Introduction to lab tools: SVN and GPI

May 20, 2020

For remote, online research, we are using some digital software development tools:

beanstalk

TortoiseSVN

* Windows

GPI

Graphical Programming Interface

* Mac OS, Windows, Linux (via Anaconda)

What is TortoiseSVN?

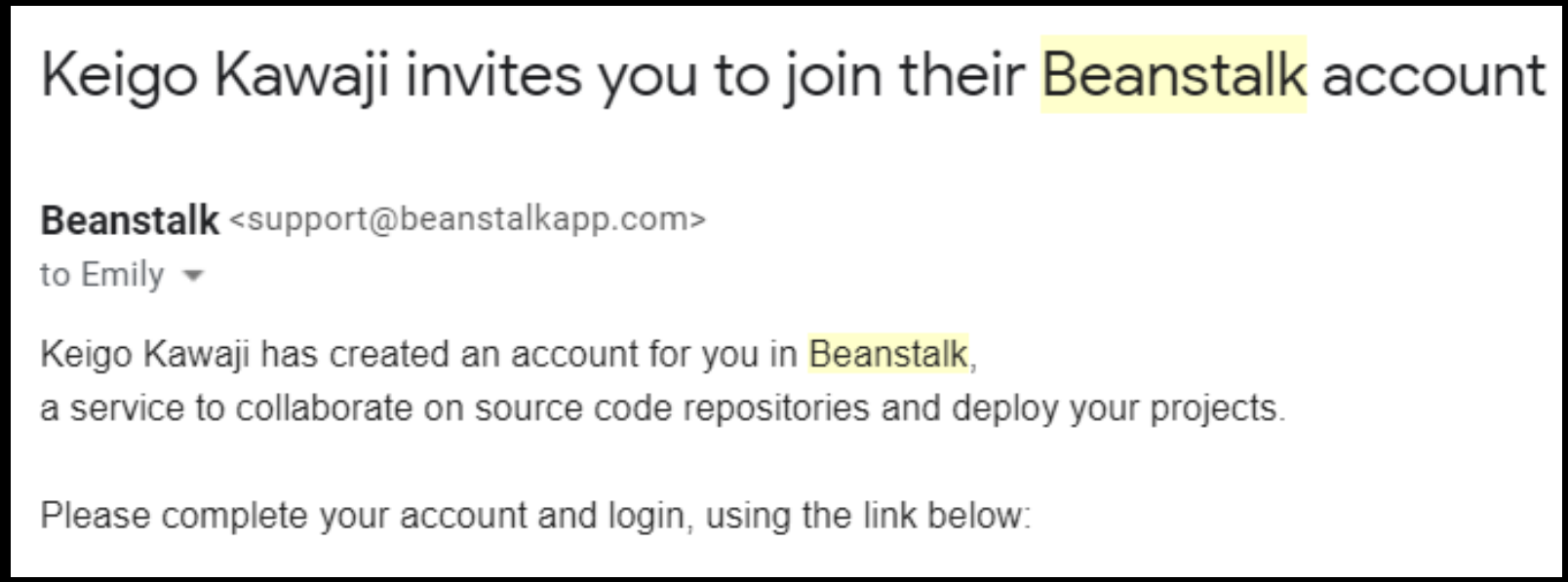
- SVN (Subversion) is used for version control on collaborative software development projects.
- This makes it easy for the lab to access data stores & programs written by other lab members.
- Common directory labeling lets others run the same code without modifications.
- TortoiseSVN gives us a nice UI.

What is Beanstalk?

- The host for our SVN repository.
- It supports editing files in the browser, but we use TortoiseSVN to relocate this functionality to the desktop.
- You need a username and password to access the repository.

TortoiseSVN setup: basic steps

1. Make Beanstalk user account.



Keigo Kawaji invites you to join their Beanstalk account

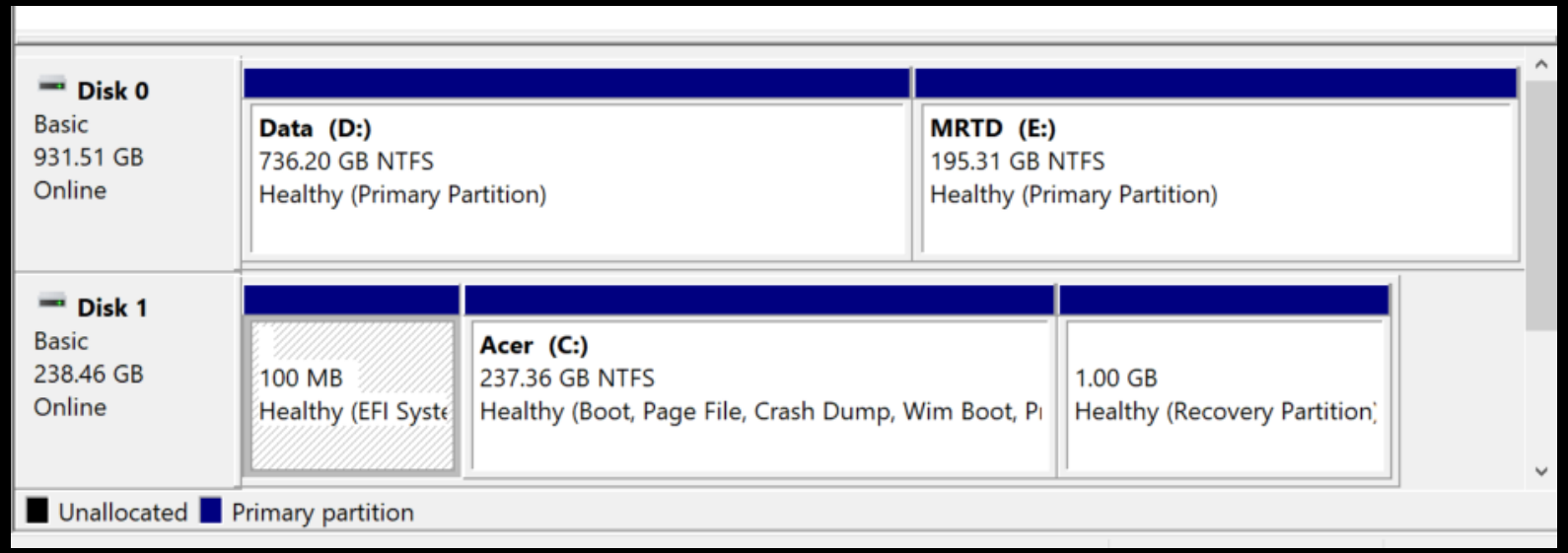
Beanstalk <support@beanstalkapp.com>
to Emily

Keigo Kawaji has created an account for you in Beanstalk,
a service to collaborate on source code repositories and deploy your projects.

Please complete your account and login, using the link below:

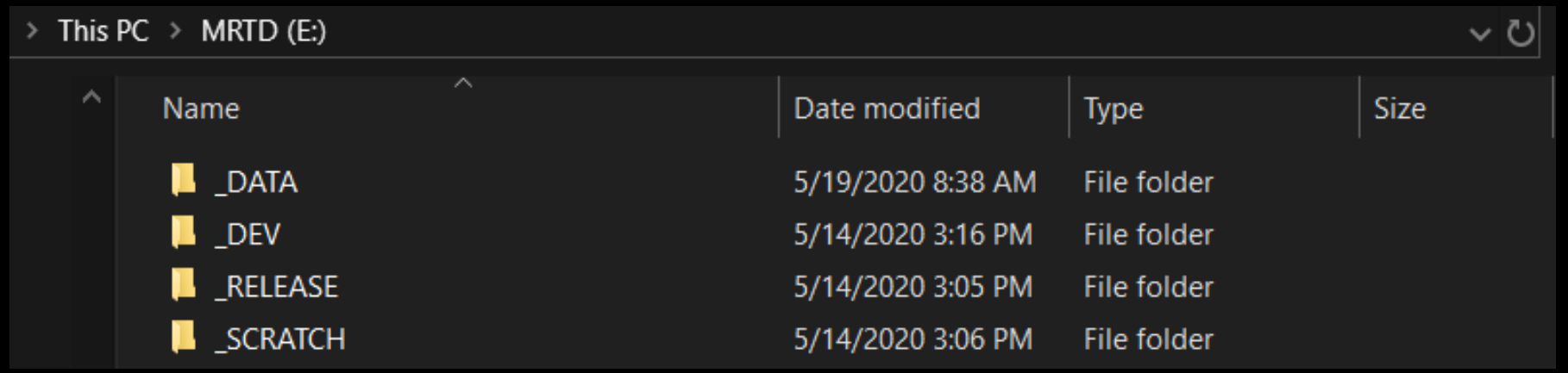
TortoiseSVN setup: basic steps

1. Make Beanstalk user account.
2. Partition hard drive.



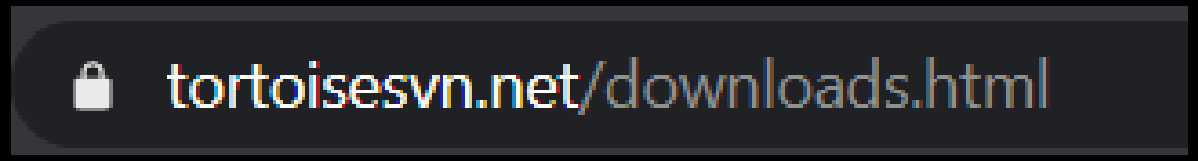
TortoiseSVN setup: basic steps

1. Make Beanstalk user account.
2. Partition hard drive.
3. Make common lab folders.



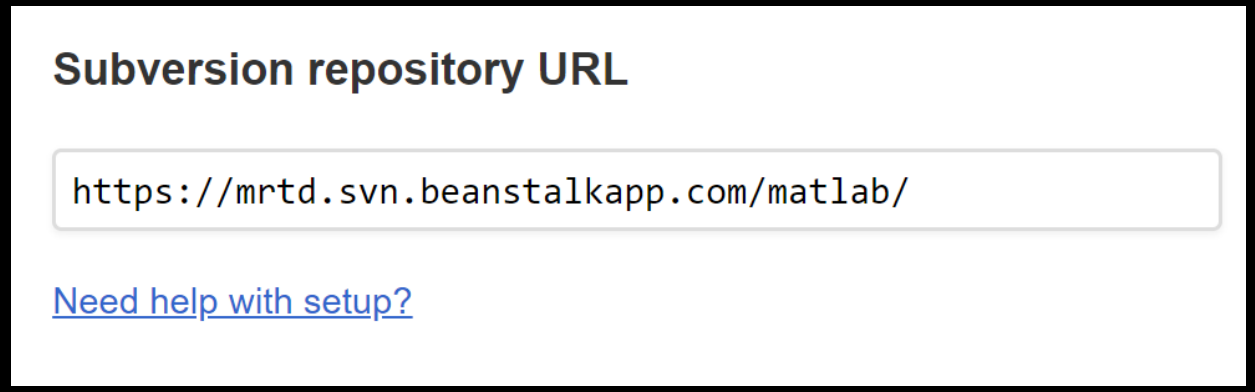
TortoiseSVN setup: basic steps

1. Make Beanstalk user account.
2. Partition hard drive.
3. Make common lab folders.
4. Install TortoiseSVN.



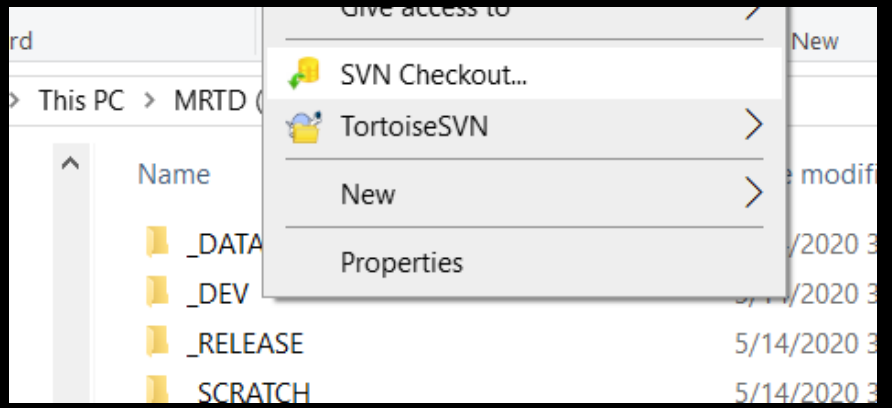
TortoiseSVN setup: basic steps

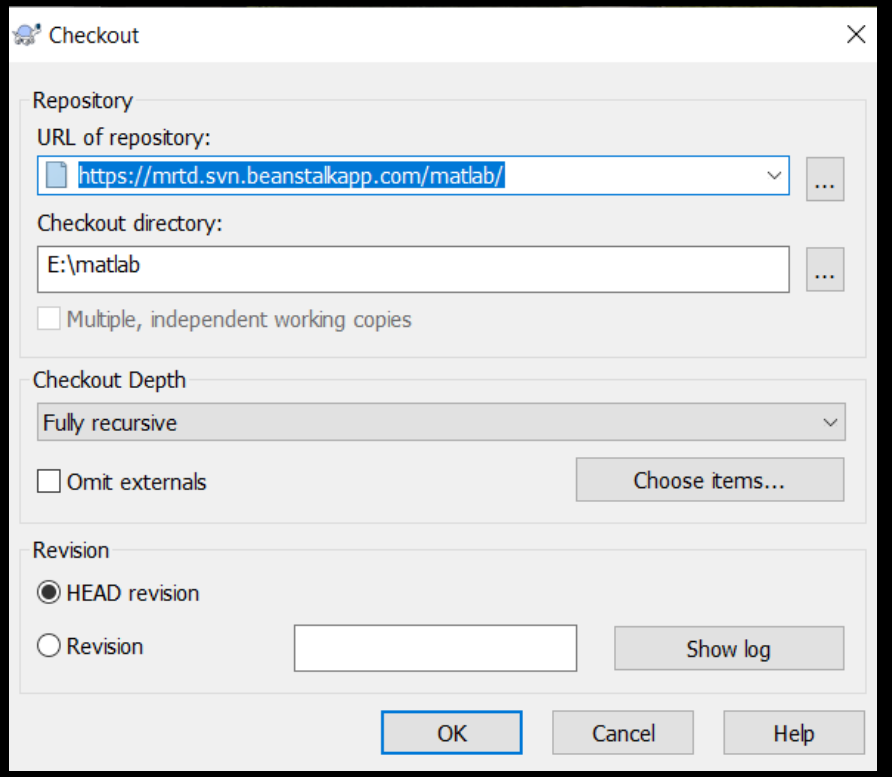
1. Make Beanstalk user account.
2. Partition hard drive.
3. Make common lab folders.
4. Install TortoiseSVN.
5. Get repository URL from Beanstalk.



TortoiseSVN setup: basic steps

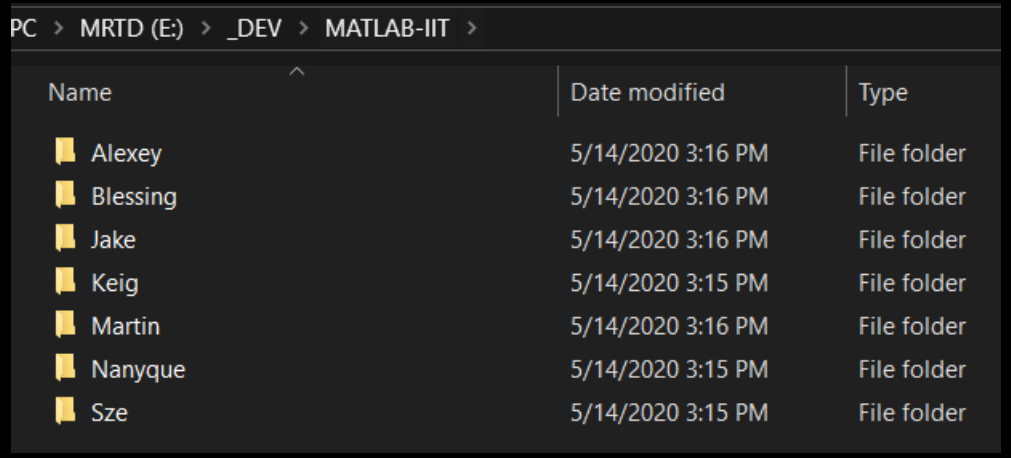
1. Make Beanstalk user account.
2. Partition hard drive.
3. Make common lab folders.
4. Install TortoiseSVN.
5. Get repository URL from Beanstalk.
6. Right-click a folder > SVN Checkout…, paste and click OK (will require login).

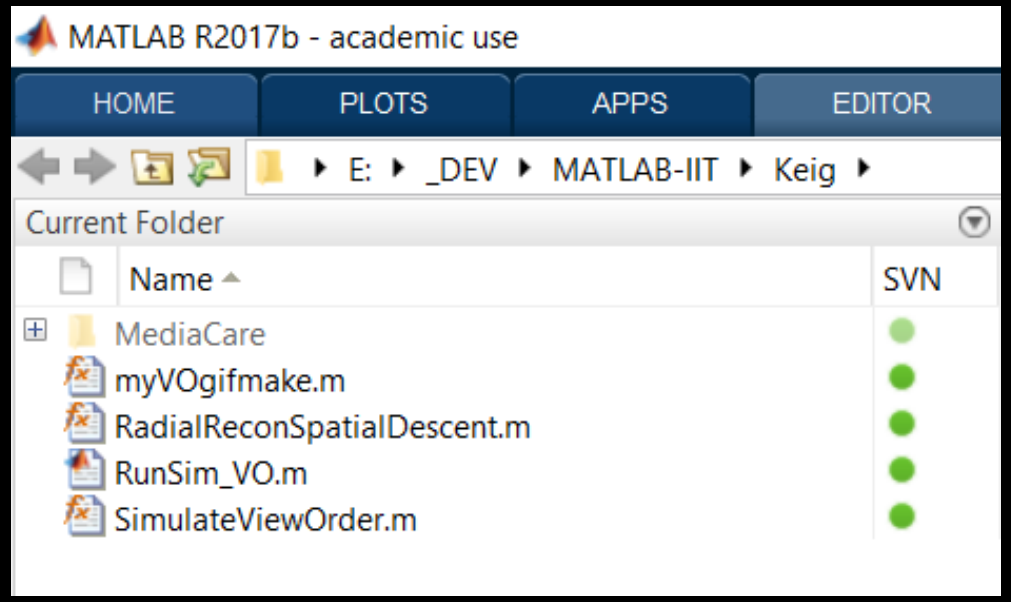




TortoiseSVN setup: basic steps

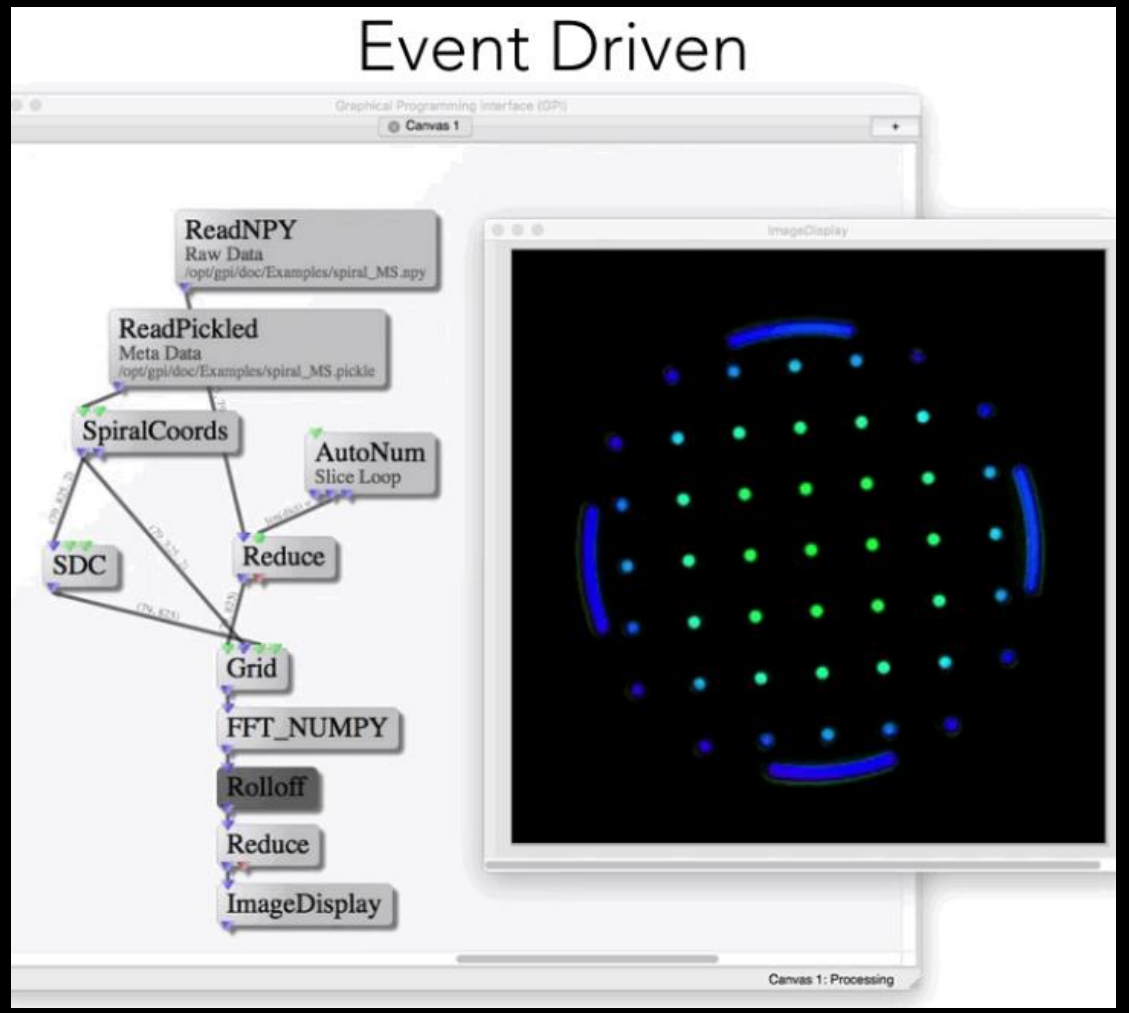
1. Make Beanstalk user account.
2. Partition hard drive.
3. Make common lab folders.
4. Install TortoiseSVN.
5. Get repository URL from Beanstalk.
6. Right-click a folder > SVN Checkout…, paste and click OK (will require login).
7. Access repository as a normal file system (file explorer, open/edit, …)





What is GPI?

- Develop modular software with visual representations.
- Facilitate reuse of (your own, or others') code.
- Python or C++, but can use subroutines to run MATLAB code.



GPI setup (from website)

1. Install Anaconda, if not already done so
2. Open Anaconda prompt and configure a new environment:

```
conda create -n gpi_env
conda activate gpi_env
conda config --env --add channels conda-forge
conda config --env --set channel_priority strict
```

3. Then, install GPI*:

```
conda install gpi_core python=3.7 pyqt=5.9
```

*Check python and pyqt versions

4. Type “gpi” in Anaconda prompt with gpi_env active to open GPI interface.

Questions?