# Version control systems (VCS)

## Definition:

Revision control, also known as version control and source control (and an aspect of software configuration management), is the management of changes to documents, computer programs, large web sites, and other collections of information. Changes are usually identified by a number or letter code, termed the "revision number", "revision level", or simply "revision". For example, an initial set of files is "revision 1". When the first change is made, the resulting set is "revision 2", and so on. Each revision is associated with a timestamp and the person making the change. Revisions can be compared, restored, and with some types of files, merged.

## Examples:

- SCCS (1972).
- RCS (1982).
- PVCS (1985)
- QVCS (1991)
- CVS (1986, 1990 in C)
- CVSNT(1998)
- QVCS Enterprise (1998)
- Subversion (2000)
- Software Change Manager(1970s)
- Panvalet (1970s)
- Endevor (1980s)
- DSEE (1984)
- Synergy (1990)
- ClearCase(1992)
- CMVC (1994)
- Visual SourceSafe (1994)
- Perforce (1995)
- StarTeam (1995)
- Integrity (2001)
- Surround SCM(2002)
- AccuRev SCM (2002)
- SourceAnywhere (2003)
- SourceGear Vault (2003)

- Team Foundation Server (2005)
- Rational Team Concert (2008)
- GNU arch (2001)
- Darcs (2002)
- DCVS (2002)
- ArX (2003)
- Monotone (2003)
- SVK (2003)
- Codeville (2005)
- Bazaar (2005)
- Git (2005)
- Mercurial (2005)
- Fossil (2007)
- Veracity (2010)
- TeamWare (1990s)
- Code Co-op (1997)
- BitKeeper(1998)
- Plastic SCM (2006)

## How it works:

→ Create an account in github.
→ Activate the account.
→ Download the GUI for the github (Optional).
→ Create a Repository.
→ Choose the Repository privacy settings and set it as Public or Private to enable the sharing.
→ Upload the file to the Repository.
→ Enjoy the shared file with friends and family.

## Why Version control systems (VCS)?

Engineering revision control developed from formalized processes based on tracking revisions of early blueprints or bluelines. This system of control implicitly allowed returning to any earlier state of the design, for cases in which an engineering dead-end was reached in the development of the design. A revision table was used to keep track of the changes made. Additionally, the modified areas of the drawing were highlighted using revision clouds.

Version control is also widespread in business and law. Indeed, "contract redline" and "legal blackline" are some of the earliest forms of revision control, and are still employed in business and law with varying degrees of sophistication. An entire industry has emerged to service the document revision control needs of business and other users, and some of the revision control technology employed in these circles is subtle, powerful, and innovative. The most sophisticated techniques are beginning to be used for the electronic tracking of changes to CAD files (see product data management), supplanting the "manual" electronic implementation of traditional revision control.