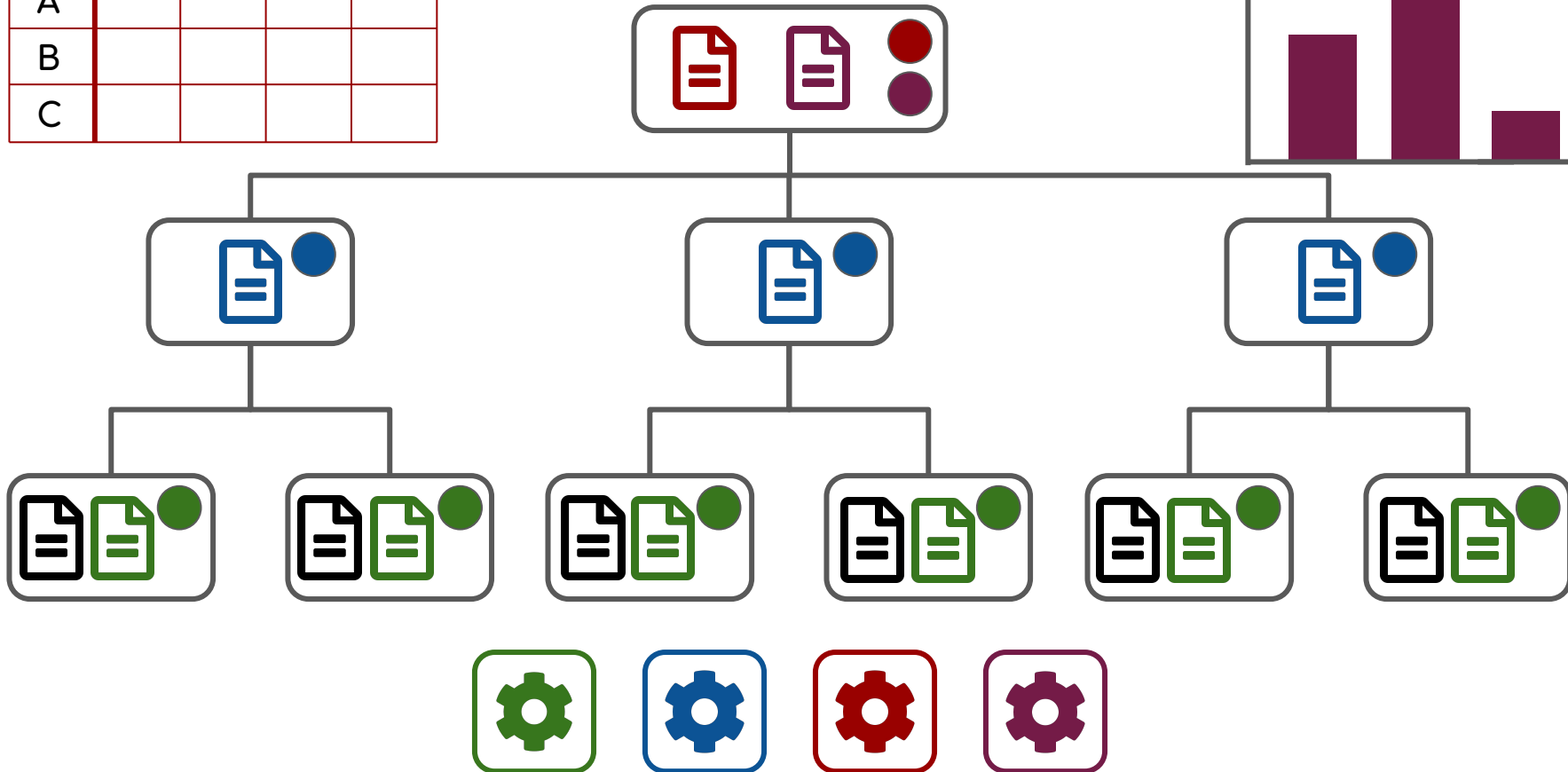
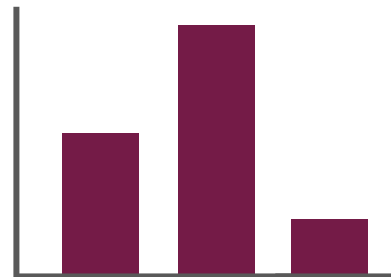
Adding Analyses








Adding Data

A				
B				
C				



How to use Thot

1.  Build project
2.  Add data
3.  Assign scripts

Analyze!

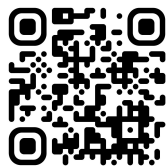
Add new data or analysis any time

Your turn



Thot

thot-data.com



Initialize database

```
import thot

db = thot.ThotProject(dev_root='path/to/container')
```

Data

```
one_asset    = db.find_asset({'name': 'my_data'})
many_assets  = db.find_assets({'type': 'raw_data'})

data_path = one_asset.file
```

Containers

```
one_cont     = db.find_container({'name': 'my_container'})
many_conts   = db.find_containers({'type': 'experiment'})

metadata = one_cont.metadata
```