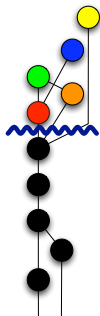


Team Developpement With Mercurial

April 29, 2011

Past vs present



Past: *immutable = liquid*

Present: *mutable = frozen*

History: *Past + present*

Why clean history:

easy to read

- Review process
- hg annotate

easy to process

- hg bisect
- hg annotate
- Continuous Integration tools

Changeset

- From valid state to valid state.
- Atomic
- As small as possible

clean history

Errare humanum est won't make it right.

- Iterative
- Collaborative
- Multiple task in Parallel

tool: Version control System (distributed)

Partial Solutions exist

rebase and histedit

- limited
- hard to share
- hard get older version

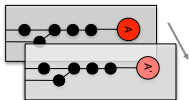
mq

- overlay: (unknown by core and extension)
- limited: (queue only)
- fragile: (no transaction, reject, .hg/patches consistency)
- break rules: (truncate revlog)

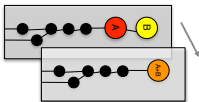
The full solution

- **DVCS** trace changes to **set of files**,
- Must trace changes to **changesets**.

A is updated as A'



A and B are merged as C



Need to snapshot the whole set of files, but there is no such thing as a consistent state for the set of heads of a tree.

Insert

characters: *abc* -> *aXbc*

lines: *abc* *abc*
ghi -> *def*
ghi

CHunks: *adding a chunk to a changeset*

changeset: *o C*
o C *|*
| *o B*
o B *|*
| -> *o D*
o A *|*
| *o A*
- *|*
 -

Delete

characters: *abc* -> *ac*

lines: *abc* *abc*
def -> *ghi*
ghi

CHunks: *remove chunk from a changeset*

changeset: *o C*
/ *o C*
o B */*
/ -> *o A*
o A */*
/ -
-

Modify

characters: *abc* -> *adc*

lines: *abc* *abc*

def -> *jkl*

ghi *ghi*

CHunks: *modify a chunk in a changeset*

changeset: *o C*

/ *o C*

o B */*

/ -> *o A*

o A */*

/ -

-

Copy

characters: *abc* -> *abac*

lines: *abc* *abc*

def -> *def*

abc

ghi *ghi*

CHunks: *N/A*

changeset: *o cherry pick of C*

|

o C *o | C*

| *| |*

| o B *| o B*

| | -> *| |*

o | A *o | A*

// *//*

Move

characters: *abc* -> *bac*

lines: *abc* *def*

def -> *abc*

ghi *ghi*

CHunks: *N/A*

changeset: *o C* *o C*

/ */*

o B *o A*

/ -> */*

o A *o B*

/ */*

- *-*

Join

characters: *N/A*

lines: *abc\n* *->* *abcdef\n*
 def\n *ghi\n*
 ghi\n

CHunks: *N/A*

changeset: *o C*
 / *o C*
 o B */*
 / *->* *o A+B*
 o A */*
 / *-*
 -

Split

characters: *N/A*

lines: *abcdef\n* -> *abc\n*
ghi\n *def\n*
 ghi\n

CHunks: *N/A*

changeset: *o C*
o C *|*
| *o B*
o A+B *|* ->
| *o A*
- *|*
 -

Move Boundary

characters: *N/A*

lines: *abc\n* → *abcd\n*
def\n *ef\n*
ghi\n *ghi\n*

CHunks: *N/A*

changeset: *o C* *o B+C*
/ */*
o A+B → *o A*
/ */*
- *-*

sum up

- Insert
- Delete
- Modify
- Copy
- Move

-
- Join
 - Split
 - Move Boundary

Proposed solution

- create new changeset as usual,
- New type of relation between changeset
 - update
 - delete
 - split
 - merge
 - (copy)

We can detect

- **obsolete** changeset
- **conflicting** changeset
- **Out of sync** changeset

Core change

It's Necessary to :

- Alter existing command to hide **obsolete** changeset,
- Add new command to recognise//solve **out-of-sync** and **conflicting** changeset,

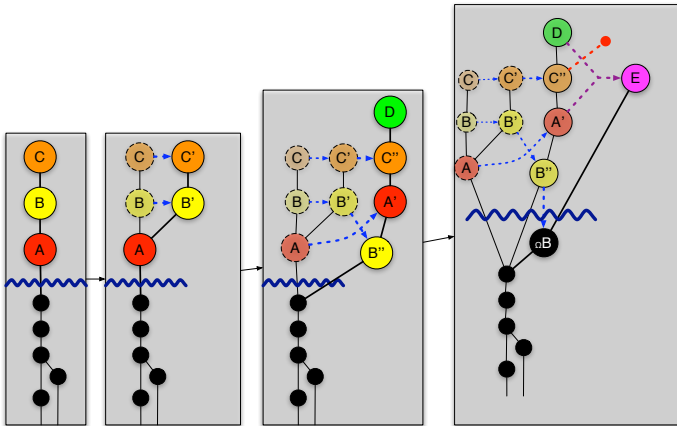
It's recommended to have:

- Light weight changeset,
- Garbage collection.

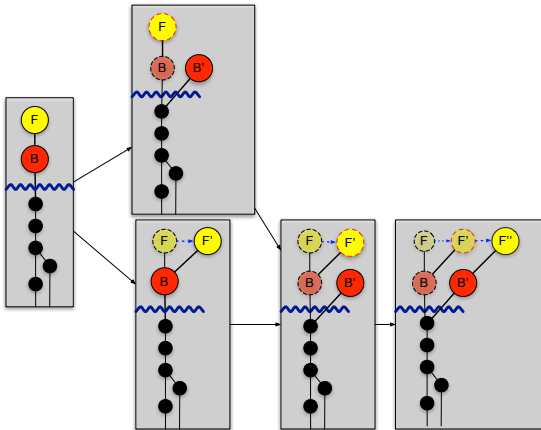
Extensions change

- Do not alter Frozen changeset
- Add relevant link on edit
- Define hooks to update they internal state

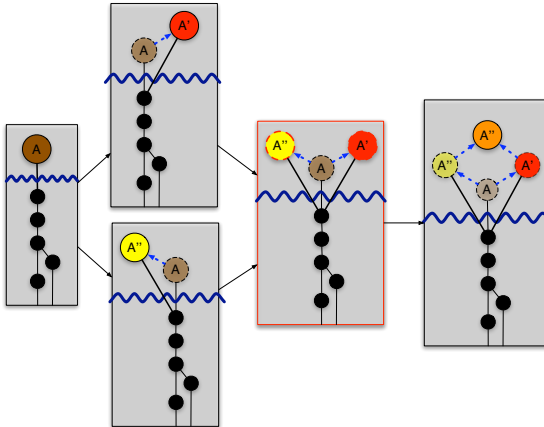
Simple iterative work



Feature that need a bug fix



Multiple people working on the same thing



People have works base on unwanted changeset

