

Iceberg:

Next generation source code versioning



Git is powerful and flexible, ... but extremely complex



How to migrate to git?



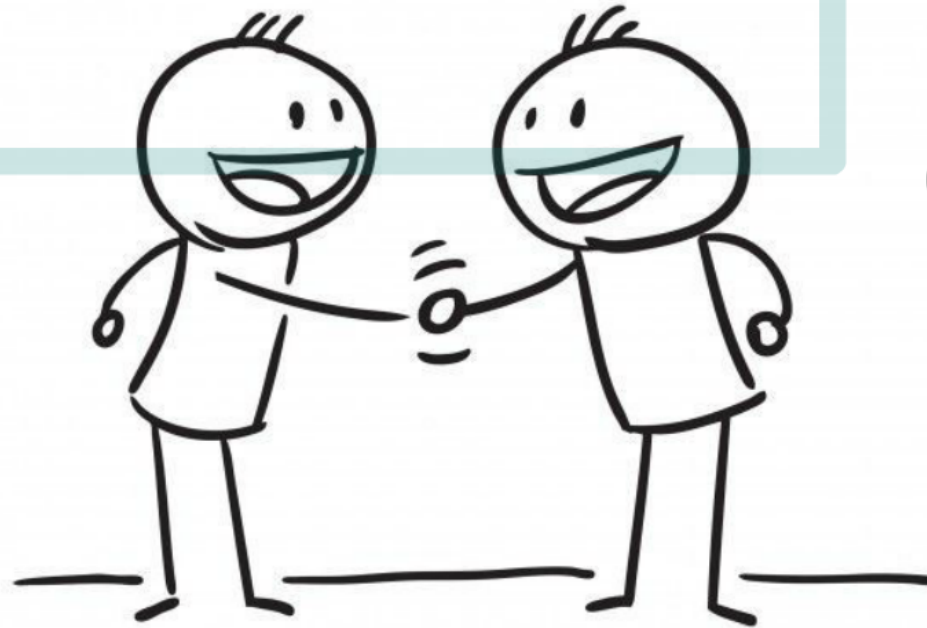
What about large projects?



Iceberg:

Next generation source
code versioning

What is Iceberg?



***Why do we need Git when
we have Monticello?***

?

?

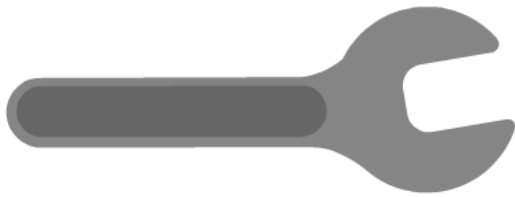
?

?

***Why do we need
another Git tool?***

?

Tools



**Manage your
repositories**



**Commit
Pull / Push**



**Branch
& Merge**

Architecture



A set of models:

- **Commits & versions**
- **Branches**
- **Code**
- **Changes**

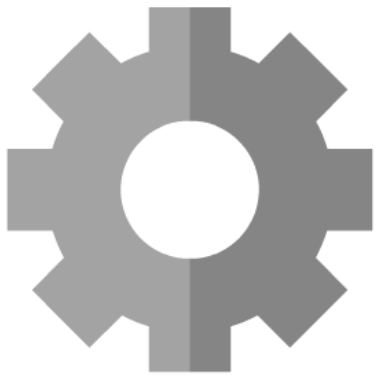
**... designed
for building
more tools on
top of them:**

**Other
*backends***

**Other file
formats**

**Code
analysis**

Other visual tools

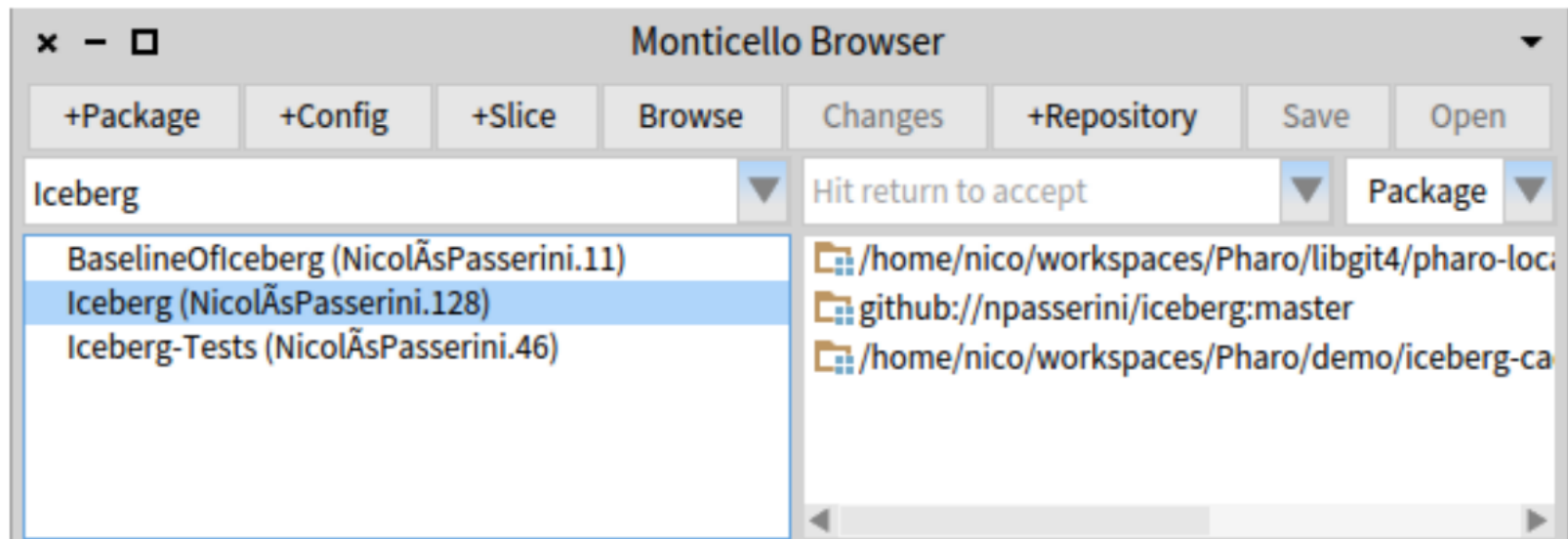


Vision

What do we need to *really* move forward?

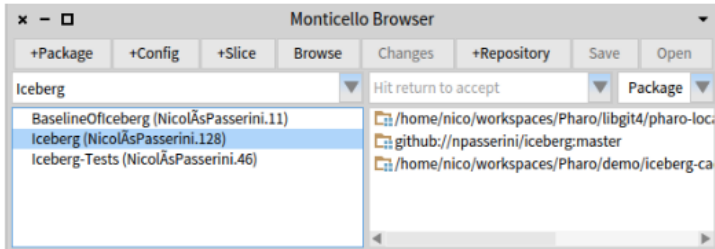
- 1 *Smart backwards compatibility*
- 2 *Smart integration with git*
- 3 *Be prepared for larger projects*

We ~~can~~ must be
backwards
compatible,



We ~~can~~ must be backwards compatible,

...but new repositories might not fit in our current versioning system



~~Package oriented~~

~~Sequential version numbering~~

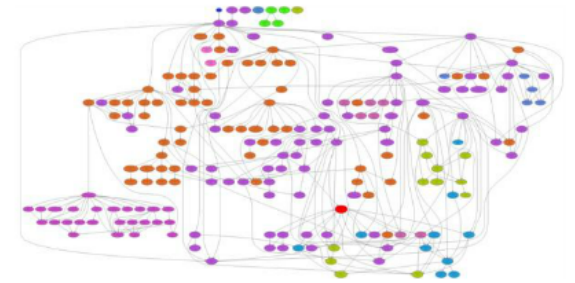
~~Branches based on naming conventions~~





**and our projects have
new requirements...**

**Multiple
interrelated
packages and
versions**



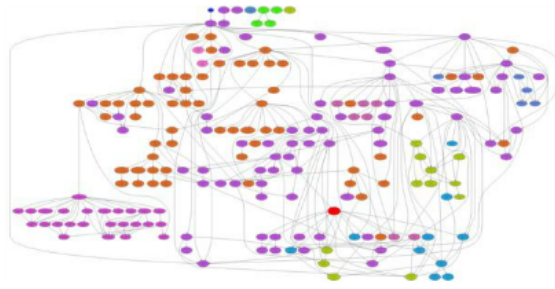
**Save more
resources than just
Smalltalk code**



**Useful tools
developed in other
technologies**



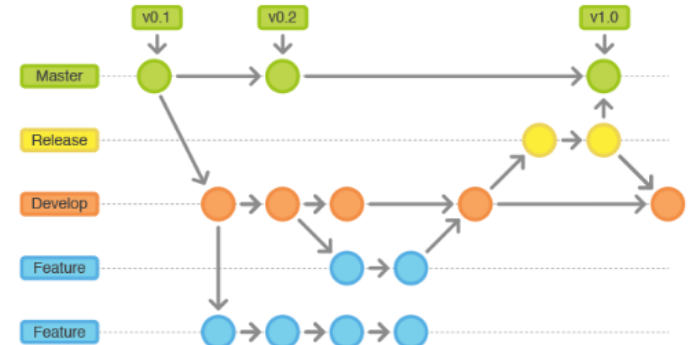
Multiple
interrelated
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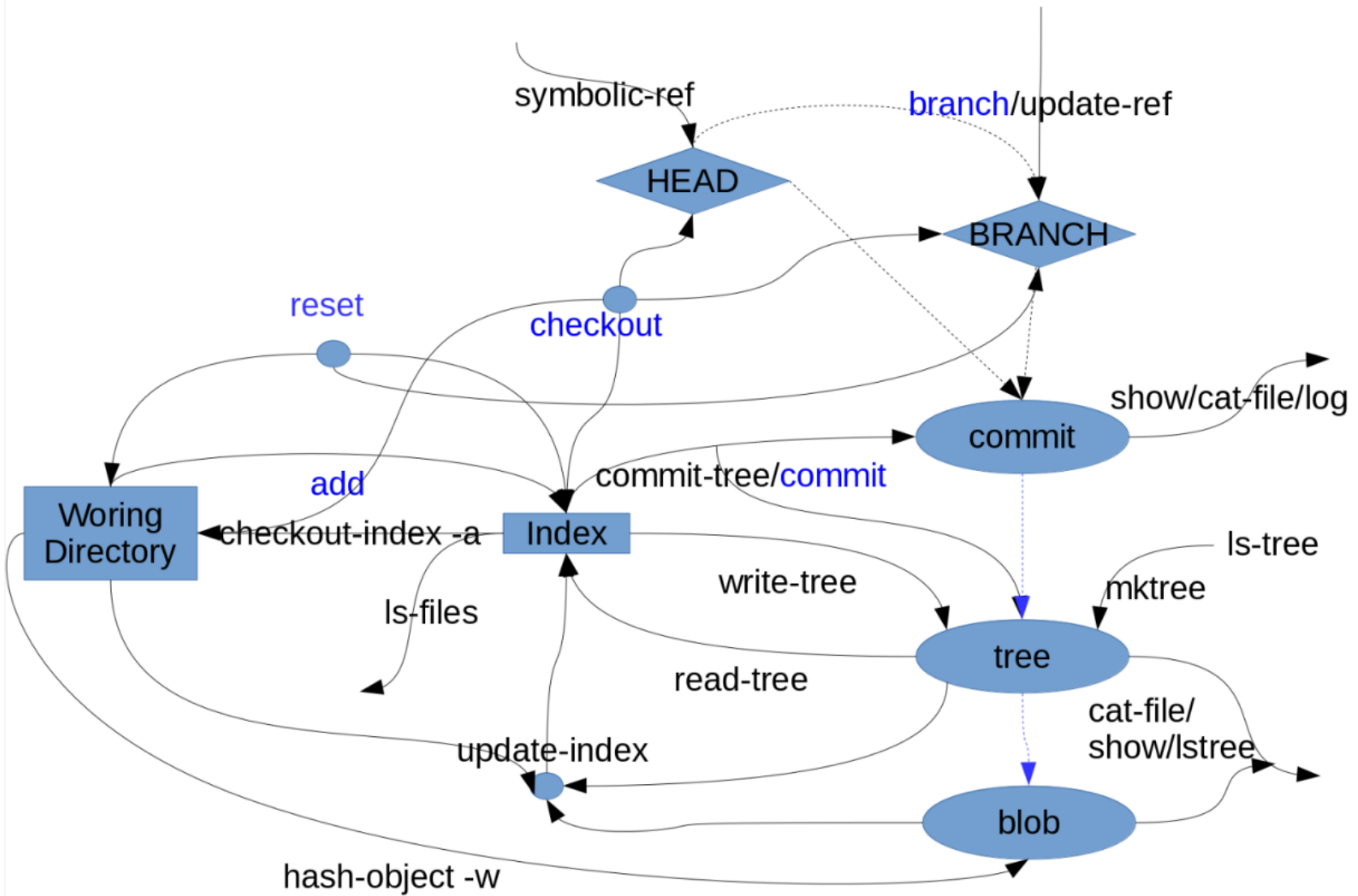
Save more
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Useful tools
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So we should be
able to use
new repositories
at their full power

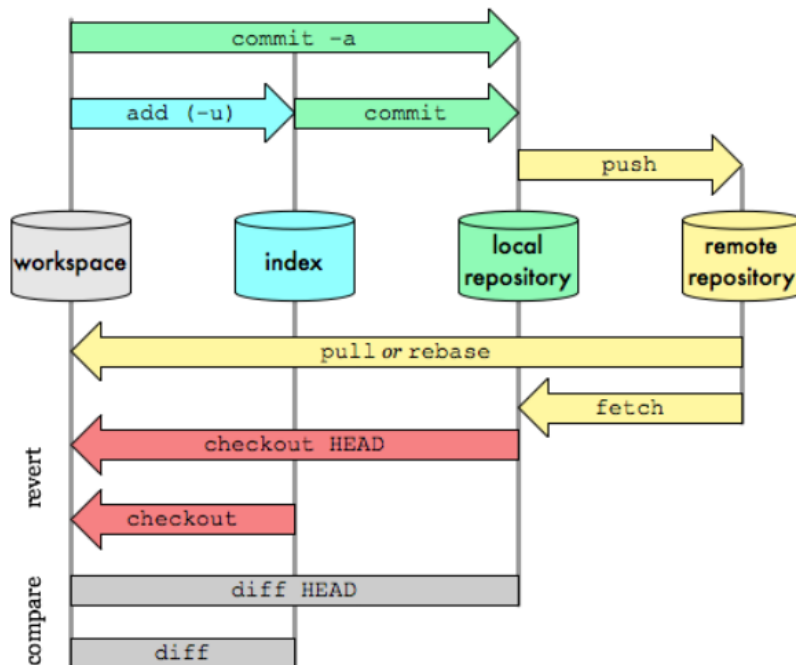


How to ~~survive~~ migrate to git?

How to ~~survive~~ migrate to git?

Three key ideas

1 Better abstractions



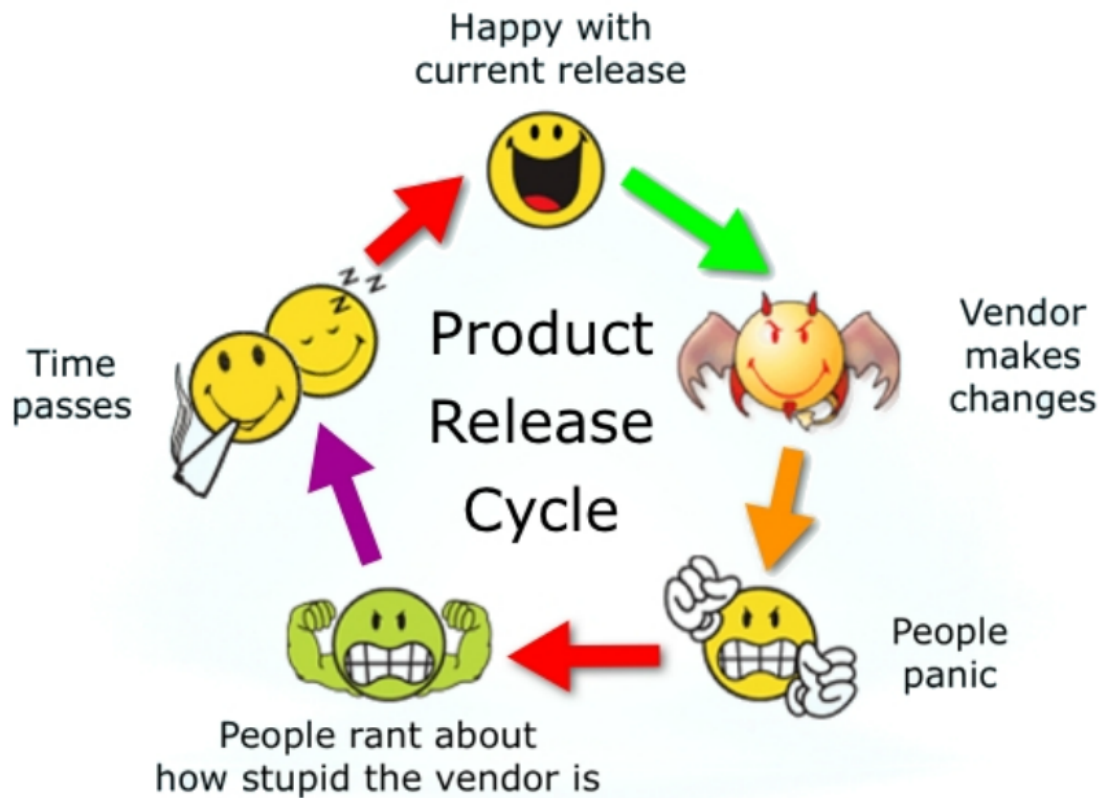
2 Avoid command line

```
iceberg@iceberg:~/Iceberg$ git pull
Updating 3166775..283dc7
error: Your local changes to the following files would be overwritten by merge:
  Iceberg package/iceberg-utilities-broker-class/instance/composeRepositoriesIn.st
Please, commit your changes or stash them before you can merge.
Aborting
iceberg@iceberg:~/Iceberg$ git stash
save: next version name should work for saved and non-saved packages Fixed Adding package to a repository
save: next version name should work for saved and non-saved packages
iceberg@iceberg:~/Iceberg$ git merge origin/master
Updating 3166775..283dc7
Fast-forward
 2 iceberg package/iceberg-utilities-broker-class/instance/composeRepositoriesIn.st | 2
 1 file changed, 1 insertion(+), 1 deletion(-)
iceberg@iceberg:~/Iceberg$ git stash pop
Auto-merging Iceberg package/iceberg-utilities-broker-class/instance/composeRepositoriesIn.st
CONFLICT (content): Merge conflict in Iceberg package/iceberg-utilities-broker-class/instance/composeRepositoriesIn.st
iceberg@iceberg:~/Iceberg$ git add Iceberg package
iceberg@iceberg:~/Iceberg$ git ci -m "Changed title"
[master 8094249] Changed title
 2 file changed, 3 insertions(+), 1 deletion(-)
iceberg@iceberg:~/Iceberg$ git push
Counting objects: 25, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (0/0), done.
Writing objects: 100% (0/0), 504 bytes | 0 bytes/s, done.
Total 0 (delta 0), reused 0 (delta 0)
To 311011ba6.com:iceberg@iceberg.git
 * 283dc7..8094249 master -> master
iceberg@iceberg:~/Iceberg$
```

3 Use bare repositories



What about large projects?



- 1 Manage dependencies
- 2 Continuous integration
- 3 Simplify Integration
- 4 Automatic merging
- 5 Empower eventual collaborators

Next Steps

ASAP!

Stabilization

GUI improvements

Full libgit2 integration

Modularization

Performance

Better diffs

Bootstrap support

Migration tools

Pull request integration

Better version naming

Other backends





Questions ?