


Software Tools Include

- Subversion
 - source control
- Eclipse
 - Integrated Development Environment
- Debugger
 - graphical user interface for GDB inside of Eclipse
 -

This presentation will focus on Subversion

Subversion

- What is source code version control?
 - <http://svnbook.red-bean.com/>
 - allow multiple people to modify the same source code
 -  – allow one person to manage multiple versions of their source code
 - move from computer to computer to develop
 - track all changes

Repository



zeus.cs.pacificu.edu
/home/ryand/SVNROOT/

Store your source code on zeus
check it out and edit it on any
other machine and upload your
changes back to zeus.

Client



moe.cs.pacificu.edu
/home/ryand/workspace/HelloWorld

Client

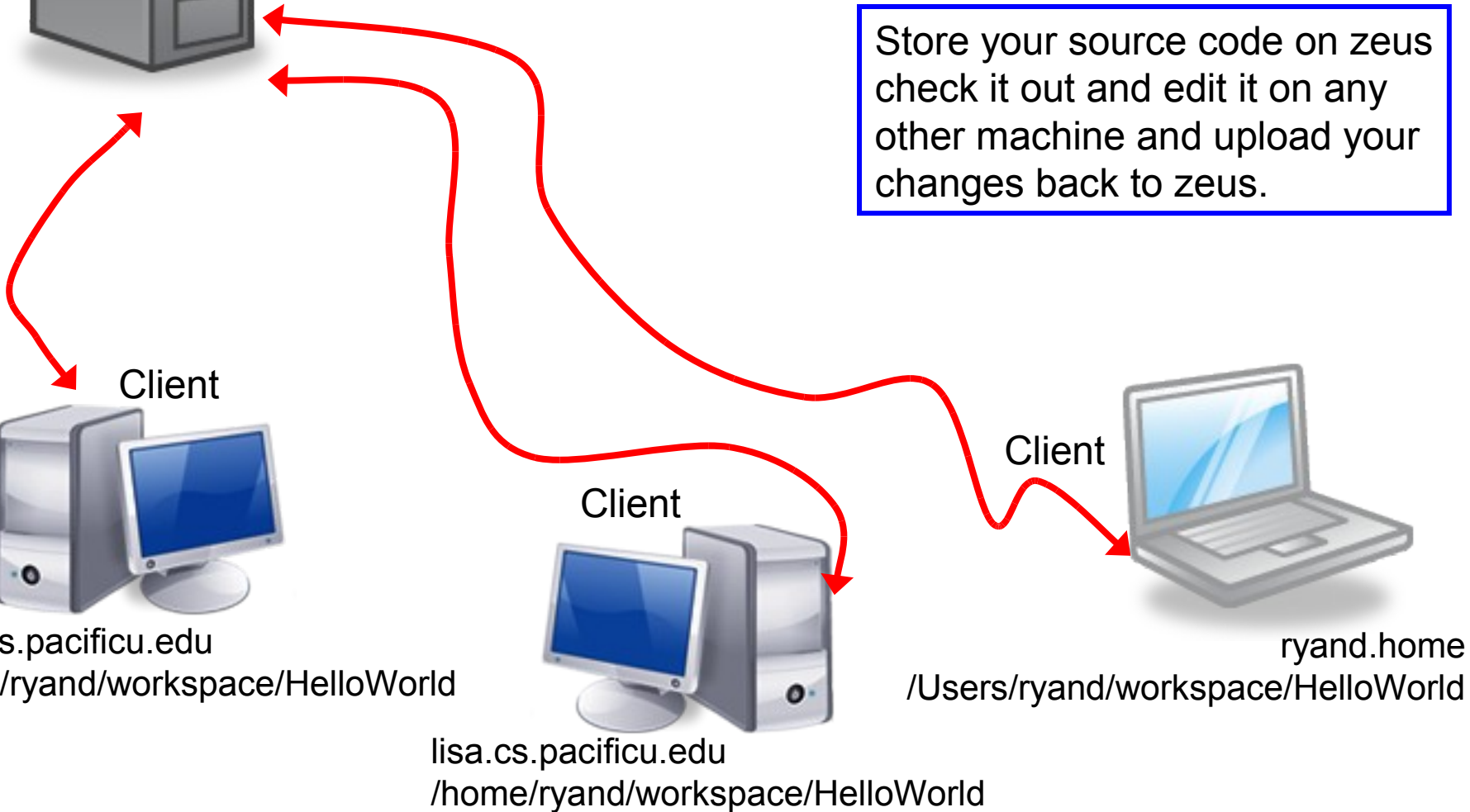


lisa.cs.pacificu.edu
/home/ryand/workspace/HelloWorld

Client



ryand.home
/Users/ryand/workspace/HelloWorld



Version Control

- Each change you make to the source code is a *revision* stored in the repository
 - can annotate your change with a note
 - why did I do that?
 - you can browse back through the repository to find old revisions of file
 - changed a data structure and it did not work
 - rewrote an algorithm and it got slower!
 - check out the old (working) revision from the repository

Hmmm....

- How often should I **update** and **commit**?
 - every major change
 - once every 15 minutes
 - right before you do something you think may be a bad idea
 - be sure to update and commit before you log off of a lab machine!

How to get this to work

- Create a repository on zeus
 - do this exactly once
 - use this one repository for all your projects
- login to zeus

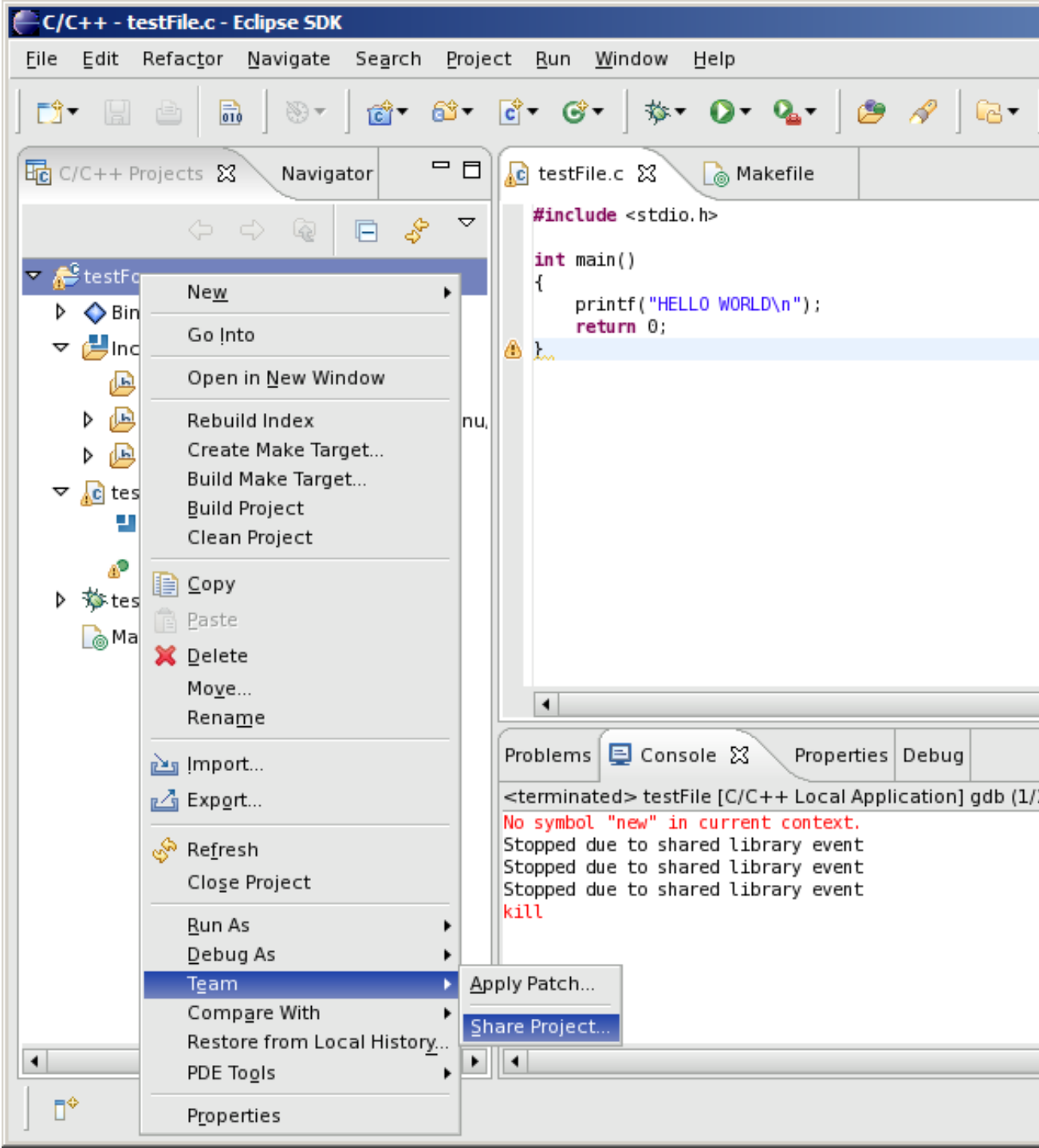
```
zeus$ svnadmin create /home/ryand/SVNROOT
```
- We will check out source code later...

Check in HelloWorld

Problem: Each of you have a HelloWorld project. Let's check this project into the repository.

How?

Right click on the HelloWorld project, then Team, then Share Project.



Share Project

Share Project

Select the repository plug-in that will be used to share the selected project.



Select a repository type:

 CVS

 SVN

Share Project

Enter Repository Location Information

Define the location and protocol required to connect with an existing SVN repository.



Location

Url:



< Back

Next >

Finish

Cancel

Share Project



Enter Folder Name

Select the name of the folder in the SVN repository.



Use project name as folder name

Use specified folder name:

Select...

URL:

svn+ssh://zeus.cs.pacificu.edu/home/ryand/SVNROOT/HelloWorld



< Back

Next >

Finish

Cancel

Share Project



Ready to Share Project

Select Finish to import the project into the SVN repository.



The wizard has all the information necessary to share your project with the SVN repository. When you click "Finish", the wizard will import your project into the repository and open the Commit dialog to allow you to commit your resources.

Edit the commit comment:

Initial import.|

Choose a previously entered comment:



< Back

Next >

Finish

Cancel

Important!!!

The Initial Import does not commit any code

How to do a code commit

To commit a project, right click on the project folder → Team → Commit

Add very descriptive comments for EACH code commit. You will not be sorry.

Enter SSH Credentials

Repository:

Username:

Authentication

Use password authentication

Use private key authentication

Password:

Key file:

Passphrase:

Port number:

Save information

Enter SVN Author Name

Repository:

Author Name

Save author name

Edit the commit comment:

Initial commit for the project

Choose a previously entered comment:

[Empty dropdown menu]

Checked resources will be committed to SVN version control.

	Resource	Text Status	Property Status
<input checked="" type="checkbox"/>	.cdtproject	unversioned	
<input checked="" type="checkbox"/>	.project	unversioned	
<input checked="" type="checkbox"/>	.settings	unversioned	
<input checked="" type="checkbox"/>	/.settings/org.eclipse.c	unversioned	
<input checked="" type="checkbox"/>	Makefile	unversioned	
<input checked="" type="checkbox"/>	testFile	unversioned	
<input checked="" type="checkbox"/>	testFile.c	unversioned	

Select All

Deselect All

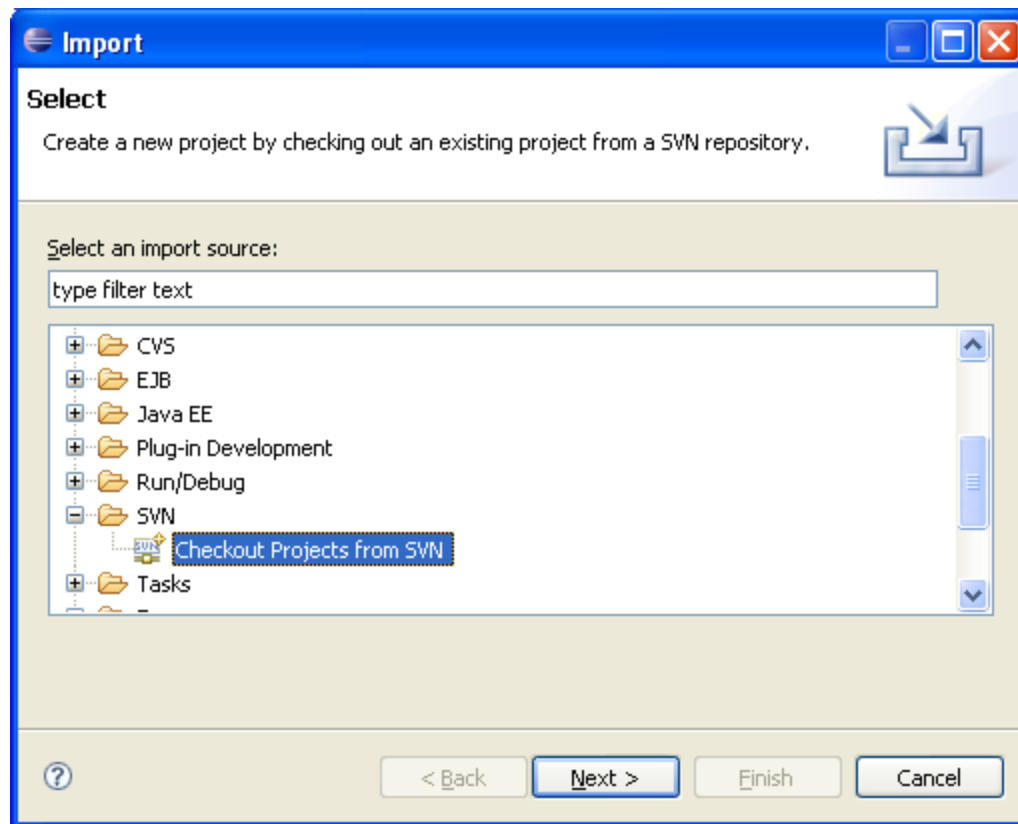
Keep locks

OK

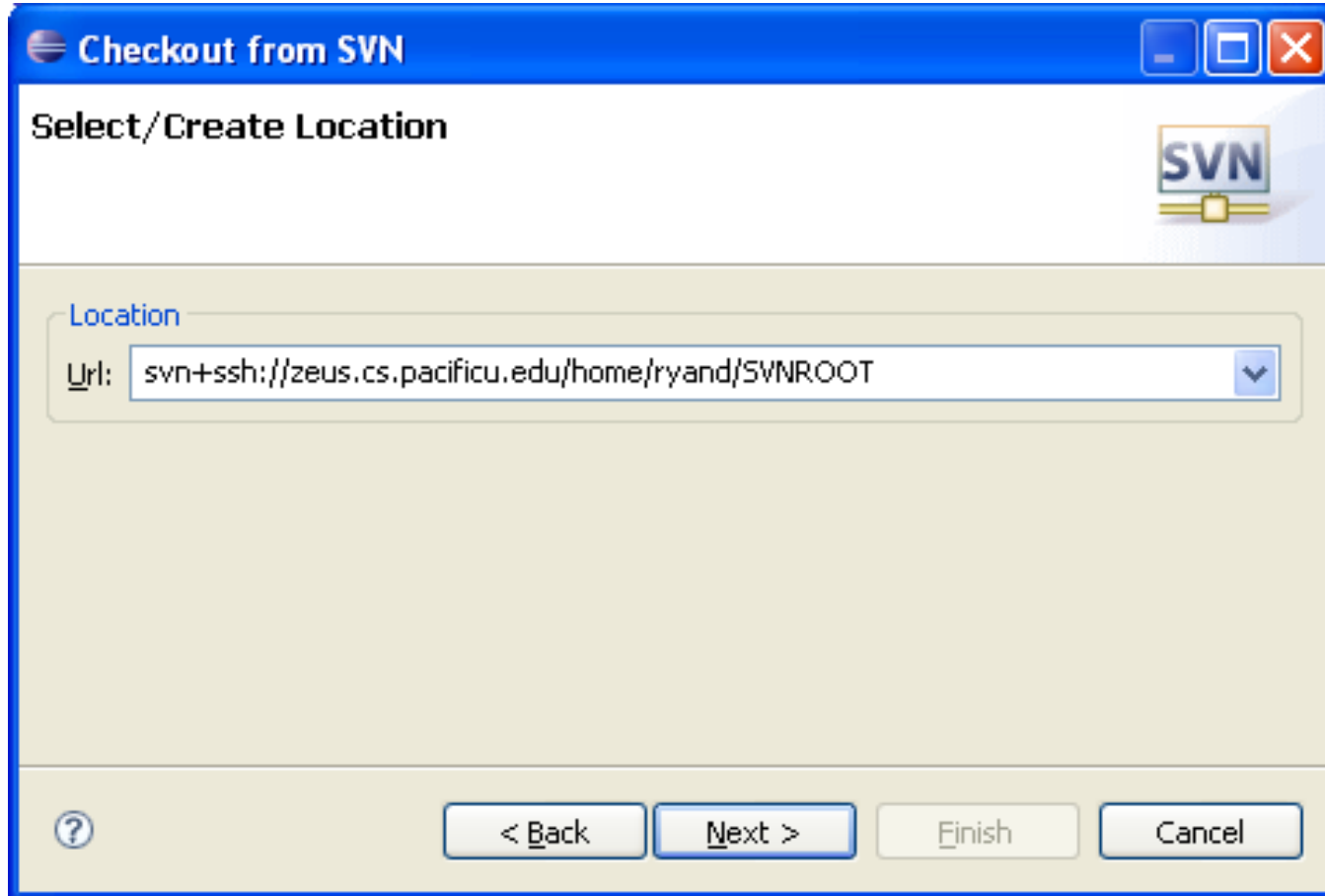
Cancel

How to checkout

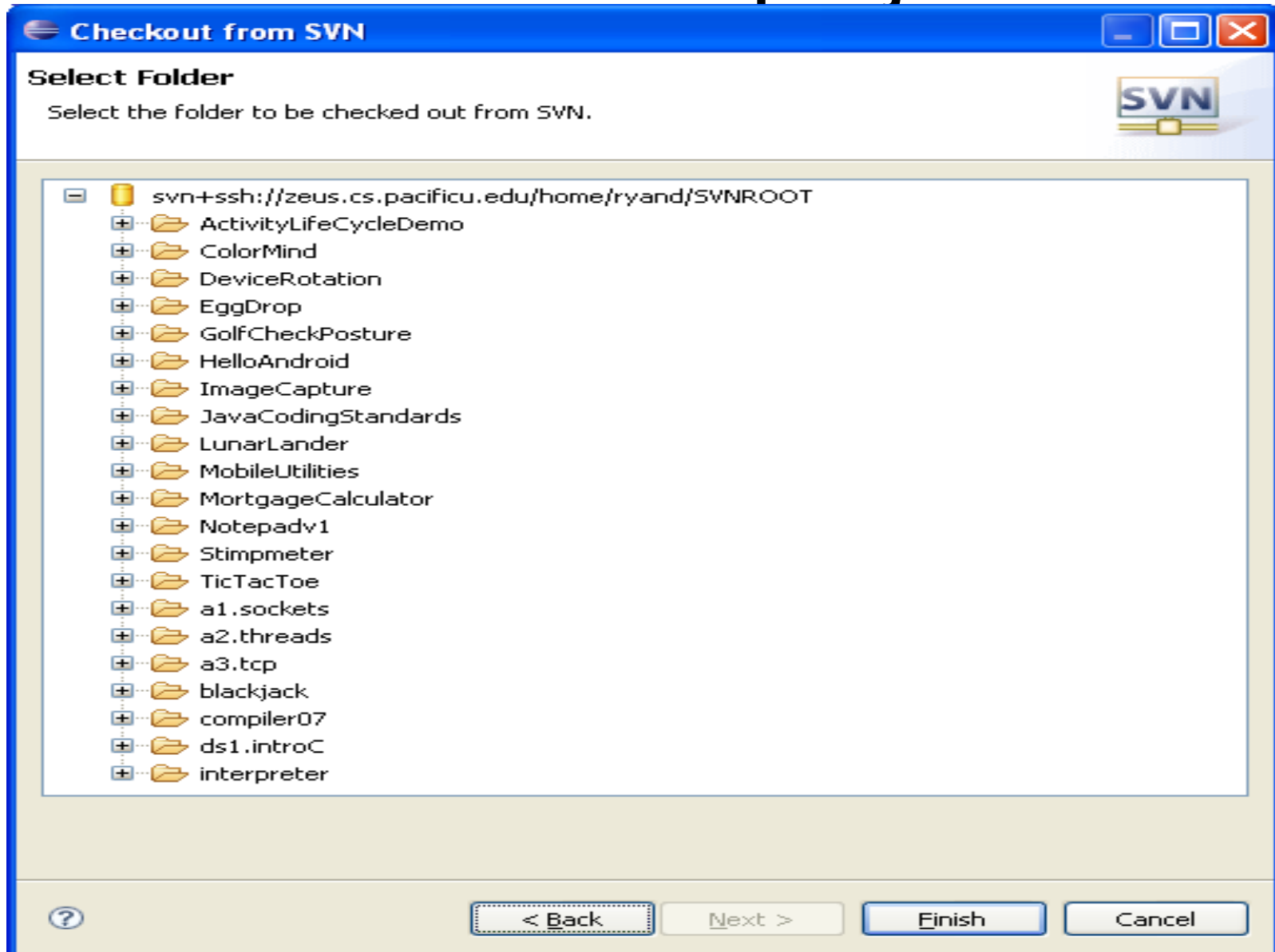
To checkout a project, File → Import, then



Finish checking out HelloWorld



Select the project



Using Subversion by hand

- Close down ALL windows on your machine
- Open a single shell prompt
- Create a folder called Junk and change into it
- Check out HelloWorld project in Junk directory
- Type

```
$ svn checkout svn+ssh://zeus/home/chadd/SVNROOT/HelloWorld
```
- Using a simple text editor from the Utilities folder, change Hello World to Hello followed by your name. Save the file contents.

Using Subversion by hand

- From a command line, find the Makefile and re-make the project and run it.
- Now commit the changes to the repository by hand.

```
$ svn commit HelloWorld
```

- In a new Window, open Eclipse and do an update on HelloWorld. Your changes should show up.

submit Script

- Must run on zeus!

```
zeus$ submit cs360s07 test.c  
SUCCESS: Receipt file: test.c.cs360s07.receipt  
DO NOT REMOVE OR ALTER THIS FILE IN ANY WAY!  
  
File transferred successfully!
```

- If anything goes wrong, the receipt file is your proof that you submitted the assignment!
 - don't try to forge the receipt ;-)