

# CVS - patch - diff

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December 02, 2009

# Agenda

- Version Control Systems
- Concurrent versions system - CVS
- CVS concepts and workflow
- Common CVS commands
- CVS features
- patch
- diff

# Version Control Systems (VCS)

## Why version control

Because human memory is poor!

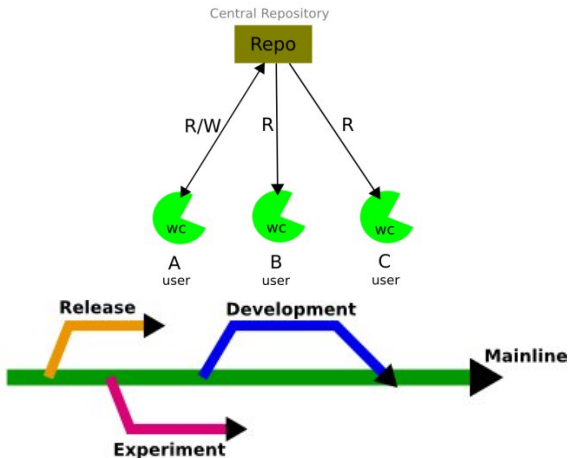
## Time machine

A Version control system is a time machine, which does not know anything about your future, but remembers everything about your past!

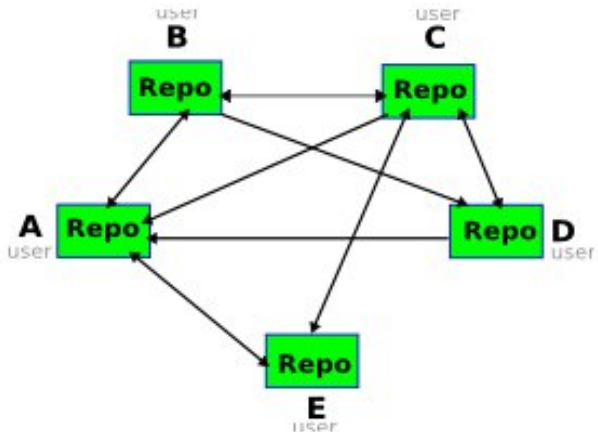
## VCS types

- Line Based/Centralized version control systems
- Distributed version control systems (DVCS)

# Line based/Centralized version control systems



# Distributed version control systems



# CVS concepts and workflow

## CVS concepts

- Repository
- Working Copy
- pull-modify-update-resolve-push
- Log - history

## CVS workflow

- Get a working copy
- Make changes
- Test the changes
- Check for new changes in the repository
- Commit them back to the repository
- Repeat the above steps till we have something to release
- Tag the release

# Common CVS commands

- `cvs [global options] command [command options] files`
- `checkout`
- `update`
- `commit`
- `log`
- `diff`
- `tag`

# CVS features

- cvsignore
- Keyword expansion
- Emails
- Locking
- Annotate

# patch

## Literal meaning in computing

A patch is a piece of software designed to fix problems with, or update a computer program or its supporting data.

- 'patch' is a program in \*NIX
- 'patch' understands text generated by 'diff' program and other programs such as svn, cvs, git, etc (only the diffs).

## Example

```
$ diff -u oldfile.txt newfile.txt > difference.diff
```

```
$ patch < difference.diff
```

```
$ patch -R < difference.diff
```

## diff

- 'diff' is a program in \*NIX
- It gives difference between two files
- A diff will have contextual text to apply correctly

### Example

Index: INSTALL

-----  
— INSTALL(revision 878492)

+++ INSTALL(revision 878493)

@@ -875,7 +875,7 @@

(gettext-0.14.1-dep.zip).

\* [Optional] An assembler, e.g., MASM32 from

<http://www.masm32.com/>

or nasm which is available from

- <http://www.kernel.org/pub/software/devel/nasm/binaries/win32/>

+ <http://www.nasm.us/pub/nasm/releasebuilds/?C=M;O=D>

E.2 Notes

# References

- CVS book - <http://cvsbook.red-bean.com/>
- Wikipedia - <http://en.wikipedia.org/>

# Thank You

Thank You!  
Questions please