

# RESEARCH TOOLS 2011

## VIDEO 19

2011-Nov-27

Kurt Schwehr

<http://schwehr.org>

UNH CCOM/JHC

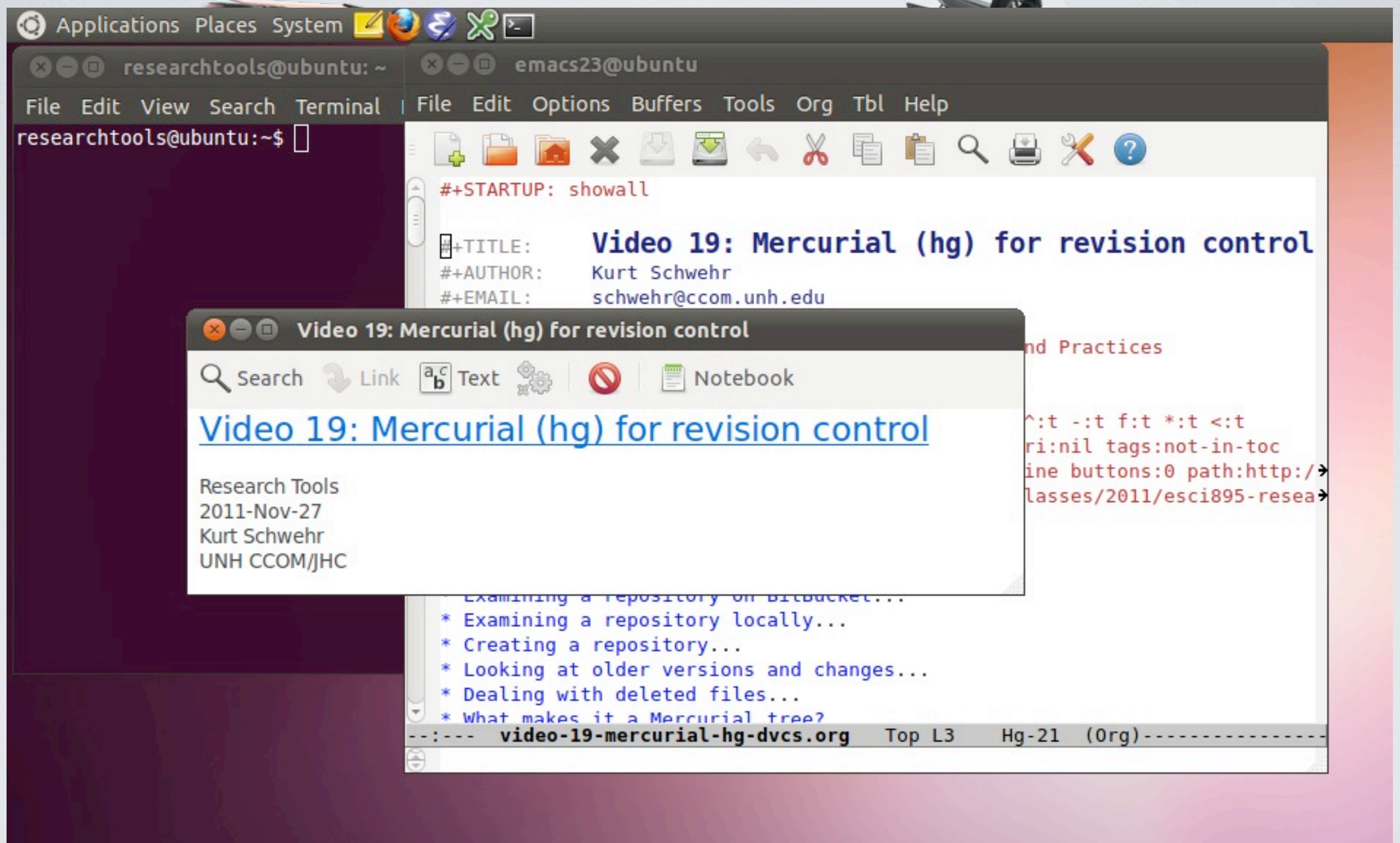
Mercurial (hg) for distributed version control



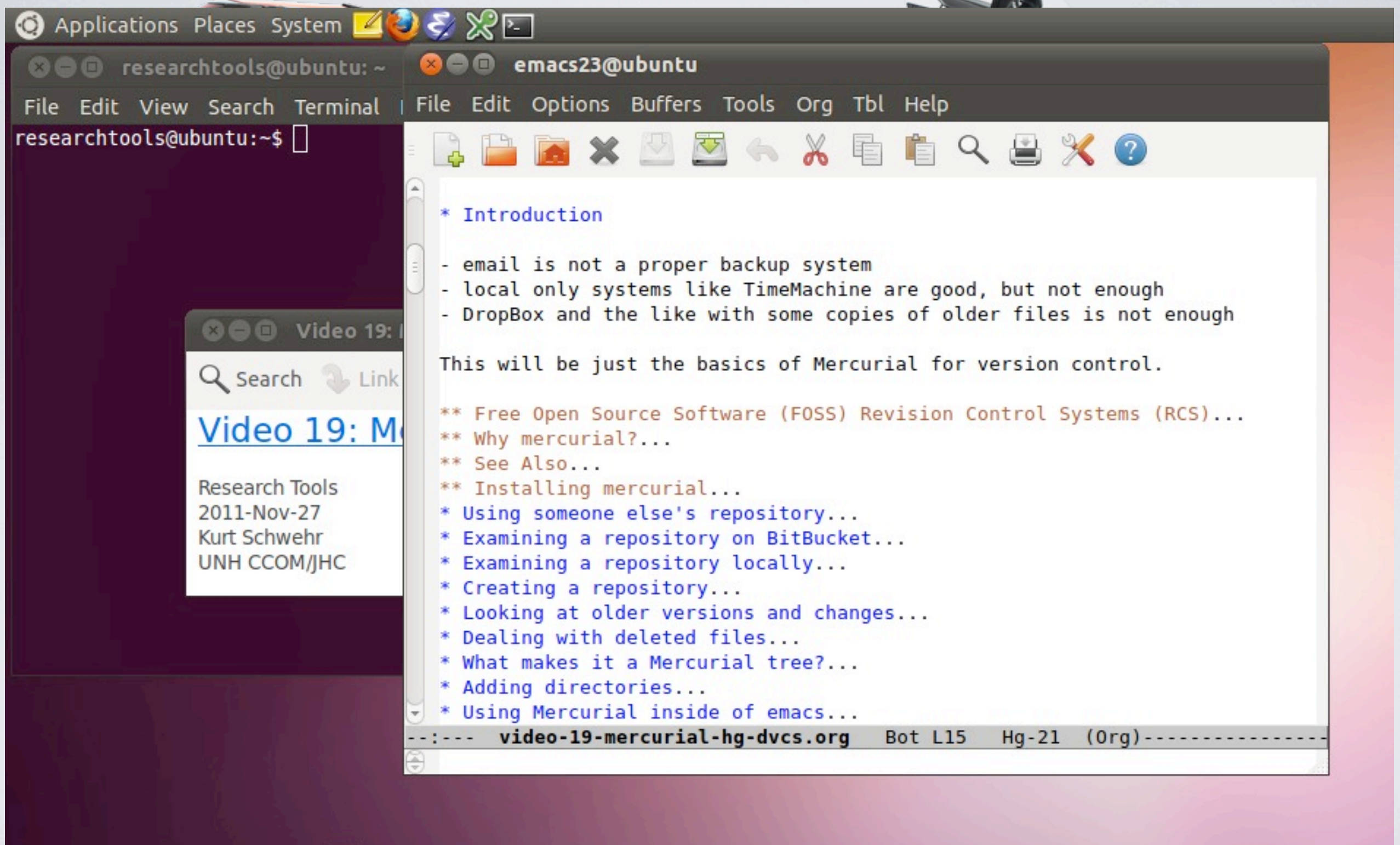
Sunday, November 27, 11

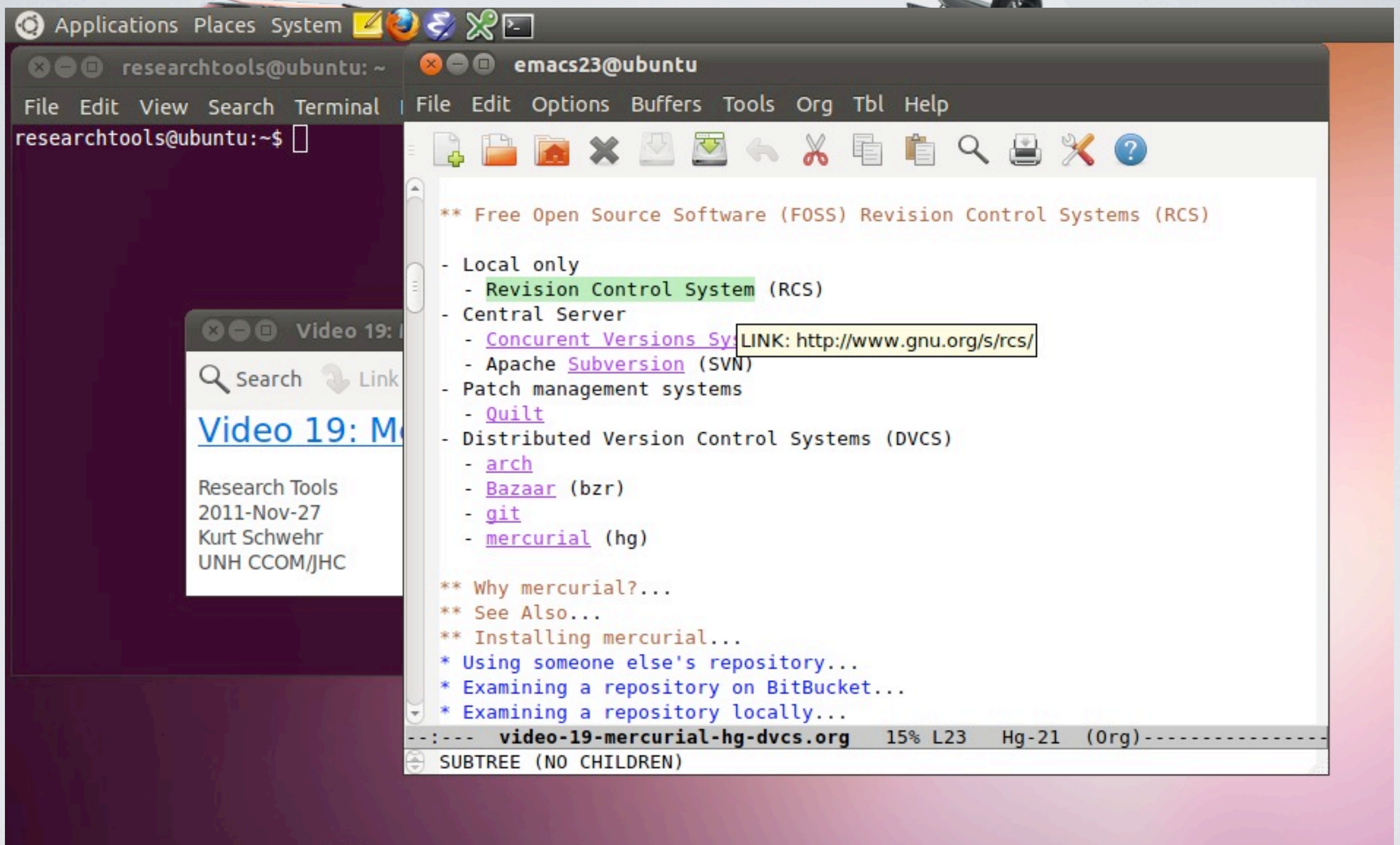
<http://vislab-ccom.unh.edu/~schwehr/Classes/2011/esci895-researchtools/>

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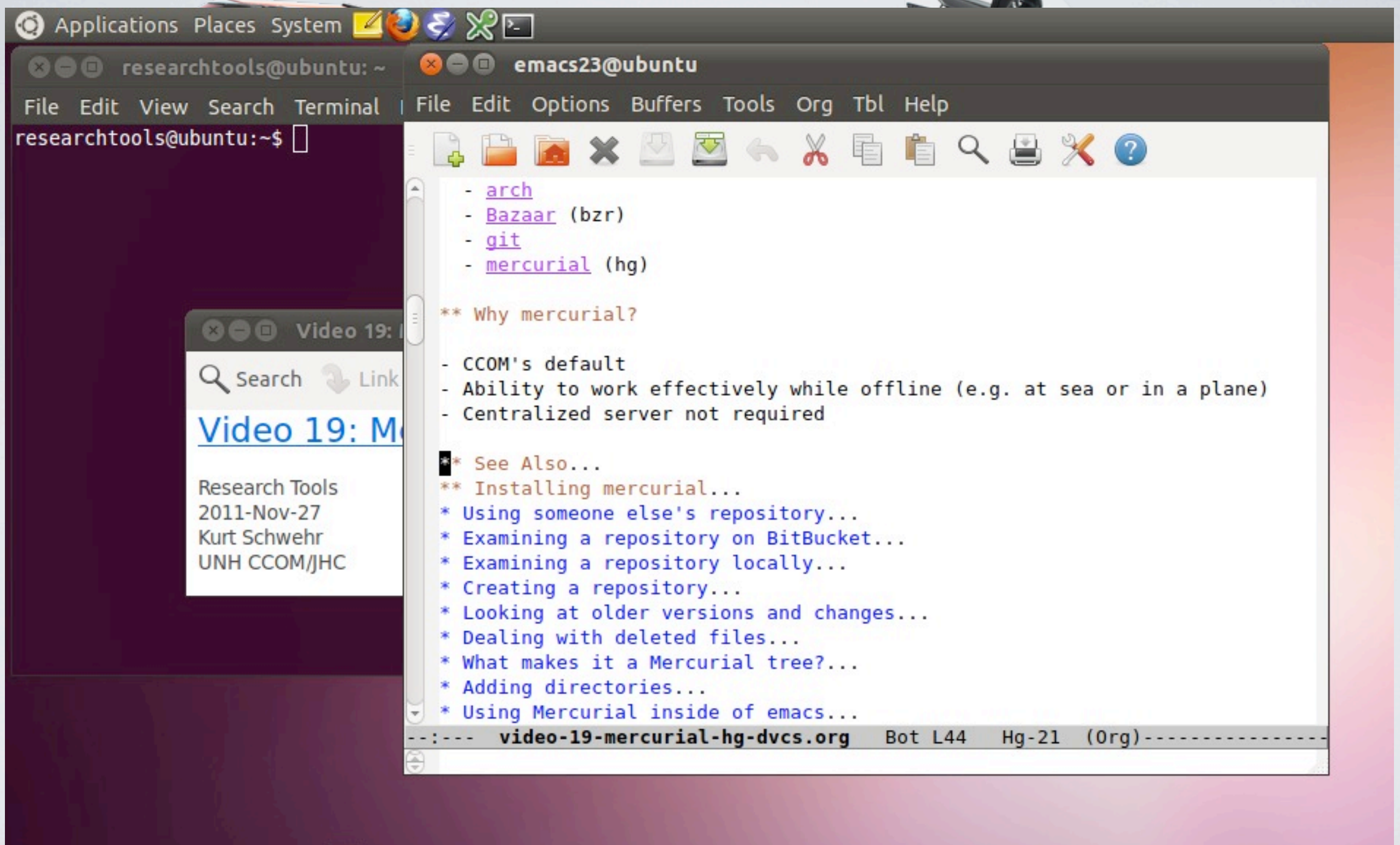


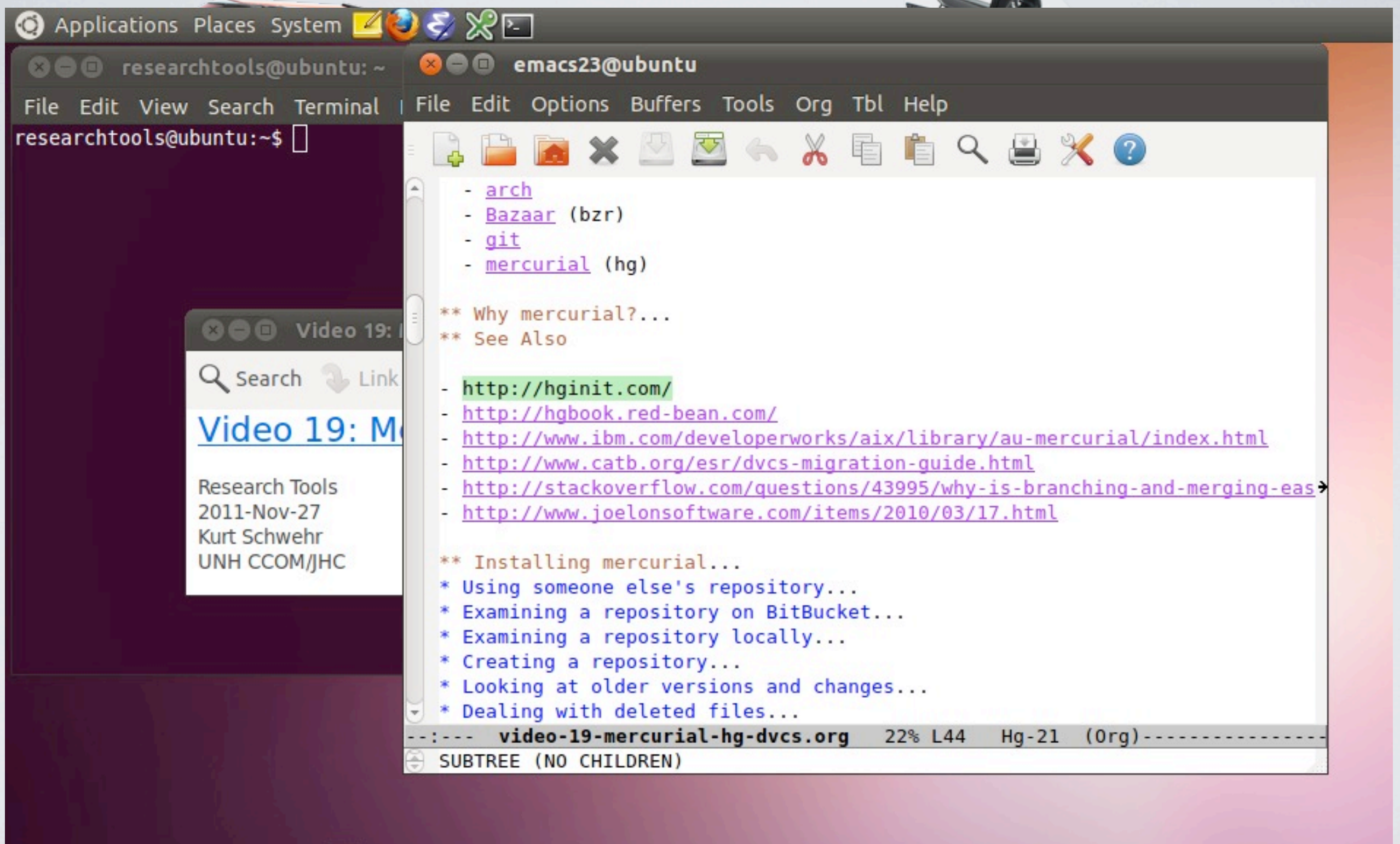




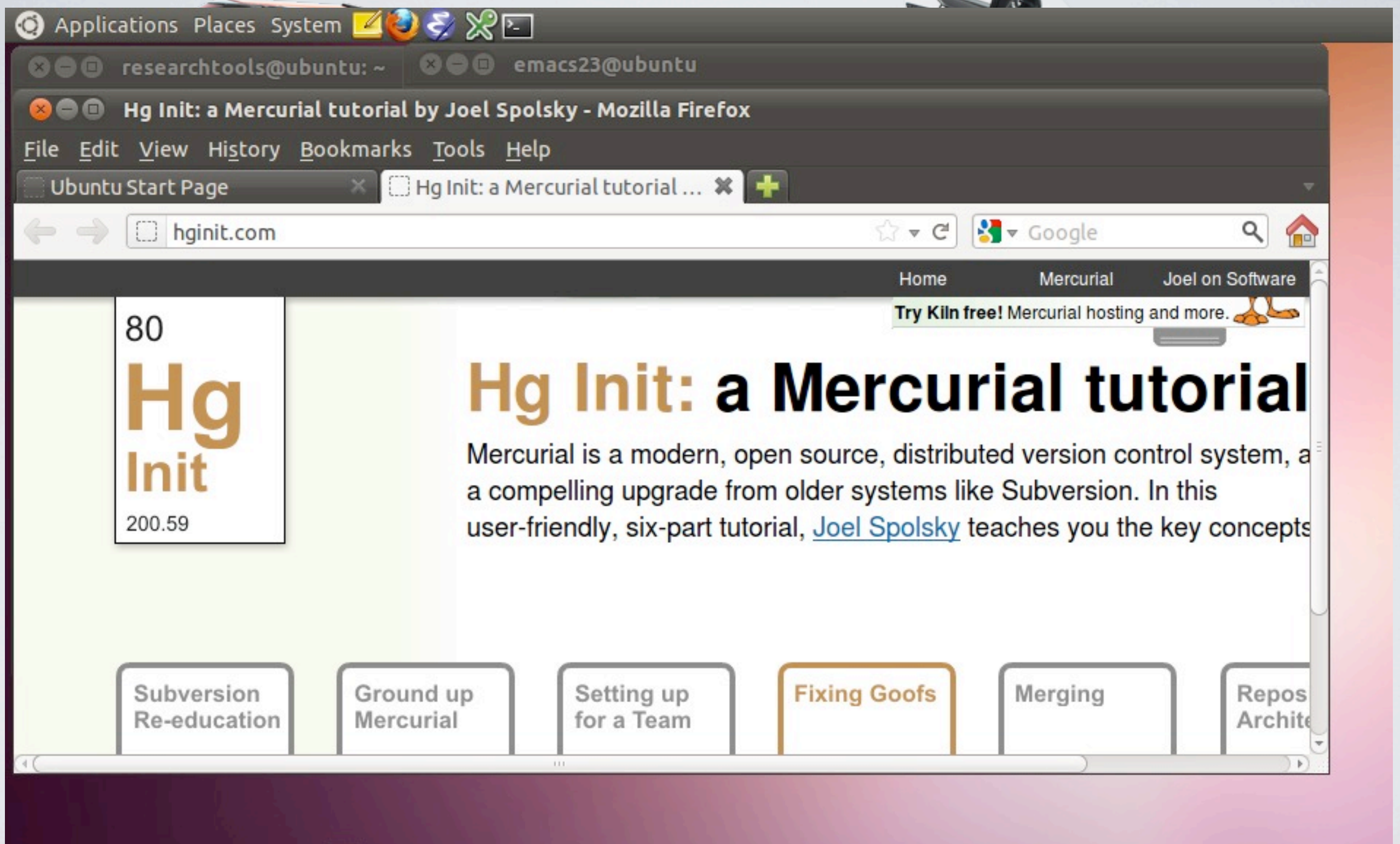


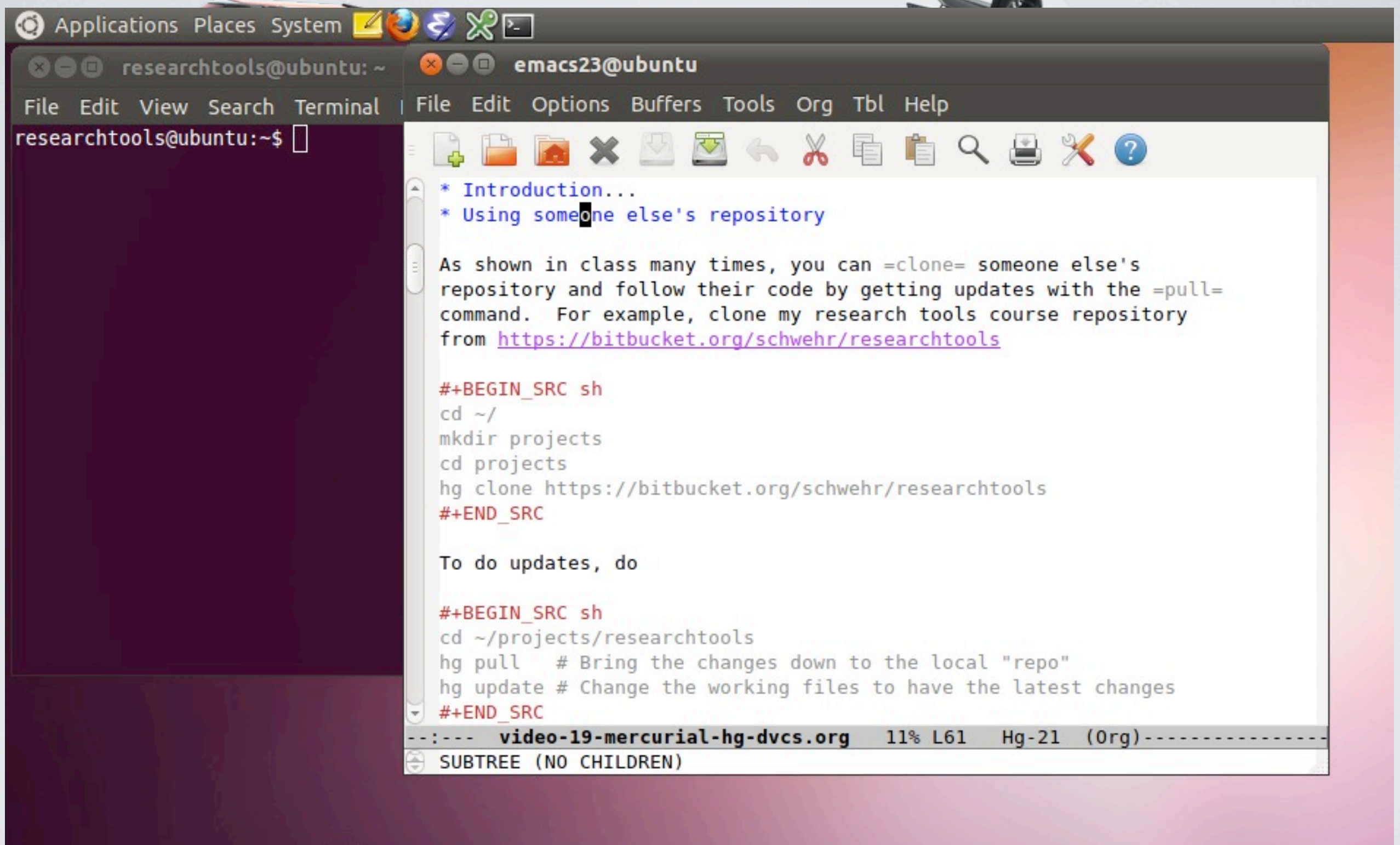




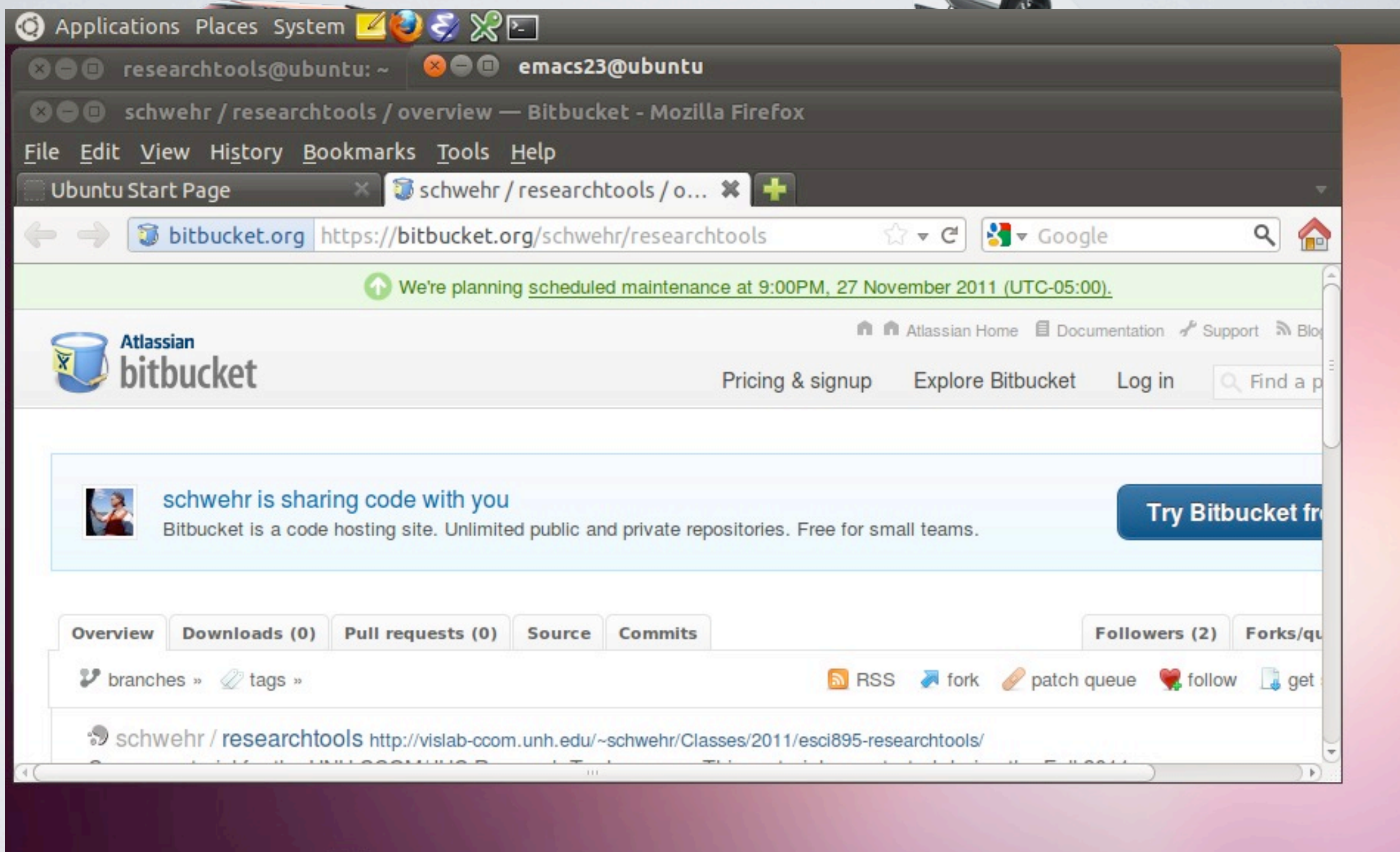












Applications Places System

researchtools@ubuntu: ~/projects

File Edit View Search Terminal Help

```
researchtools@ubuntu:~$  
researchtools@ubuntu:~$ cd ~/  
researchtools@ubuntu:~$ pwd  
/home/researchtools  
researchtools@ubuntu:~$ mkdir projects  
mkdir: cannot create directory `projects': File exists  
researchtools@ubuntu:~$ cd projects/  
researchtools@ubuntu:~/projects$ ls -l  
total 4  
drwxr-xr-x 8 researchtools researchtools 4096 2011-11-27 17:26 researchtools  
researchtools@ubuntu:~/projects$ mv researchtools old-re
```

```
#+BEGIN_SRC sh  
cd ~/  
mkdir projects  
cd projects  
hg clone https://bitbucket.org/schwehr/researchtools  
#+END_SRC  
  
To do updates, do  
  
#+BEGIN_SRC sh  
cd ~/projects/researchtools  
hg pull # Bring the changes down to the local "repo"  
hg update # Change the working files to have the latest changes  
#+END_SRC
```

video-19-mercurial-hg-dvcs.org 11% L66 Hg-21 (Org)



Applications Places System

researchtools@ubuntu: ~/projects

schwehr / researchtools / overview — Bitbucket - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Ubuntu Start Page x schwehr / researchtools / o... x +

bitbucket.org https://bitbucket.org/schwehr/researchtools

Overview Downloads (0) Pull requests (0) Source Commits Followers (2) Forks/qu

branches » tags » RSS fork patch queue follow get

schwehr / **researchtools** <http://vislab-ccom.unh.edu/~schwehr/Classes/2011/esci895-researchtools/>

Course material for the UNH CCOM/JHC Research Tools course. This material was started during the Fall 2011 semester. Covers emacs with org-mode, Bash command line, Python, Proj, GDAL/OGR, QGIS, and much more. It tries to build a Linux and open source software base for students to build on. Please copy, remix and improve this material. License: Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License

Clone this repository (size: 650.3 KB): **HTTPS** / **SSH**

\$ hg clone https://bitbucket.org/schwehr/researchtools

Recent commits See more »

Author	Revision	Message	Date
		hg update # Change the working files to have the latest changes # +END_SRC	
		video-19-mercurial-hg-dvcs.org 11% L72 Hg-21 (Org)	



Applications Places System

researchtools@ubuntu: ~/projects

File Edit View Search Terminal Help

```
getting video/video-11-python-part-4-if-argv.org
getting video/video-12-python-part-5-while.org
getting video/video-13-python-gps-data.org
getting video/video-14-clean-up-nmea.org
getting video/video-15-matplotlib-part-1.org
getting video/video-16-python-signal-processing.org
getting video/video-17-emacs-replace-string.org
getting video/video-18-python-hdf-h5py.org
getting video/video-19-mercurial-hg-dvcs.org
76 files updated, 0 files merged, 0 files removed, 0 files unresolved
researchtools@ubuntu:~/projects$ ls
old-res  researchtools
researchtools@ubuntu:~/projects$
```

Google

Followers (2) Forks/qu

patch queue follow get

ng the Fall 2011

semester. Covers emacs with org-mode, Bash command line, Python, Proj, GDAL/OGR, QGIS, and much more. It tries to build a Linux and open source software base for students to build on. Please copy, remix and improve this material. License: Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License

Clone this repository (size: 650.3 KB): [HTTPS](https://bitbucket.org/schwehr/researchtools) / [SSH](https://bitbucket.org/schwehr/researchtools)

```
$ hg clone https://bitbucket.org/schwehr/researchtools
```

Recent commits See more »

Author	Revision	Message	Date
		hg update # Change the working files to have the latest changes	
		<b>video-19-mercurial-hg-dvcs.org</b> 11% L72 Hg-21 (Org)	



Applications Places System

researchtools@ubuntu: ~/projects/researchtools

File Edit View Search Terminal Help

76 files updated, 0 files merged, 0 files removed, 0 files unresolved  
researchtools@ubuntu:~/projects\$ ls  
old-res researchtools  
researchtools@ubuntu:~/projects\$ ls -l researchtools/  
total 24  
drwxr-xr-x 3 researchtools researchtools 4096 2011-11-27 17:42 class  
drwxr-xr-x 2 researchtools researchtools 4096 2011-11-27 17:42 dotfiles  
drwxr-xr-x 2 researchtools researchtools 4096 2011-11-27 17:42 general  
-rw-r--r-- 1 researchtools researchtools 361 2011-11-27 17:42 Makefile  
drwxr-xr-x 2 researchtools researchtools 4096 2011-11-27 17:42 scripts  
drwxr-xr-x 2 researchtools researchtools 4096 2011-11-27 17:42 video  
researchtools@ubuntu:~/projects\$ cd ~/projects/researchtools/  
researchtools@ubuntu:~/projects/researchtools\$ hg pull

semester. Covers emacs with org  
tries to build a Linux and open sou  
material. License: Creative Comm

Clone this repository (size: 650.3 K)  
\$ hg clone https://bitbucket.org

Recent commits See more »

Author	Revision
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```
#+BEGIN_SRC sh
cd ~/
mkdir projects
cd projects
hg clone https://bitbucket.org/schwehr/researchtools
#+END_SRC

To do updates, do

#+BEGIN_SRC sh
cd ~/projects/researchtools
hg pull # Bring the changes down to the local "repo"
hg update # Change the working files to have the latest changes
#+END_SRC
```

video-19-mercurial-hg-dvcs.org 11% L81 Hg-21 (Org)



Applications Places System

researchtools@ubuntu: ~/projects/researchtools

File Edit View Search Terminal Help

```
warning: bitbucket.org certificate with fingerprint 81:2b:08:90:dc:d3:71:ee:e0:7
c:b4:75:ce:9b:6c:48:94:56:a1:fe not verified (check hostfingerprints or web.cac
rts config setting)
pulling from https://bitbucket.org/schwehr/researchtools
warning: bitbucket.org certificate with fingerprint 81:2b:08:90:dc:d3:71:ee:e0:7
c:b4:75:ce:9b:6c:48:94:56:a1:fe not verified (check hostfingerprints or web.cac
rts config setting)
searching for changes
no changes found
researchtools@ubuntu:~/projects/researchtools$ hg update
resolving manifests
0 files updated, 0 files merged, 0 files removed, 0 files unresolved
researchtools@ubuntu:~/projects/researchtools$
```

tries to build a Linux and open sou  
material. License: Creative Comm

Clone this repository (size: 650.3 k  
\$ hg clone https://bitbucket.or

Recent commits See more »

Author	Revision
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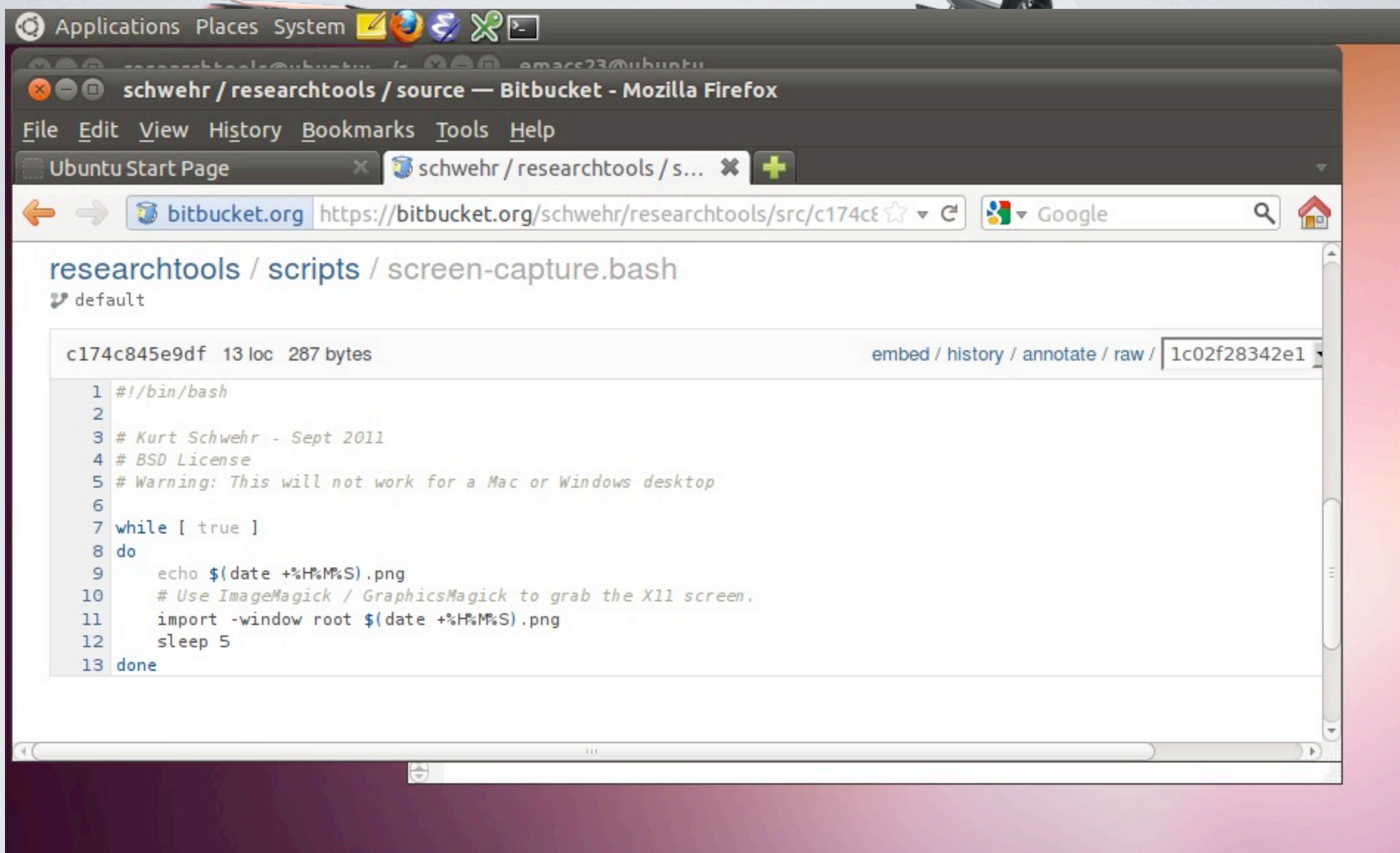
```
cd projects
hg clone https://bitbucket.org/schwehr/researchtools
#+END_SRC

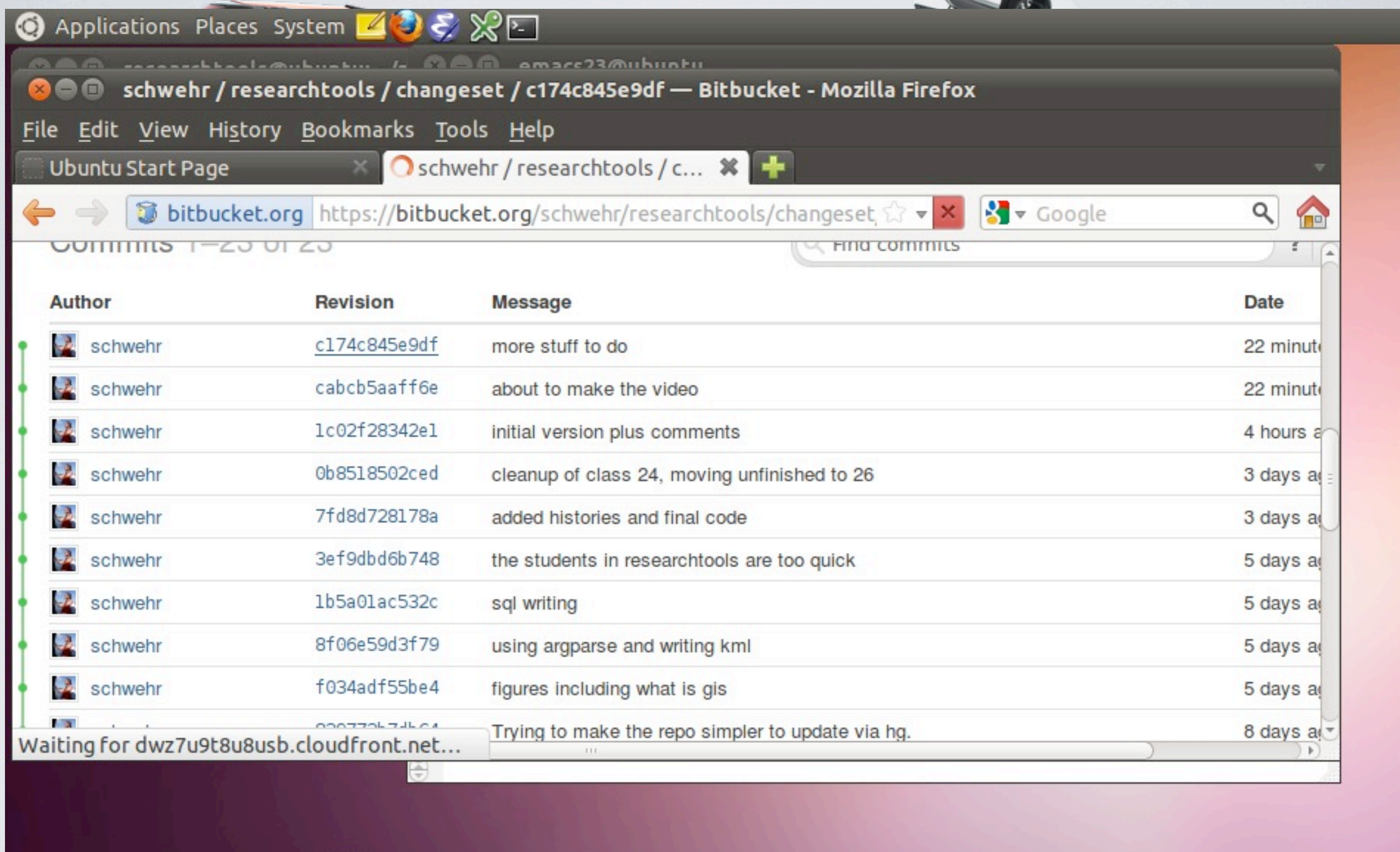
To do updates, do

#+BEGIN_SRC sh
cd ~/projects/researchtools
hg pull # Bring the changes down to the local "repo"
hg update # Change the working files to have the latest changes
#+END_SRC
```

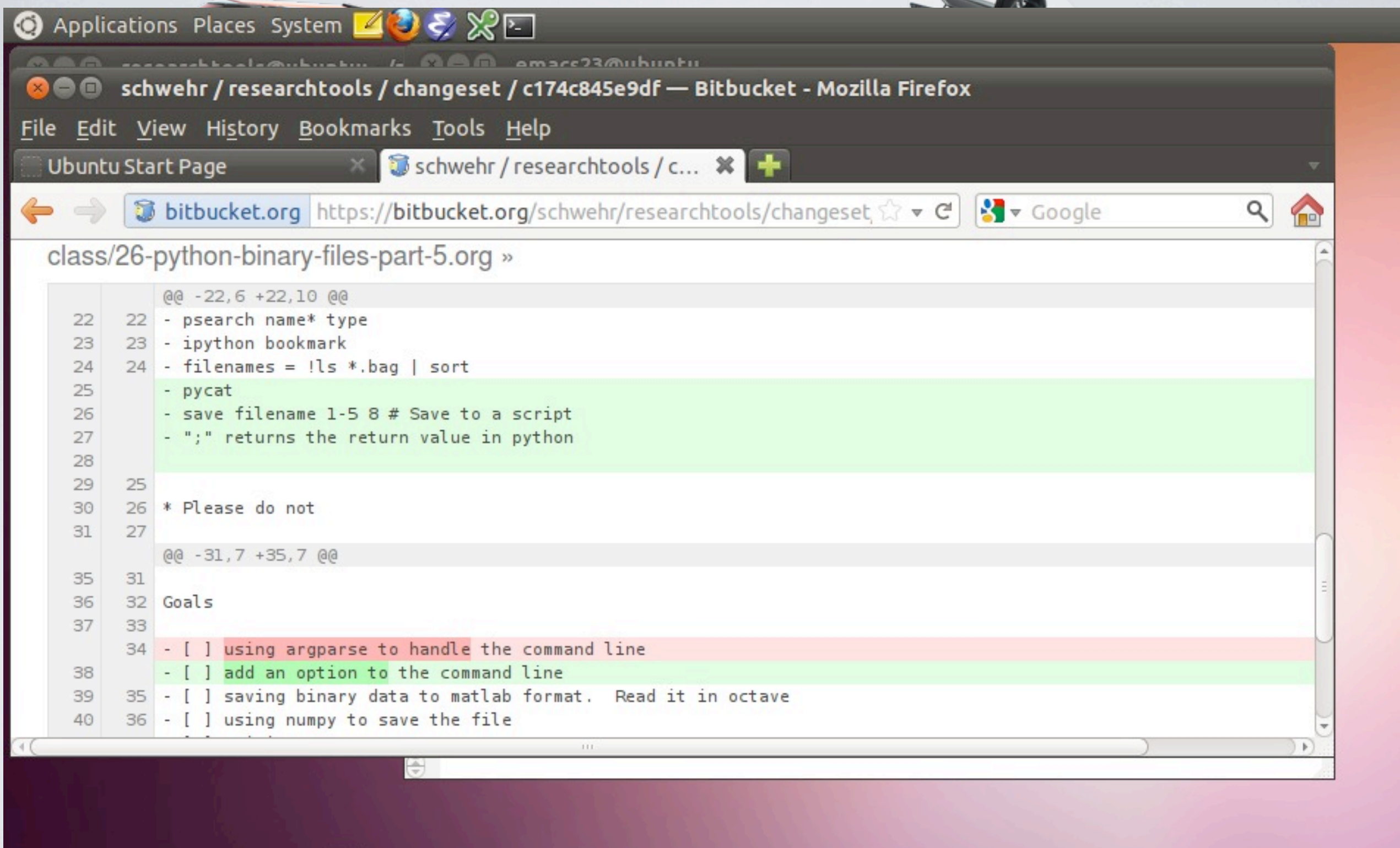
---:--- video-19-mercurial-hg-dvcs.org 11% L81 Hg-21 (Org)-----

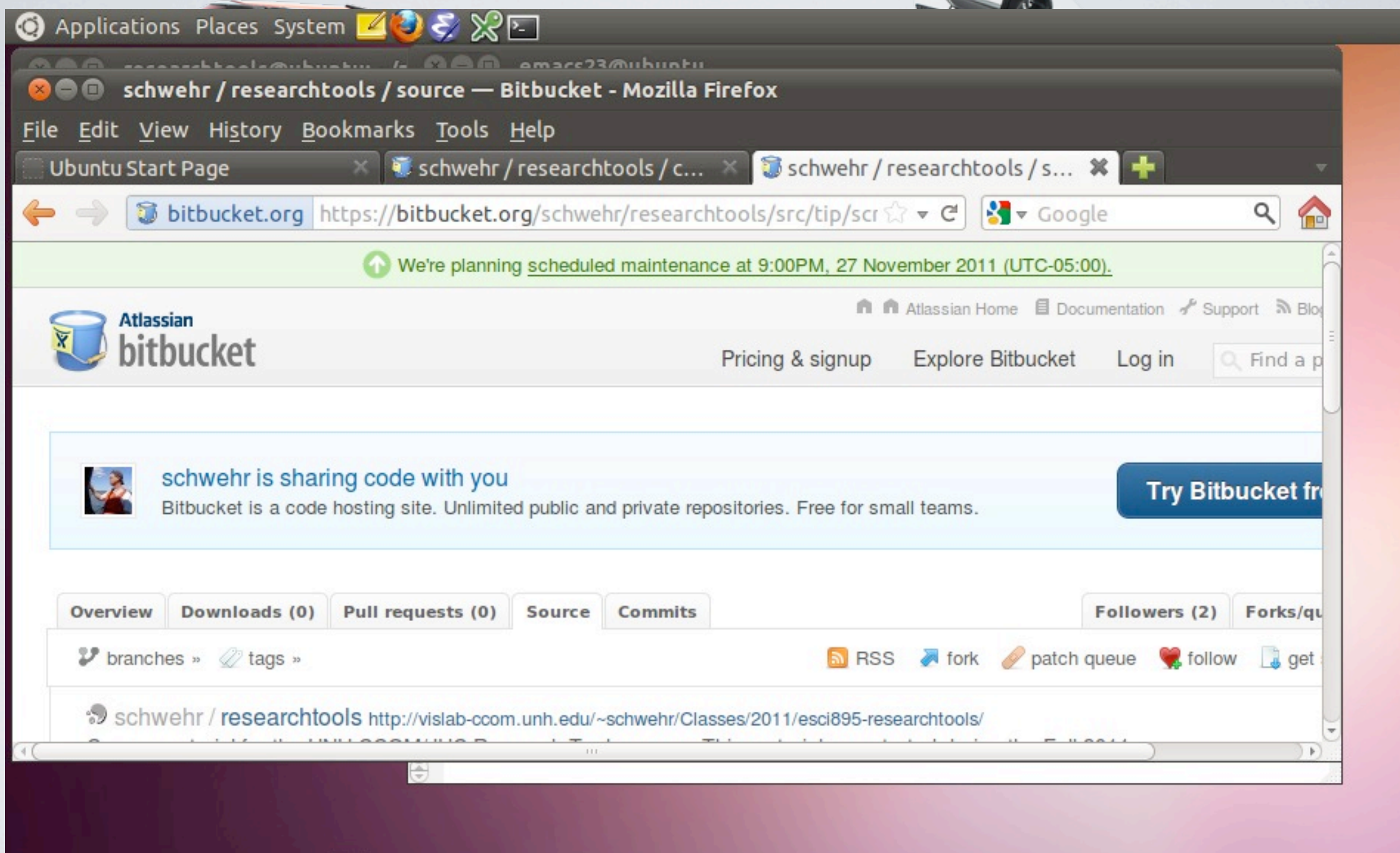




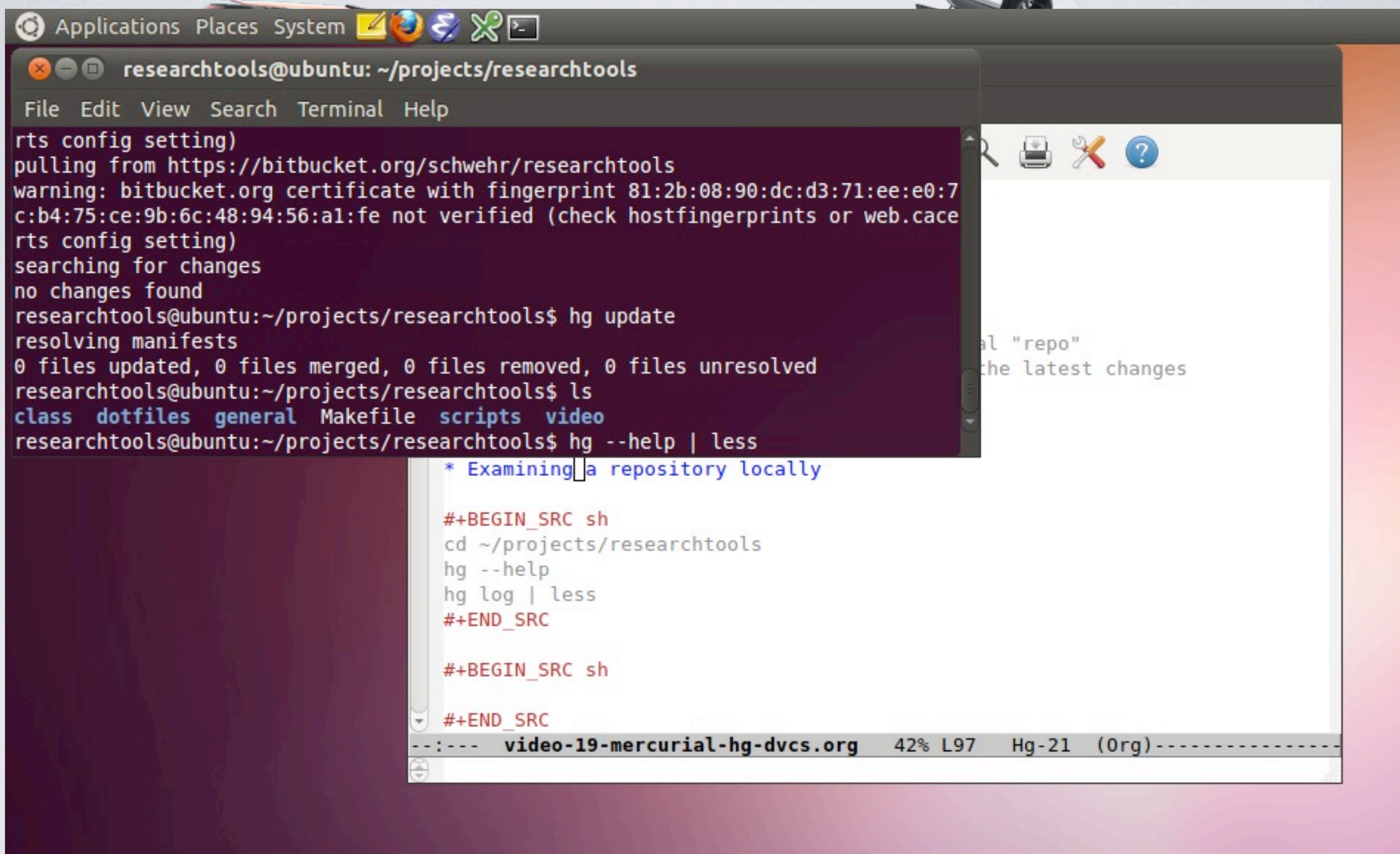




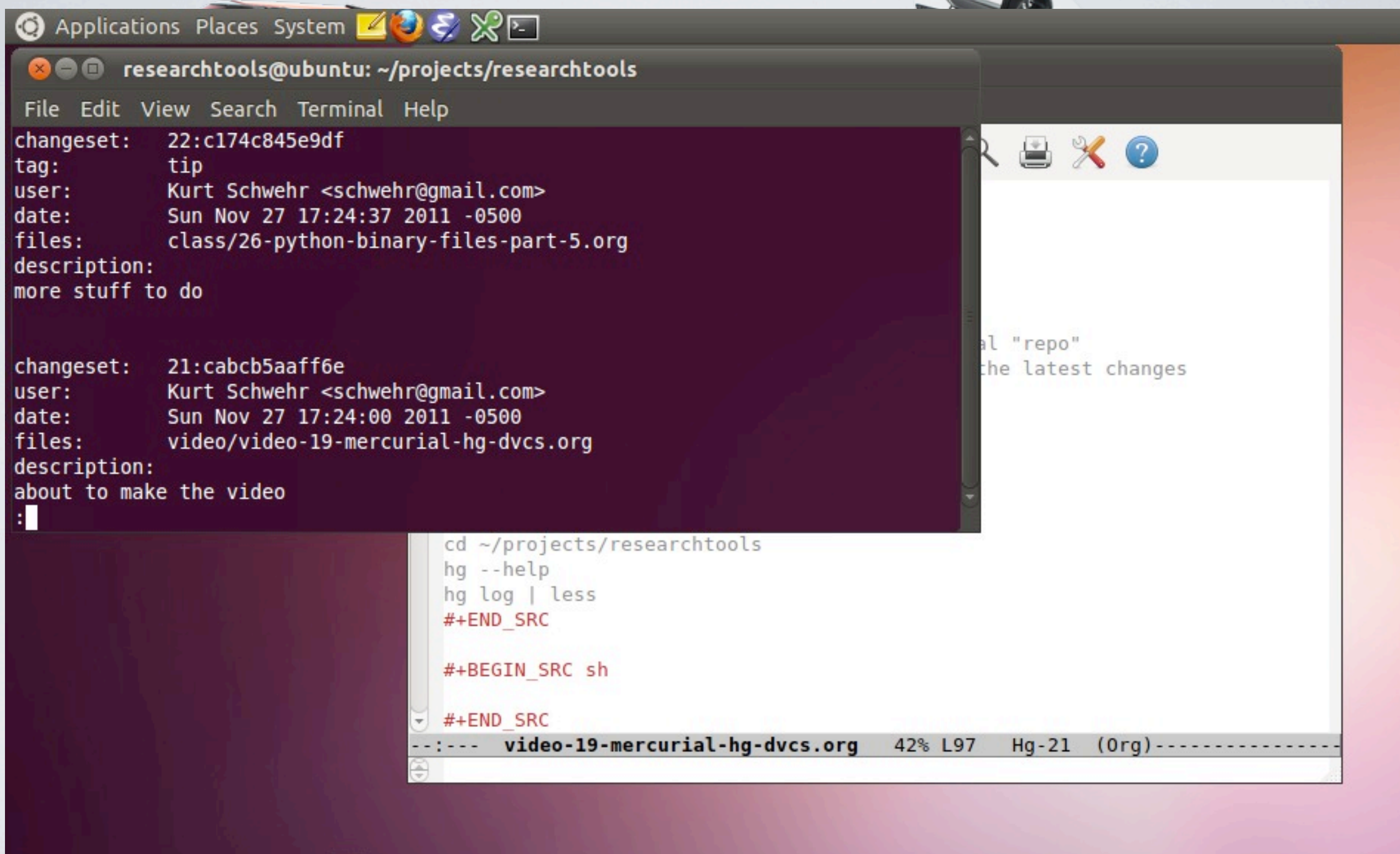




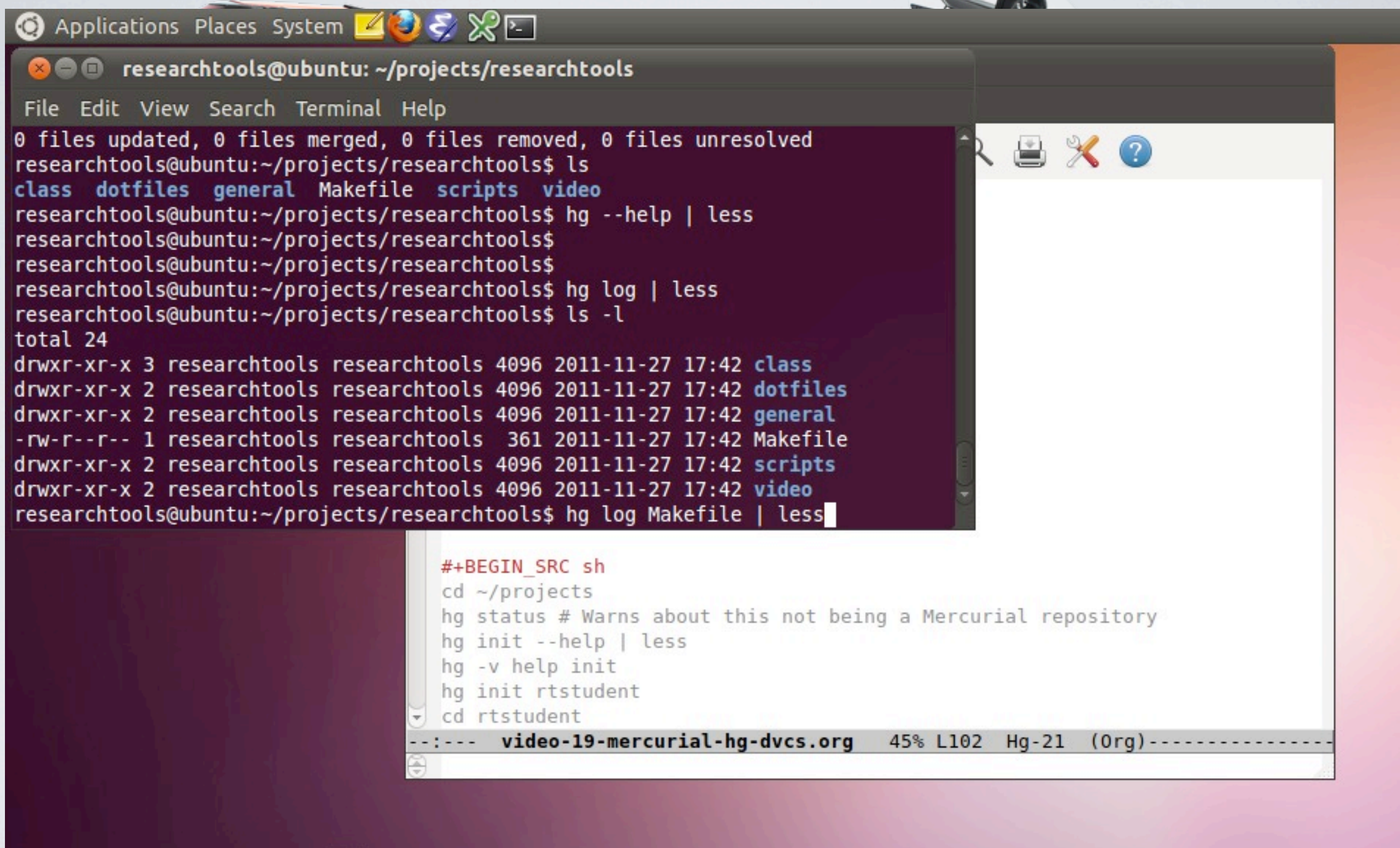




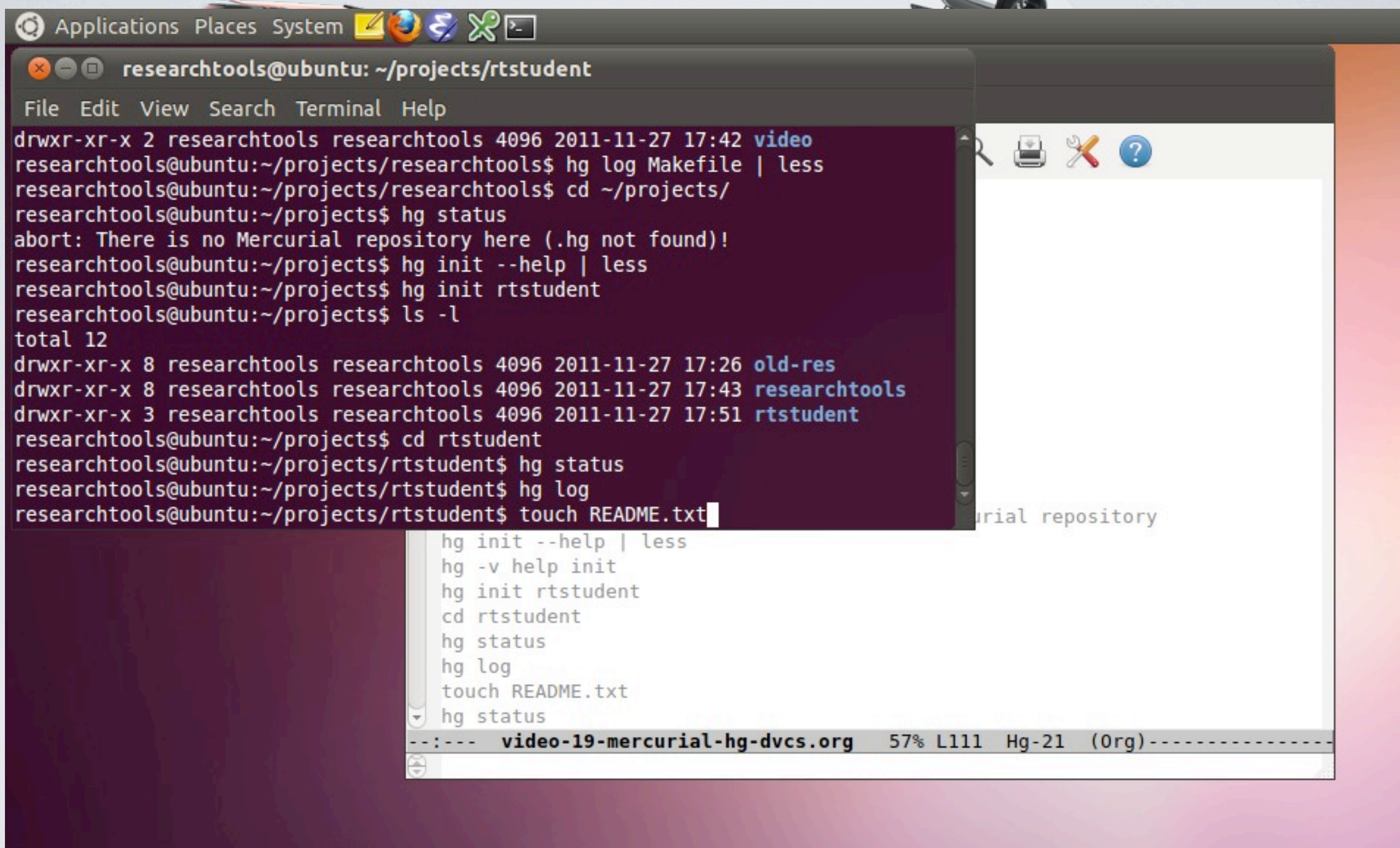




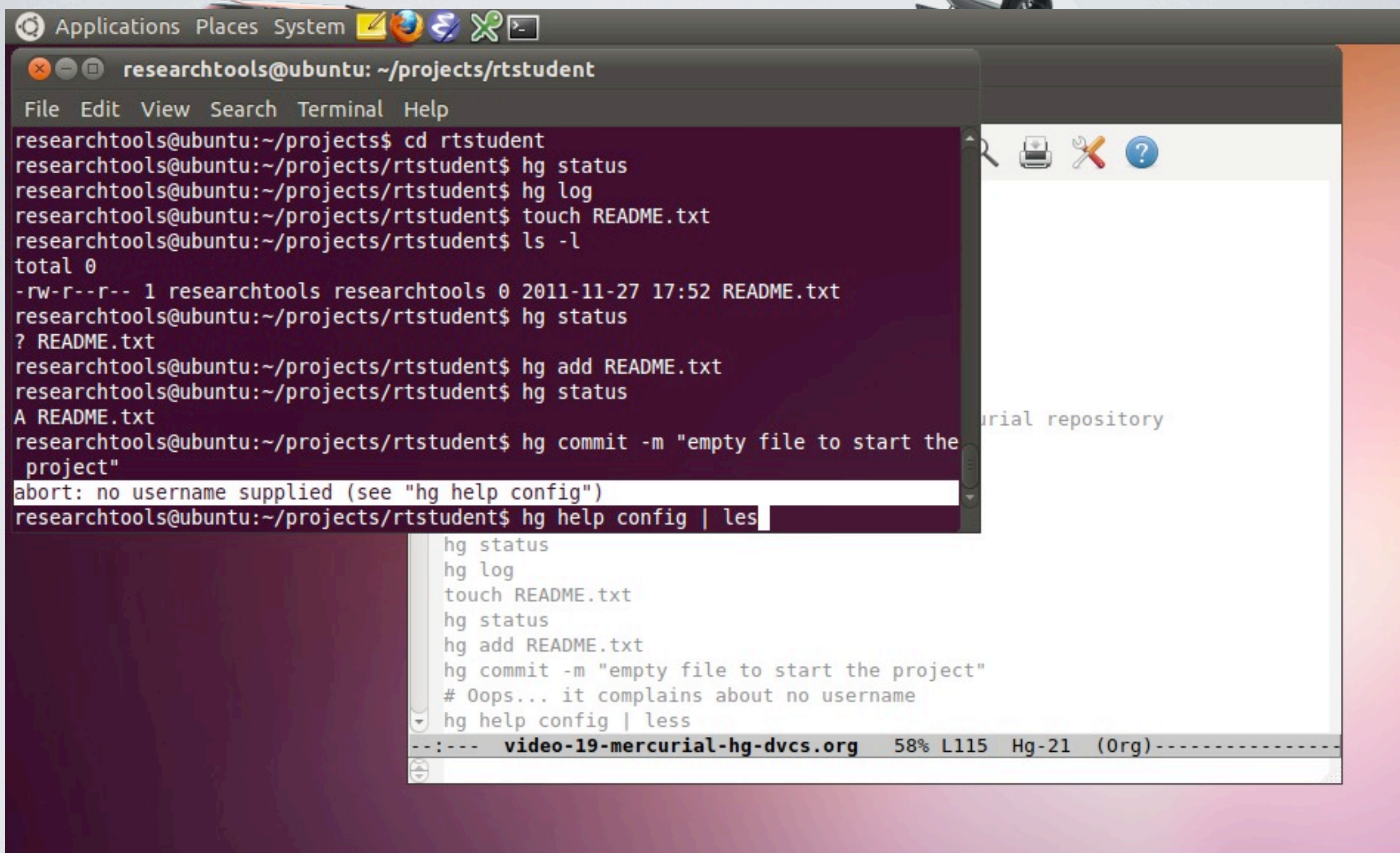












The screenshot shows a terminal window titled 'researchtools@ubuntu: ~/projects/rtstudent'. The terminal output shows the following commands and results:

```
researchtools@ubuntu:~/projects$ cd rtstudent
researchtools@ubuntu:~/projects/rtstudent$ hg status
researchtools@ubuntu:~/projects/rtstudent$ hg log
researchtools@ubuntu:~/projects/rtstudent$ touch README.txt
researchtools@ubuntu:~/projects/rtstudent$ ls -l
total 0
-rw-r--r-- 1 researchtools researchtools 0 2011-11-27 17:52 README.txt
researchtools@ubuntu:~/projects/rtstudent$ hg status
? README.txt
researchtools@ubuntu:~/projects/rtstudent$ hg add README.txt
researchtools@ubuntu:~/projects/rtstudent$ hg status
A README.txt
researchtools@ubuntu:~/projects/rtstudent$ hg commit -m "empty file to start the project"
abort: no username supplied (see "hg help config")
researchtools@ubuntu:~/projects/rtstudent$ hg help config | less
```

A less window is open, displaying the output of 'hg help config'. The content of the less window is as follows:

```
hg status
hg log
touch README.txt
hg status
hg add README.txt
hg commit -m "empty file to start the project"
# Oops... it complains about no username
hg help config | less
--:--- video-19-mercurial-hg-dvcs.org 58% L115 Hg-21 (Org)-----
```



Applications Places System

researchtools@ubuntu: ~/projects/rtstudent

File Edit View Search Terminal Help

The configuration files for Mercurial use a simple ini-file format. A configuration file consists of sections, led by a "[section]" header and followed by "name = value" entries:

```
[ui]
username = Firstname Lastname <firstname.lastname@example.net>
verbose = True
```

The above entries will be referred to as "ui.username" and "ui.verbose", respectively. Please see the hgrc man page for a full description of the possible configuration values:

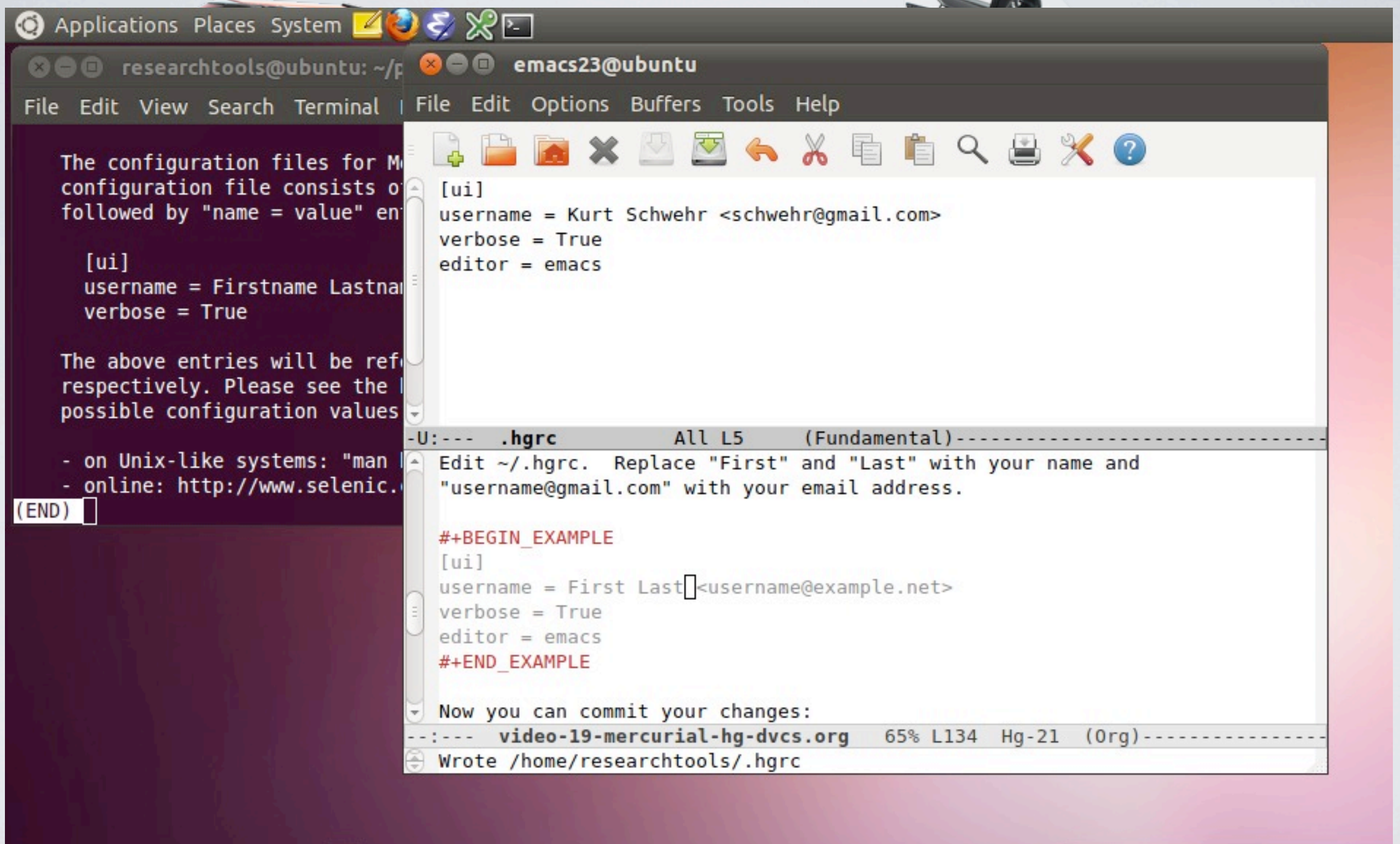
- on Unix-like systems: "man hgrc"
- online: <http://www.selenic.com/mercurial/hgrc.5.html>

(END)

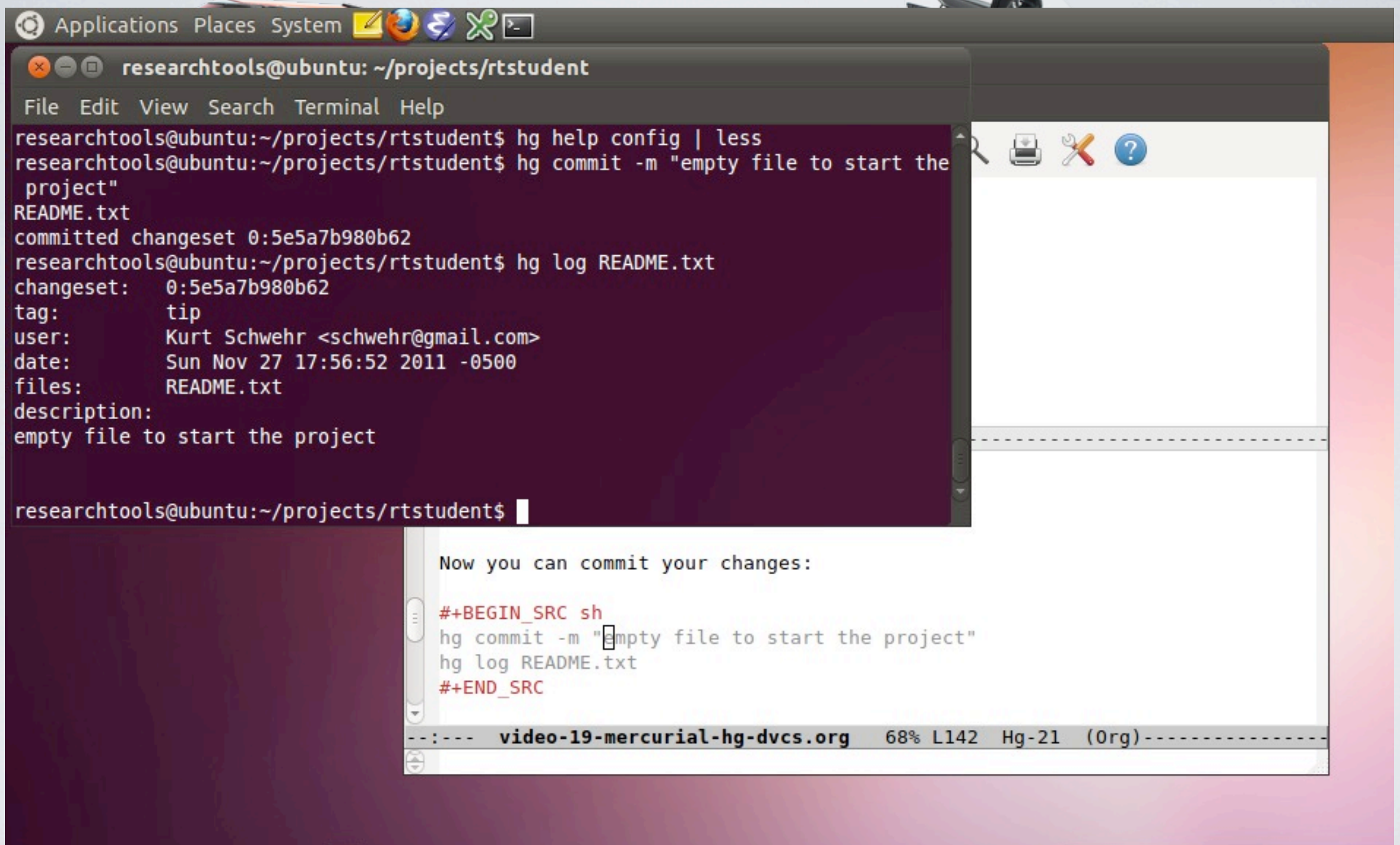
```
hg status
hg log
touch README.txt
hg status
hg add README.txt
hg commit -m "empty file to start the project"
# Oops... it complains about no username
hg help config | less
```

---:--- video-19-mercurial-hg-dvcs.org 58% L115 Hg-21 (Org)-----











Applications Places System

researchtools@ubuntu: ~/p emacs23@ubuntu

File Edit View Search Terminal File Edit Options Buffers Tools YASnippet Help

researchtools@ubuntu:~/projects/r  
researchtools@ubuntu:~/projects/r  
project"  
README.txt  
committed changeset 0:5e5a7b980b6:  
researchtools@ubuntu:~/projects/r  
changeset: 0:5e5a7b980b62  
tag: tip  
user: Kurt Schwehr <schweh  
date: Sun Nov 27 17:56:52  
files: README.txt  
description:  
empty file to start the project

researchtools@ubuntu:~/projects/r

This is a place for research tools work by students. This is me working through classes and videos.

-U:--- README.txt All L2 Hg:0 (Text yas)-----

#+BEGIN\_SRC sh  
hg commit -m "empty file to start the project"  
hg log README.txt  
#+END\_SRC

Now edit your README.txt file and add a few lines.

#+BEGIN\_SRC sh  
hg status  
hg diff  
hg commit -m "Intro lines with basic description"

--:--- video-19-mercurial-hg-dvcs.org 69% L146 Hg-21 (Org)-----

Wrote /home/researchtools/projects/rtstudent/README.txt



Applications Places System

researchtools@ubuntu: ~/projects/rtstudent

File Edit View Search Terminal Help

```
researchtools@ubuntu:~/projects/rtstudent$ hg status
M README.txt
researchtools@ubuntu:~/projects/rtstudent$ hg diff
diff -r 5e5a7b980b62 README.txt
--- a/README.txt      Sun Nov 27 17:56:52 2011 -0500
+++ b/README.txt      Sun Nov 27 17:59:02 2011 -0500
@@ -0,0 +1,2 @@
+This is a place for research tools work by students. This is me working
+through classes and videos.
researchtools@ubuntu:~/projects/rtstudent$ hg commit -m "Intro lines with basic
description"
README.txt
committed changeset 1:78a9a335ef6e
researchtools@ubuntu:~/projects/rtstudent$ hg log README.txt
```

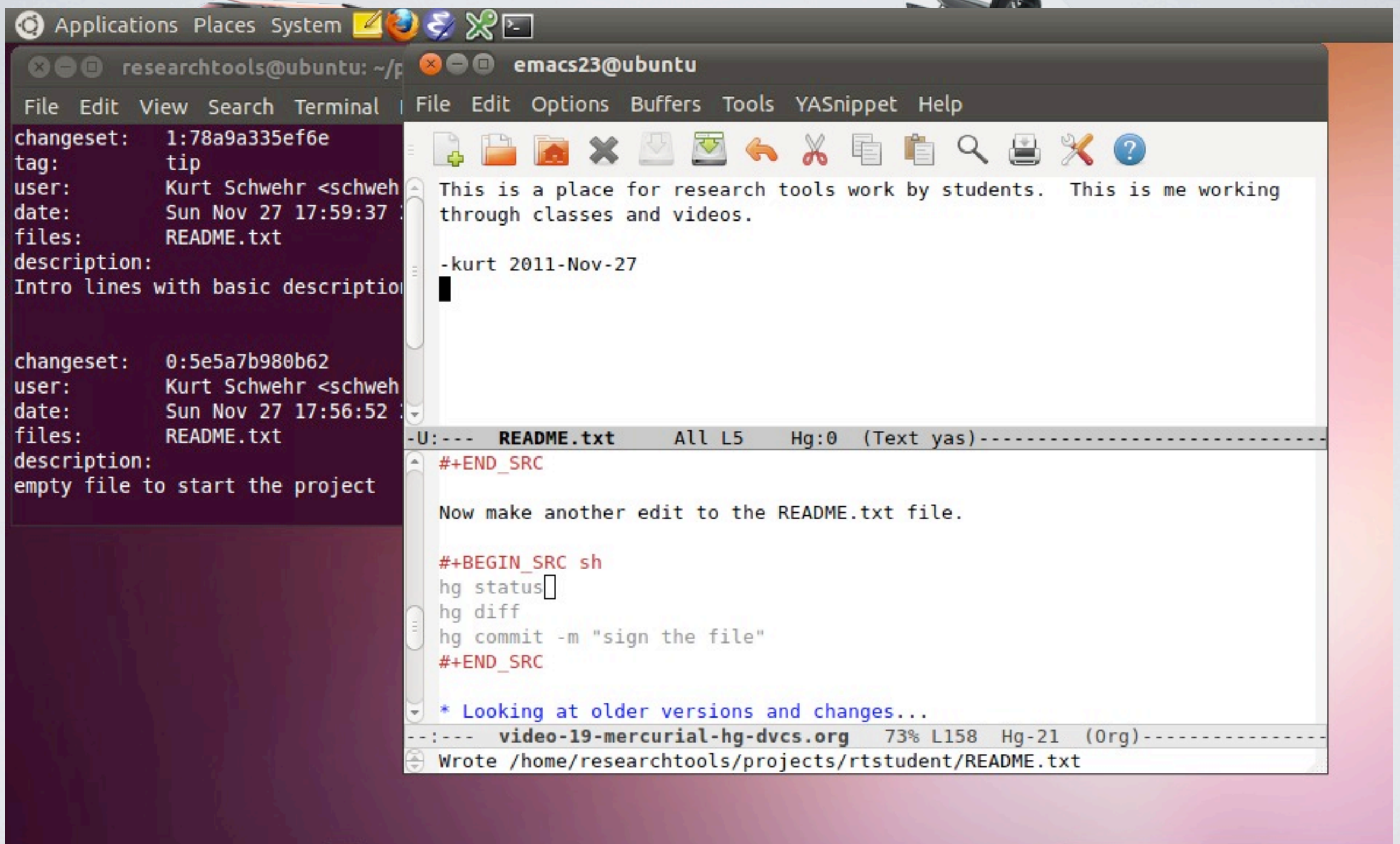
hg diff  
hg commit -m "Intro lines with basic description"  
hg log  
#+END\_SRC

Now make another edit to the README.txt file.

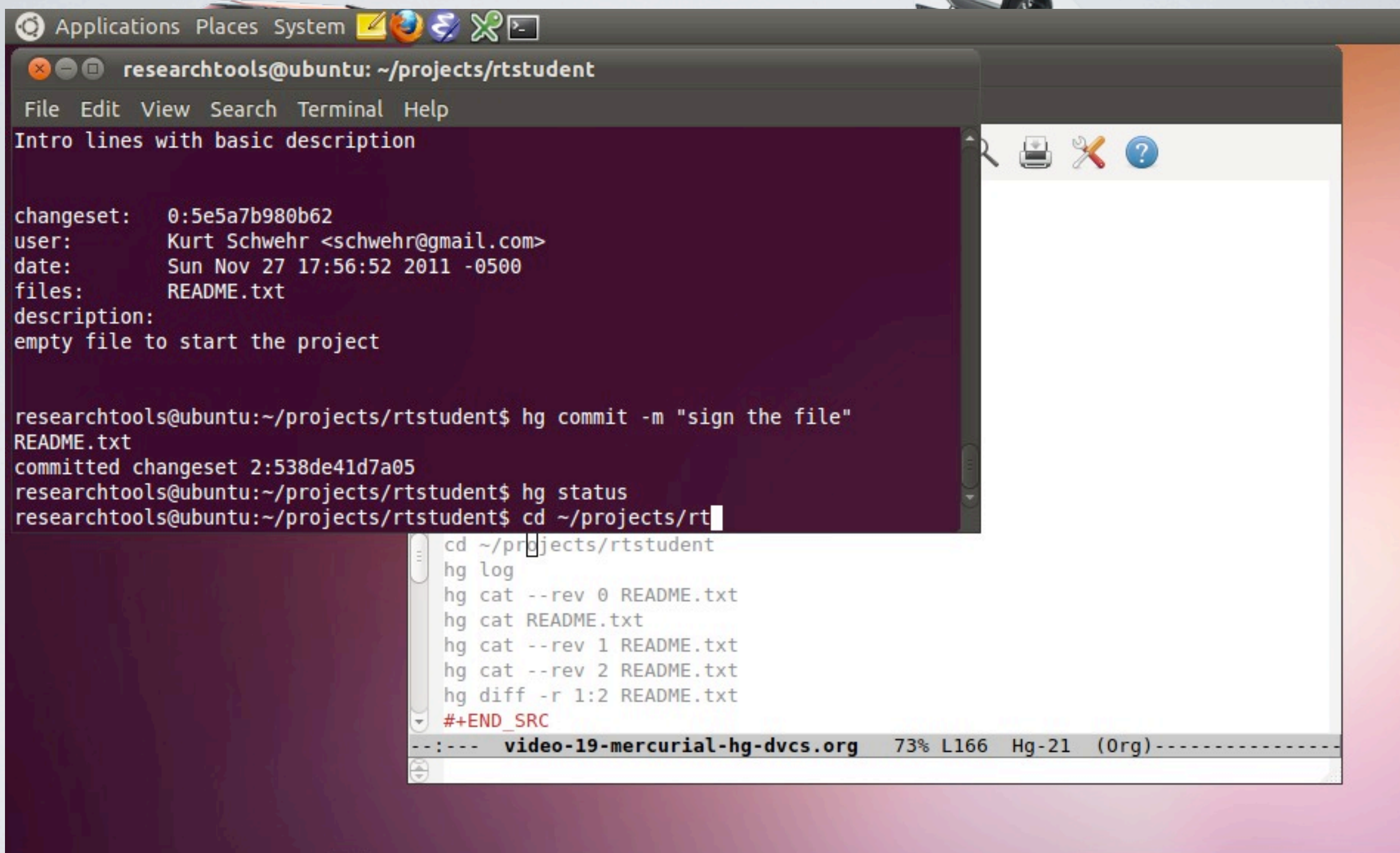
#+BEGIN\_SRC sh

---:--- video-19-mercurial-hg-dvcs.org 71% L155 Hg-21 (Org)-----

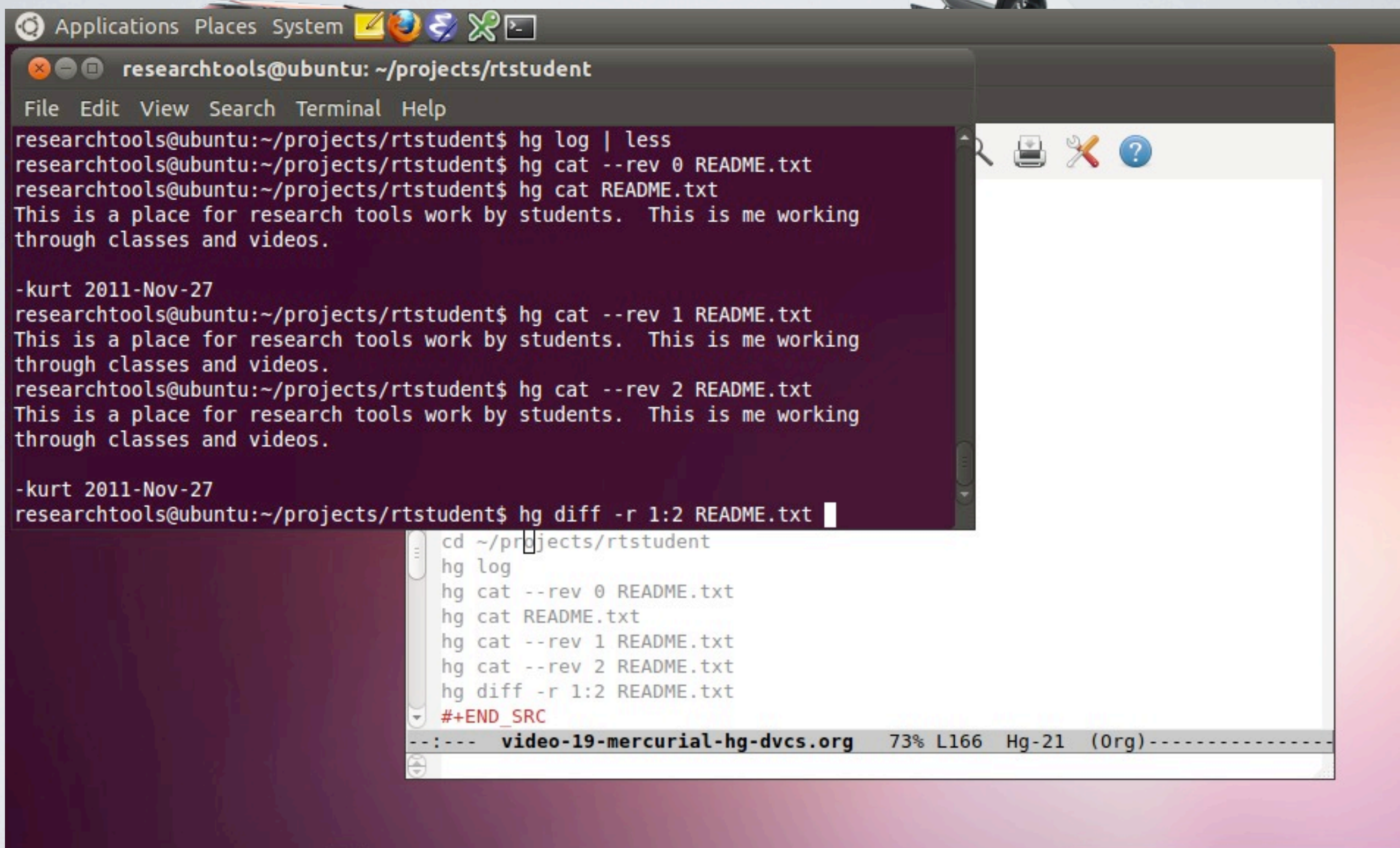












```
researchtools@ubuntu: ~/projects/rtstudent
File Edit View Search Terminal Help
researchtools@ubuntu:~/projects/rtstudent$ hg log | less
researchtools@ubuntu:~/projects/rtstudent$ hg cat --rev 0 README.txt
researchtools@ubuntu:~/projects/rtstudent$ hg cat README.txt
This is a place for research tools work by students. This is me working
through classes and videos.

-kurt 2011-Nov-27
researchtools@ubuntu:~/projects/rtstudent$ hg cat --rev 1 README.txt
This is a place for research tools work by students. This is me working
through classes and videos.
researchtools@ubuntu:~/projects/rtstudent$ hg cat --rev 2 README.txt
This is a place for research tools work by students. This is me working
through classes and videos.

-kurt 2011-Nov-27
researchtools@ubuntu:~/projects/rtstudent$ hg diff -r 1:2 README.txt
```

cd ~/projects/rtstudent  
hg log  
hg cat --rev 0 README.txt  
hg cat README.txt  
hg cat --rev 1 README.txt  
hg cat --rev 2 README.txt  
hg diff -r 1:2 README.txt  
#+END\_SRC

--:--- video-19-mercurial-hg-dvcs.org 73% L166 Hg-21 (Org)-----



Applications Places System

researchtools@ubuntu: ~/projects/rtstudent

File Edit View Search Terminal Help

```
+
+-kurt 2011-Nov-27
researchtools@ubuntu:~/projects/rtstudent$ ls -l
total 4
-rw-r--r-- 1 researchtools researchtools 120 2011-11-27 18:00 README.txt
researchtools@ubuntu:~/projects/rtstudent$ rm README.txt
rm: remove regular file `README.txt'? y
researchtools@ubuntu:~/projects/rtstudent$ hg status
! README.txt
researchtools@ubuntu:~/projects/rtstudent$ hg revert README.txt
reverting README.txt
researchtools@ubuntu:~/projects/rtstudent$ ls -l
total 4
-rw-r--r-- 1 researchtools researchtools 120 2011-11-27 18:03 README.txt
researchtools@ubuntu:~/projects/rtstudent$ less README.txt
```

```
#+BEGIN_SRC sh
cd ~/projects/rtstudent
rm README.txt
hg status
hg revert README.txt
hg status
#+END_SRC
```

video-19-mercurial-hg-dvcs.org 76% L178 Hg-21 (Org)

file, it is easy to  
changes, you can  
es.



