

RCS

C.L.U.E PRESENTATION

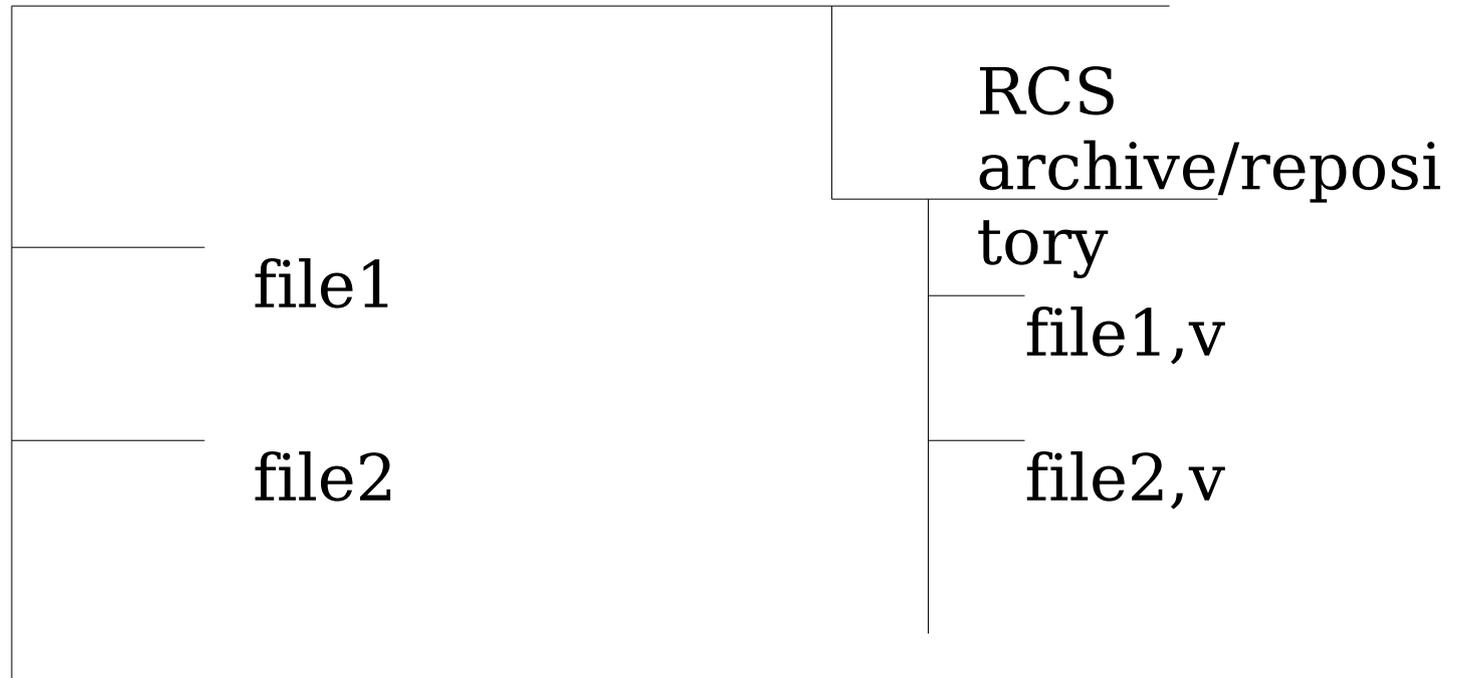
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REVISION CONTROL

- Track changes
- Restore prior versions
- Merge changes
- Maintain branches
- Keep logs

STRUCTURE

WORKING DIRECTORY



WORK FILES

CONCEPTS

- Working directory – holds program(s) being edited
- Repository – holds 'official' copies, changes, logs, etc. In libraries
- Check in – puts program into library in repository
- Check out – puts program into working directory from repository

CONCEPTS

- Log – description of changes
- Version – combination of release and revision number (and branch and revision numbers if any)
 - release.revision – 1.1
 - release.revision.branch.revision – 1.2.1.4
- Branch – version that is an off shoot from main line

CONCEPTS

- lock – only one person can edit
[unlocked - can not be edited]

COMMANDS

- rcs - administration commands
 - -i initialize library
 - -kb set up for binary files
 - -b sets default branch
 - -l lock or -u unlock
 - -on.n delete revision
- ci check in
 - -rn.n specify revision
 - -rn.n.n.n specify branch

COMMANDS

- -l leaves an editable copy in working directory
- -u leaves an uneditable copy in working directory

COMMANDS

- `co` – check out
 - `-rn.n` specify revision
 - `-l` with lock
 - `-jn.n:n.n` join (i.e. merge changes)
 - `-p` print to screen
- `rlog` – lists log
- `rcsdiff` – lists differences
- `rcsmerge` – combines changes

COMMANDS - MISC.

- `ci -sstring` set status
- `ci -nstring` set `release.version` name
- `co -sstring` retrieve by status
- `co -rstring` retrieve by name

CREATE

- `$ rcs -i hw.pl` OR
- `hw.pl`
- `print "hello world\n";`
- `$ ci hw.pl`
- create library file `RCS/hw.pl,y`
- perl program
- program code
- create &/or update library file
- version 1.1

Created file and archive

```
kad@kosta:~/cluercs/helloworld - Shell - Konsole
Session Edit View Bookmarks Settings Help
[kad@kosta helloworld]$ echo 'print "hello world \n";' >hw.pl
[kad@kosta helloworld]$ ci hw.pl
RCS/hw.pl,v <-- hw.pl
enter description, terminated with single '.' or end of file:
NOTE: This is NOT the log message!
>> start of hello world project
>> .
initial revision: 1.1
done
[kad@kosta helloworld]$ ls RCS
hw.pl,v
[kad@kosta helloworld]$ ls
RCS
[kad@kosta helloworld]$ █
```

FIRST REVISION

- `$ co -l hw.pl`
-
- `#!/usr/bin/perl`
- `print "hello ...`
- `$ ci -l hw.pl`
- check out `hw.pl` with lock
- new code
- code
- check in `hw.pl`; update library file `RCS/hw.pl,y`
- version 1.2

log

```
RCS file: RCS/hw.pl,v
Working file: hw.pl
head: 1.2
branch:
locks: strict
      kad: 1.2
access list:
symbolic names:
keyword substitution: kv
total revisions: 2;   selected revisions: 2
description:
start of hello world project
-----
revision 1.2   locked by: kad;
date: 2005/09/14 18:14:06;  author: kad;  state: Exp;  lines: 1 0
added shebang
-----
revision 1.1
date: 2005/09/14 18:08:41;  author: kad;  state: Exp;
Initial revision
=====
```

CREATE BRANCH

- `#!/usr/bin/perl`
`print "hello`
`print "who are ...`
`$name = <>;`
`print "hi $name`
- `$ ci -r1.2.1.1`
- updated code
- create branch & update library file
- version 1.2.1.1
- remove lock

Revise Main program

- `$ co -l hw.pl`
- `#!/usr/bin/perl`
`print "hello ...`
`print " I am bob`
- `$ ci -l hw.pl`
- check out rev 1.2
- revised main program
- update library file (check in)
- keep lock &hw.pl
- Version 1.3

show differences

```
$ rcsdiff -r1.3 -r1.2.1.1 hw.pl
```

```
2,3c2,5
```

```
< print "hello world \n";
```

```
< print "I am bob \n";
```

```
--
```

```
> print "Who are you? \n";
```

```
> $name=<>;
```

```
> print "hello $name \n";
```

Merge Differences

```
$ co -l -r1.3 hw.pl
```

```
$ rcsmerge -r1.2 -r1.2.1.1 hw.pl
```

OR

```
$ co -l -r1.3 -j1.2:1.2.1.1 hw.pl
```

OR

```
$ co -l -j1.2:1.2.1.1 hw.pl
```

Merged File

```
#!/usr/bin/perl
print "hello world \n";
<<<<<<< hw.pl
print "my name is Bob\n";
=====
print "who are you? ";
$name = <>;
print "hello $name \n";
>>>>>>> 1.2.1.1
```

After Merge

- edit out conflicts
- remove conflicts
- \$ ci -r2.1 hw.pl
- check in revised program as version 2.1

log

RCS file: RCS/hw.pl,v

Working file: hw.pl

head: 2.1

branch:

locks: strict

... deleted text ...

total revisions: 5; selected revisions: 5

description:

start of hello world project

revision 2.1

date: 2005/09/15 22:07:36; author: kad; state: Exp; lines:

+4 -0

production version

revision 1.3

date: 2005/09/14 19:02:49; author: kad; state: Exp;

lines: +1 -0

added my name

revision 1.2

date: 2005/09/14 18:14:06; author: kad; state: Exp;

lines: +1 -0

branches: 1.2.1;

added shebang

revision 1.1

date: 2005/09/14 18:08:41; author: kad; state: Exp;

Initial revision

revision 1.2.1.1

date: 2005/09/14 18:53:49; author: kad; state: Exp;

lines: +3 -0

started branch to get user input

=====

RESOURCES

- www.gnu.org/software/rcs/rcs.html
- www.cs.purdue.edu/homes/trinkle/RCS
- www.uvm.edu/~ashawley/rcs/rcs_handbook.html
- <http://freshmeat.net/projects/rcs/>

THE END