

GHC development flow

walking guide for new contributors

Takenobu T.

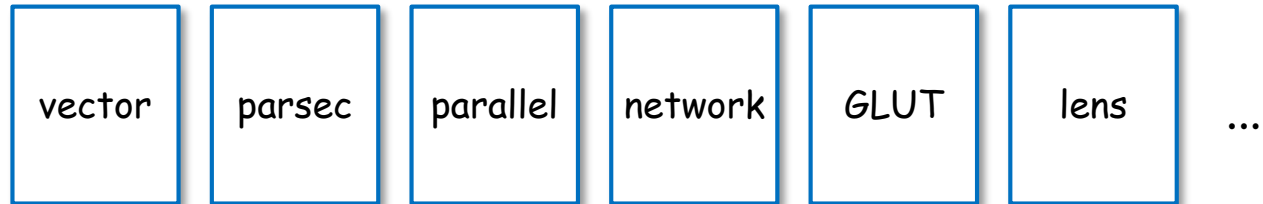
NOTE

- This is not an official document by the ghc development team.
- Please refer to the official documents in detail.
- This information is current as of Jan, 2017.

Overall relationship

Development layers

Haskell packages



GHC compiler
+ Core Libraries

GHC compiler

Compiler + Runtime system

Main ML : [ghc-devs at haskell.org](#) [1]
Steering by [GHC Committee](#) [2]

Haskell Core Libraries

base, array, process,...

Main ML : [libraries at haskell.org](#) [3]
Steering by [Core Libraries Committee](#) [4]

Haskell Language

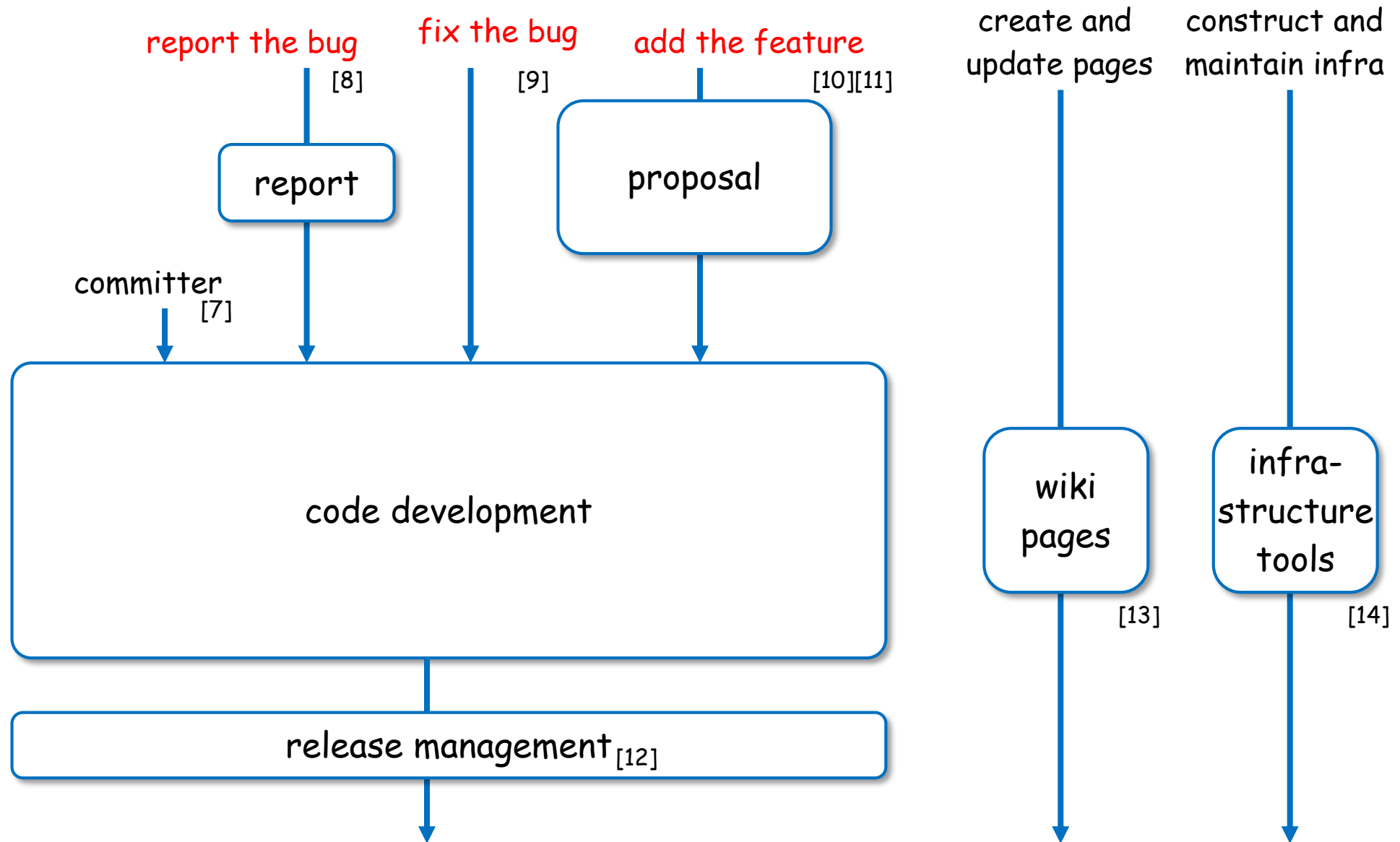
Language Report

Haskell 98, Haskell 2010,
Haskell 2020

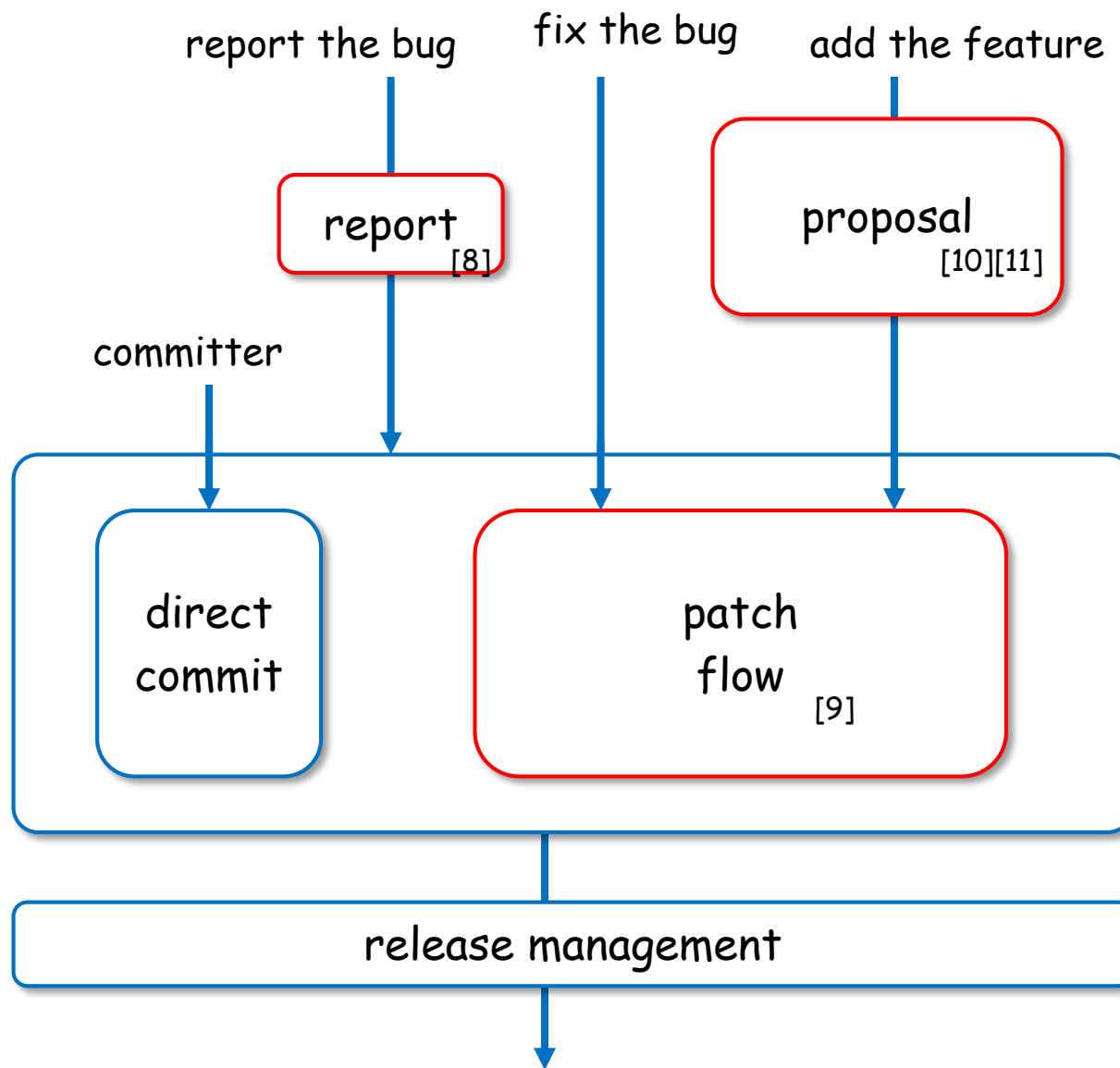
Main ML : [haskell-prime at haskell.org](#) [5]
Steering by [Haskell 2020 Committee](#) [6]

GHC compiler development flow

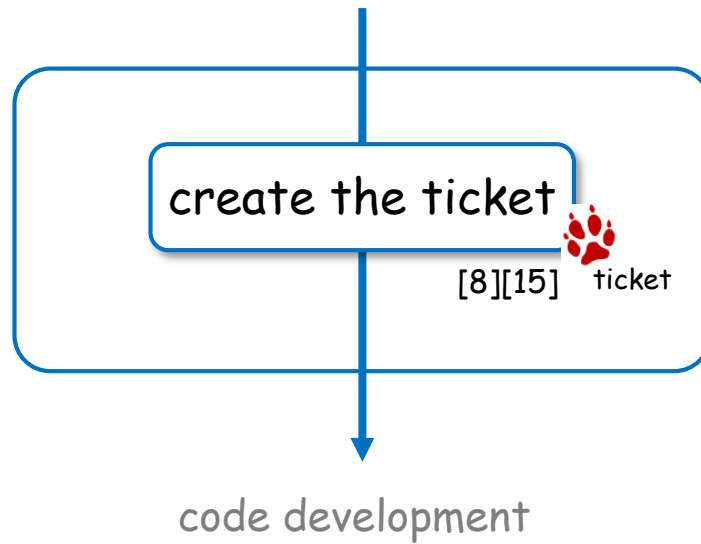
GHC compiler development flow (overview)



GHC compiler code development flow

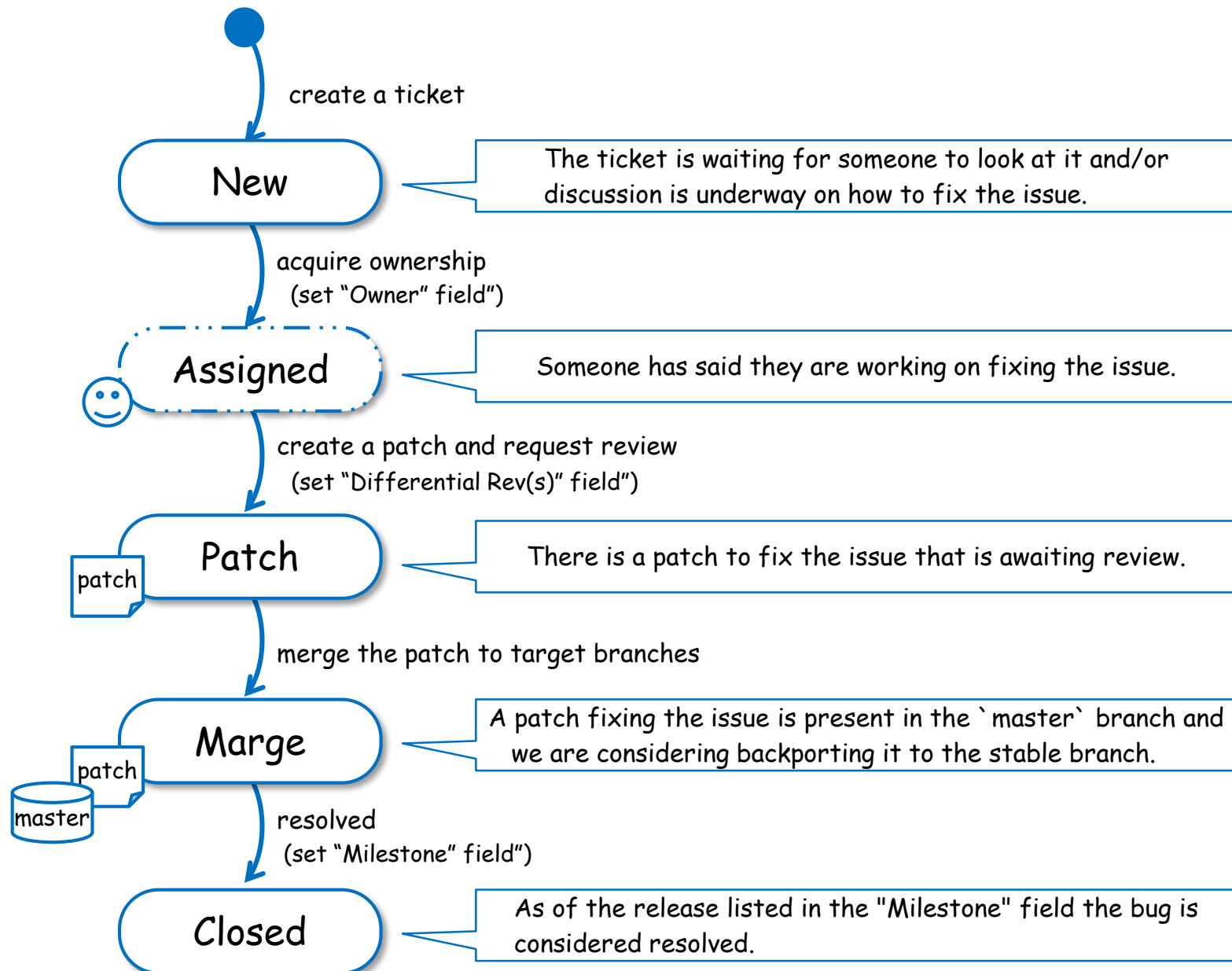


Report flow

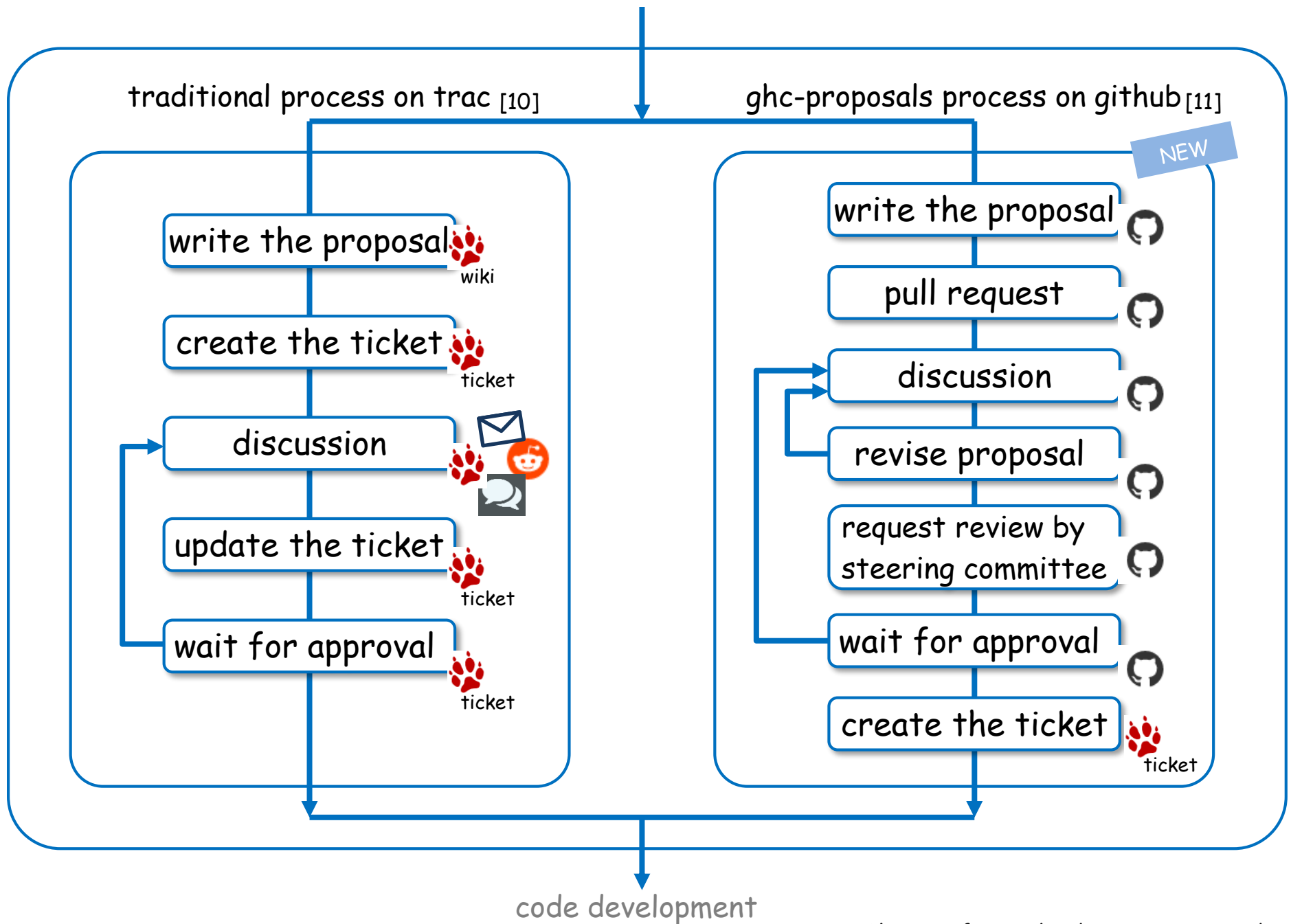


Please consult ghc-devs ML if you worry.

Various ticket states of trac [15]

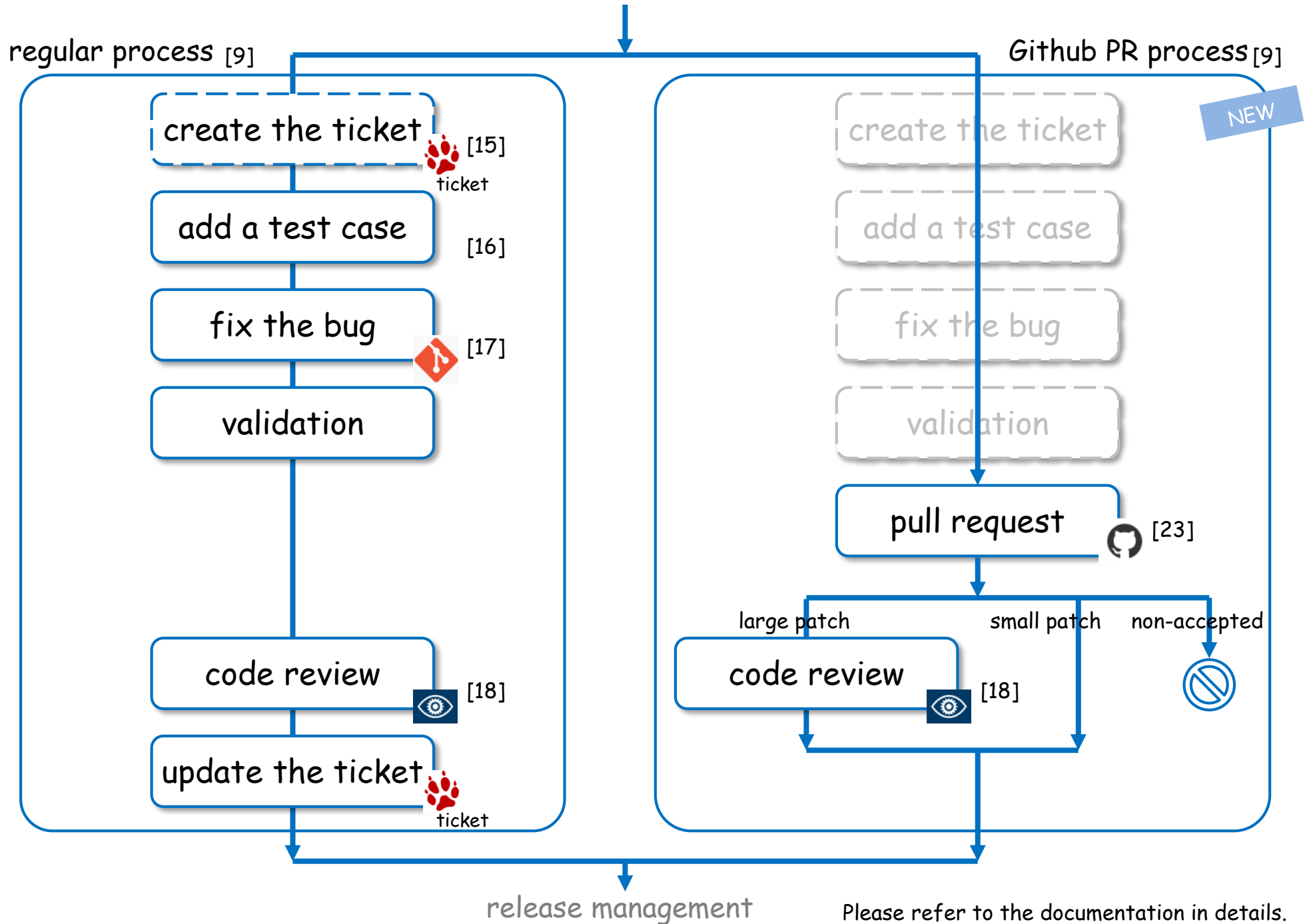


Proposal flow



Please refer to the documentation in details.

Patch flow

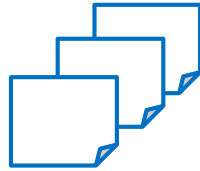


Document development flow

Various documents

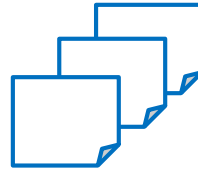
Haskell

Haskell wiki



wiki.haskell.org

Hackage documents

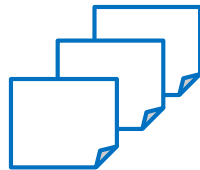


hackage.haskell.org

...

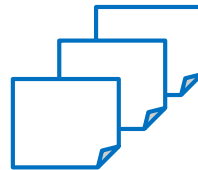
GHC

Trac wiki (GHC wiki)



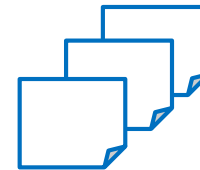
ghc.haskell.org/trac/ghc/wiki
[13]

The GHC users guide



[downloads.haskell.org/~ghc/
latest/docs/html/users_guide](http://downloads.haskell.org/~ghc/latest/docs/html/users_guide)
[29]
[32]

Core Libraries documents

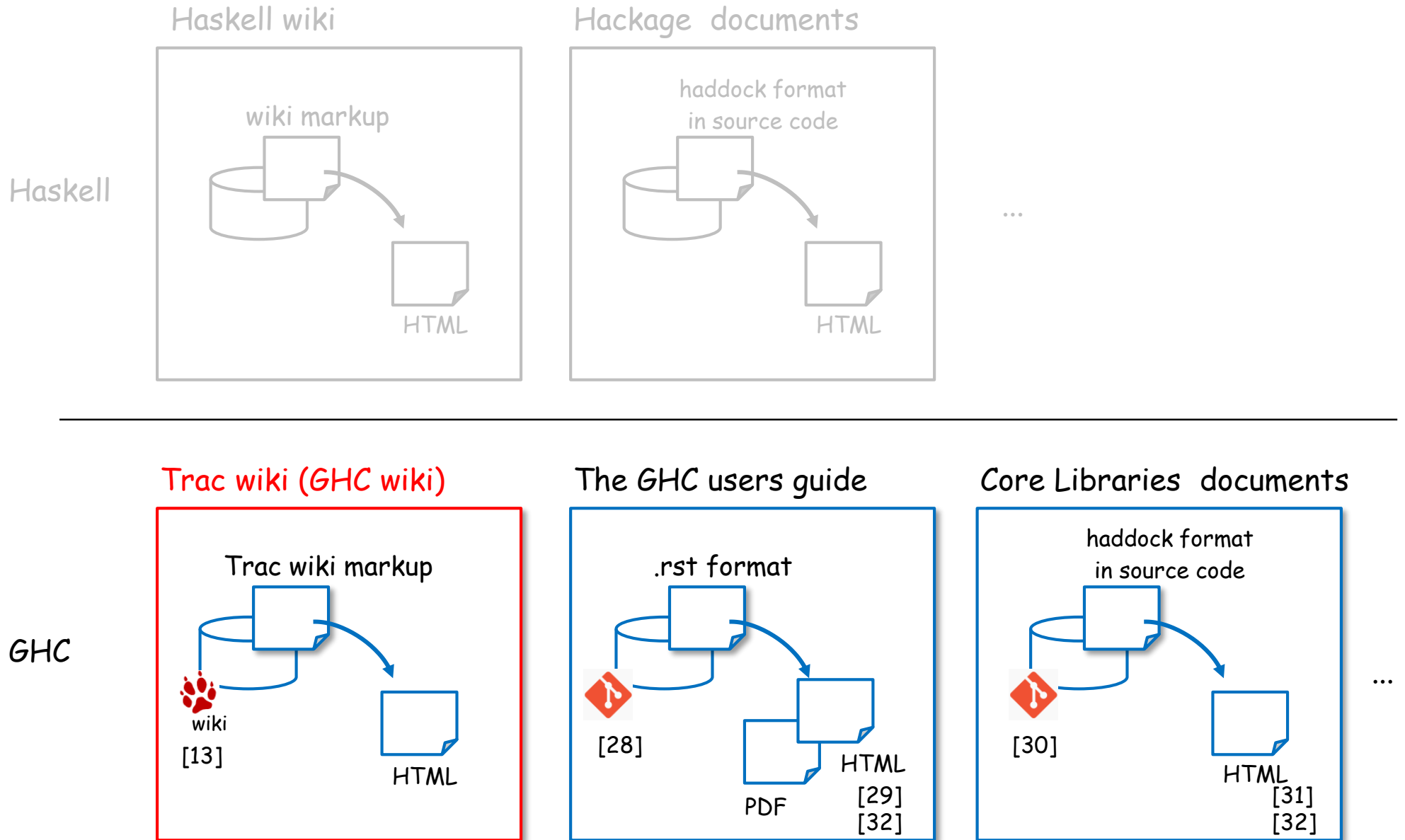


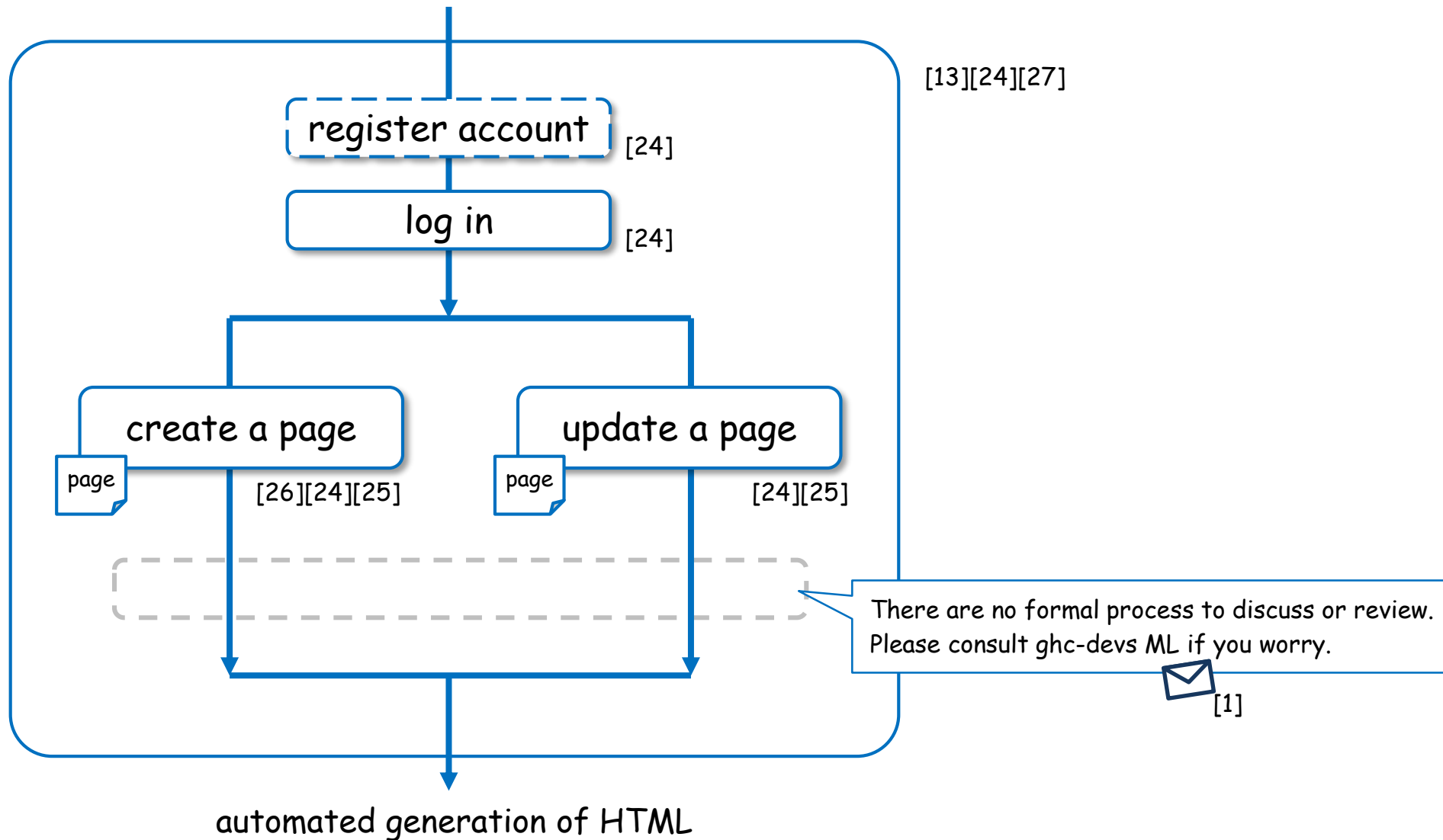
[downloads.haskell.org/~ghc/
latest/docs/html/libraries](http://downloads.haskell.org/~ghc/latest/docs/html/libraries)
[31]
[32]

...

about *GHC's* implementation
* how *GHC* works
* how to modify it

Document development of GHC





Infrastructure tools

Tool relation

communication

discussion

ghc-devs ML



[1]

information

Trac (wiki)



[13]

issue tracking,
discussion and PR

Github



[11]

issue tracking
and discussion

Trac (ticket)



[15]

code review

Phabricator



[18]

phabricator cli

Arcanist



[18]

automated build

Harbormaster



[19]

code management

code repository

Git



[17]

performance regression

Perf

[22]

automated build

Travis



[20]

various builds

GHC builder

[21]

References

References

- [1] ghc-devs -- GHC development discussion
<https://mail.haskell.org/mailman/listinfo/ghc-devs>
- [2] The GHC Steering Committee
<https://github.com/ghc-proposals/ghc-proposals/blob/master/steering-committee.rst>
- [3] Libraries -- Discussion about libraries for Haskell
<https://mail.haskell.org/cgi-bin/mailman/listinfo/libraries>
- [4] Core Libraries Committee
https://wiki.haskell.org/Core_Libraries_Committee
- [5] Haskell-prime -- Haskell' - A Haskell Standard Revision - discussion list
<https://mail.haskell.org/cgi-bin/mailman/listinfo/haskell-prime>
- [6] Welcome to Haskell'
<https://prime.haskell.org>
- [7] The Glasgow Haskell Team
<https://ghc.haskell.org/trac/ghc/wiki/TeamGHC>
- [8] Reporting bugs in GHC
<https://ghc.haskell.org/trac/ghc/wiki/ReportABug>
- [9] How to contribute a patch to GHC
<https://ghc.haskell.org/trac/ghc/wiki/WorkingConventions/FixingBugs>
- [10] How to contribute a new feature to GHC
<https://ghc.haskell.org/trac/ghc/wiki/WorkingConventions/AddingFeatures>

References

- [11] GHC Proposals
<https://github.com/ghc-proposals/ghc-proposals>
- [12] Release management and branches
<https://ghc.haskell.org/trac/ghc/wiki/WorkingConventions/Releases>
- [13] Welcome to the GHC Developer Wiki
<https://ghc.haskell.org/trac/ghc/wiki>
- [14] Developer's Infrastructure
<https://ghc.haskell.org/trac/ghc/wiki/Infrastructure>
- [15] The Bug Tracker
<https://ghc.haskell.org/trac/ghc/wiki/WorkingConventions/BugTracker>
- [16] Adding new test cases
<https://ghc.haskell.org/trac/ghc/wiki/Building/RunningTests/Adding>
- [17] Using git with GHC
<https://ghc.haskell.org/trac/ghc/wiki/WorkingConventions/Git>
- [18] Using Phabricator for GHC development
<https://ghc.haskell.org/trac/ghc/wiki/Phabricator>
- [19] Harbormaster: continuous integration & patch building for GHC
<https://ghc.haskell.org/trac/ghc/wiki/Phabricator/Harbormaster>
- [20] Travis
<https://ghc.haskell.org/trac/ghc/wiki/Travis>

References

- [21] The GHC Builder
<https://ghc.haskell.org/trac/ghc/wiki/Builder>
- [22] perf
<https://perf.haskell.org/ghc>
- [23] Accept PRs on GitHub
<https://github.com/ghc-proposals/ghc-proposals/pull/11>

References

- [24] Notes on Trac Wiki formatting
<https://ghc.haskell.org/trac/ghc/wiki/TracWikiMisc>
- [25] WikiFormatting
<https://ghc.haskell.org/trac/ghc/wiki/WikiFormatting>
- [26] Steps to Add a New Wiki Page
<https://ghc.haskell.org/trac/ghc/wiki/WikiNewPage>
- [27] The Trac Wiki System
<https://ghc.haskell.org/trac/ghc/wiki/TracWiki>
- [28] source:ghc/docs/users_guide
https://ghc.haskell.org/trac/ghc/browser/ghc/docs/users_guide
- [29] Glasgow Haskell Compiler Users Guide
https://downloads.haskell.org/~ghc/latest/docs/html/users_guide
- [30] source:ghc/libraries
<https://ghc.haskell.org/trac/ghc/browser/ghc/libraries>
- [31] Haskell Hierarchical Libraries
<https://downloads.haskell.org/~ghc/latest/docs/html/libraries>
- [32] How to contribute a patch to GHC
<https://ghc.haskell.org/trac/ghc/wiki/WorkingConventions/FixingBugs>

References

See also

- [33] Working on GHC
<https://ghc.haskell.org/trac/ghc/wiki/WorkingConventions>
- [34] Resources for newcomers to GHC
<https://ghc.haskell.org/trac/ghc/wiki/Newcomers>
- [35] Haskell :: Reddit
<https://www.reddit.com/r/haskell>
- [36] IRC Channels
<https://www.haskell.org/irc>
<http://ircbrowse.net/ghc>