Long-term, sustainable development

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Outline

- Introduction
- Style guide
- Package structure
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Introduction

- Avoid messing up people's work
- Move towards an environtment that ensures a long-term sustainable development
- Practices that wil be extended to other projects than common diagnostics

Style guide

- Google's R style guide

- Comment levels (commands to fold)

- Example before/after

```r
##############################################################################
CFU_colorbar<-function(brks, cols=NULL, vert=TRUE, subsampleg=1){
#============================================================================
#
#   Input arguments
#   ~~~~~~~~~~~~~~~~~~
#
if (is.null(cols) == T) {
  nlev=length(brks)-1
  cols=rainbow(nlev)
}else{
  if ( length(cols) != (length(brks)-1) ){
    stop("Inconsistent colour levels / list of colours")
  }
}
#
#   Plotting colorbar
#   ~~~~~~~~~~~~~~~~~~~~~
#
if (vert) {
  par(mar = c(1, 1, 1, 2.5), mgp = c(1, 1, 0), las = 1,cex=1.2)
  image(1,c(1:length(cols)),t(c(1:length(cols))), axes = F, col = cols, xlab = '', ylab = '')
  box()
  axis(4, at = seq(0.5, length(brks)-0.5, subsampleg), tick = T, labels = brks[seq(1,length(brks),subsampleg)] )
}else{
  par(mar = c(1.5, 1, 1, 1), mgp = c(1.5, 0.3, 0), las = 1, cex = 1.2)
  image(1:length(cols),1, t(t(1:length(cols))), axes = F, col = cols,xlab = '', ylab = '')
  box()
  axis(1, at = seq(0.5, length(brks)-0.5, subsampleg), labels = brks[seq(1,length(brks),subsampleg)])
}


}
#
```

```r
ColorBar <- function(levels.list, colors.list = NULL, vertical = TRUE,
                     subsample.g = 1) {
  # Creates a horizontal or vertical colorbar to introduce in
  # multipanels
  #
  # Args:
  #   levels.list: list of levels
  #   colors.list: list of colorurs, optional
  #   vertical: TRUE/FALSE for vertical/horizontal colorbar
  #   subsample.g: subsampling factor of the interval between ticks on
  #                colorbar
  #
  # Returns:
  #   This function returns nothing

  #  Input arguments
  # ~~~~~~~~~~~~~~~~~~~
  # We read and check the input arguments.
  if (is.null(colors.list) == T) {
    n.levels <- length(levels.list) - 1
    colors.list <- rainbow(n.levels)
  }
  else {
    if (length(colors.list) != (length(levels.list) - 1)) {
      stop("Inconsistent colour levels / list of colours")
    }
  }
```

```r
#  Plotting colorbar
# ~~~~~~~~~~~~~~~~~~~~~
# We plot the colorbar, either vertically or horizontally by setting
# the appropriate graphical parameters, plotting the data and finally
# the axes.
## Vertical plot case
if (vertical) {
  par(mar = c(1, 1, 1, 2.5), mgp = c(1, 1, 0), las = 1, cex = 1.2)
  ## The first parameter of image() expects a sequence, not a vector.
  image(1, c(1:length(colors.list)),t(c(1:length(colors.list))),
        axes = F, col = colors.list, xlab = '', ylab = '')
  box()  ## Draws a box around the plot
  axis(4, at = seq(0.5, length(levels.list) - 0.5, subsample.g),
       tick = T, labels = levels.list[seq(1, length(levels.list),
       subsample.g)])
}
## Horizontal plot case
else {
  par(mar = c(1.5, 1, 1, 1), mgp = c(1.5, 0.3, 0), las = 1, cex = 1.2)
  image(1:length(colors.list),1, t(t(1:length(colors.list))),
        axes = F, col = colors.list, xlab = '', ylab = '')
  box()
  axis(1, at = seq(0.5, length(levels.list) - 0.5, subsample.g),
       labels = levels.list[seq(1, length(levels.list), subsample.g)])
}
}
```
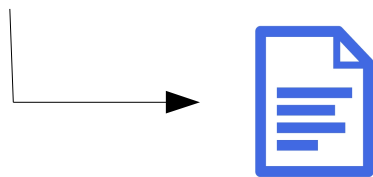
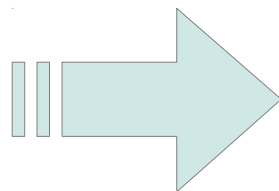# Style guide

- Blacklisting of rules
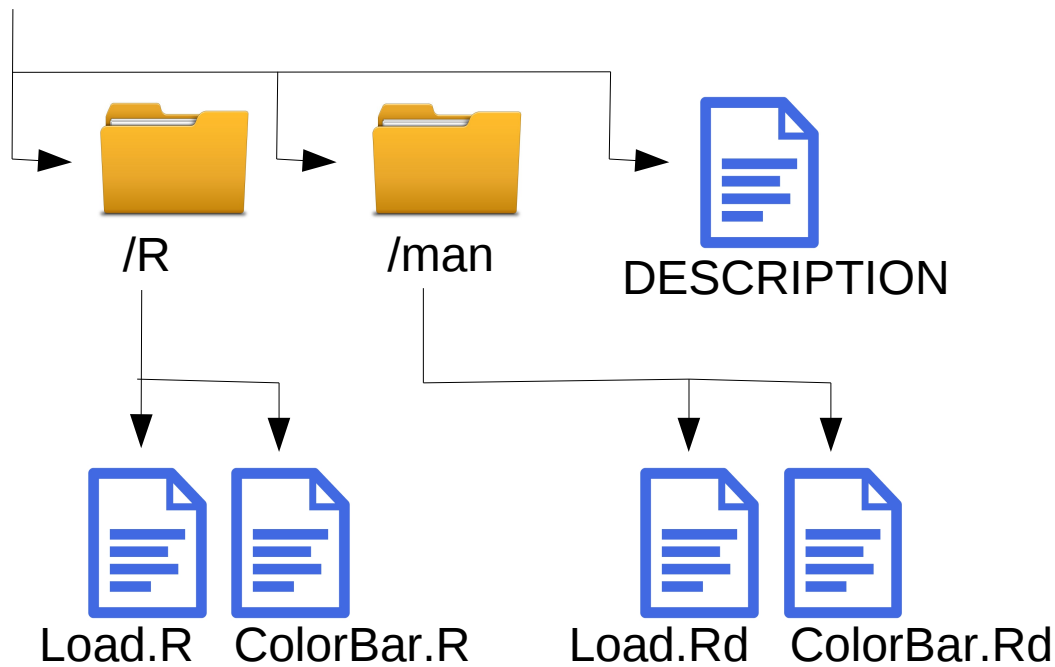
Package structure

- Folder layout changes

/cfutools/diagnostics

common_diagnostics.txt

/cfutools/diagnostics
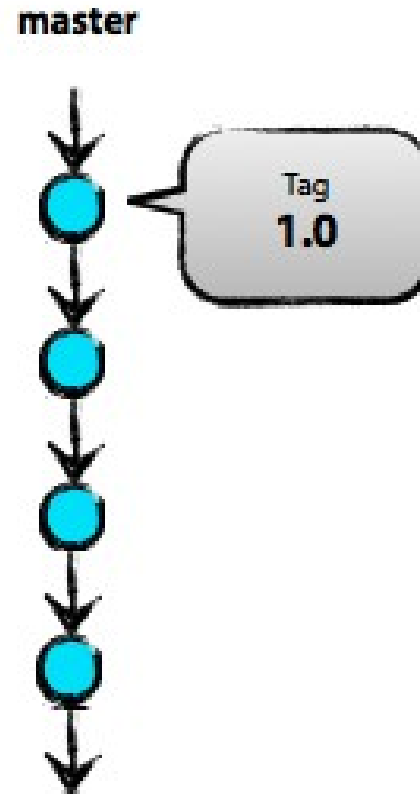
/R   /man   DESCRIPTION

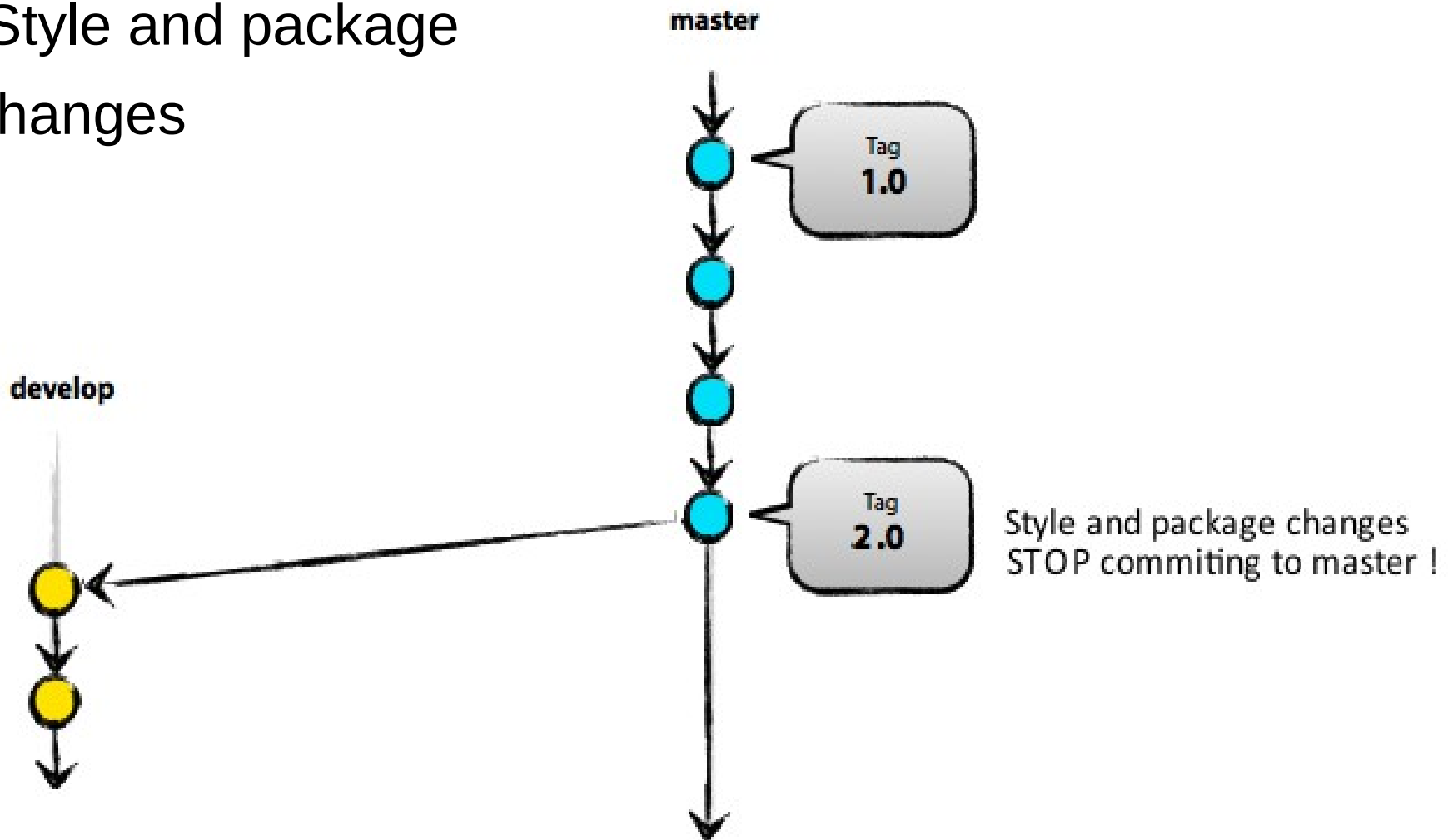Load.R   ColorBar.R   Load.Rd   ColorBar.Rd

GIT scheme

- Currently
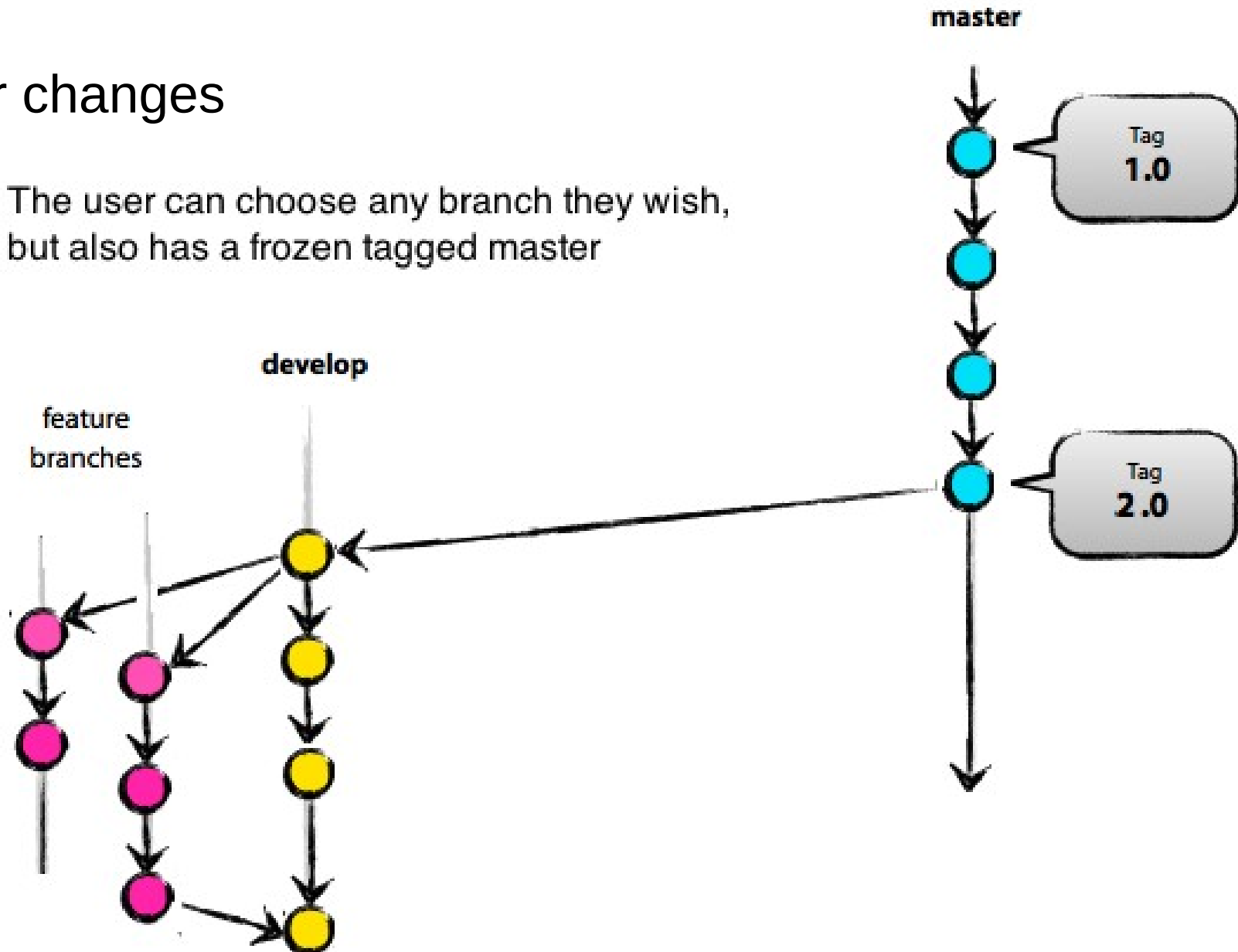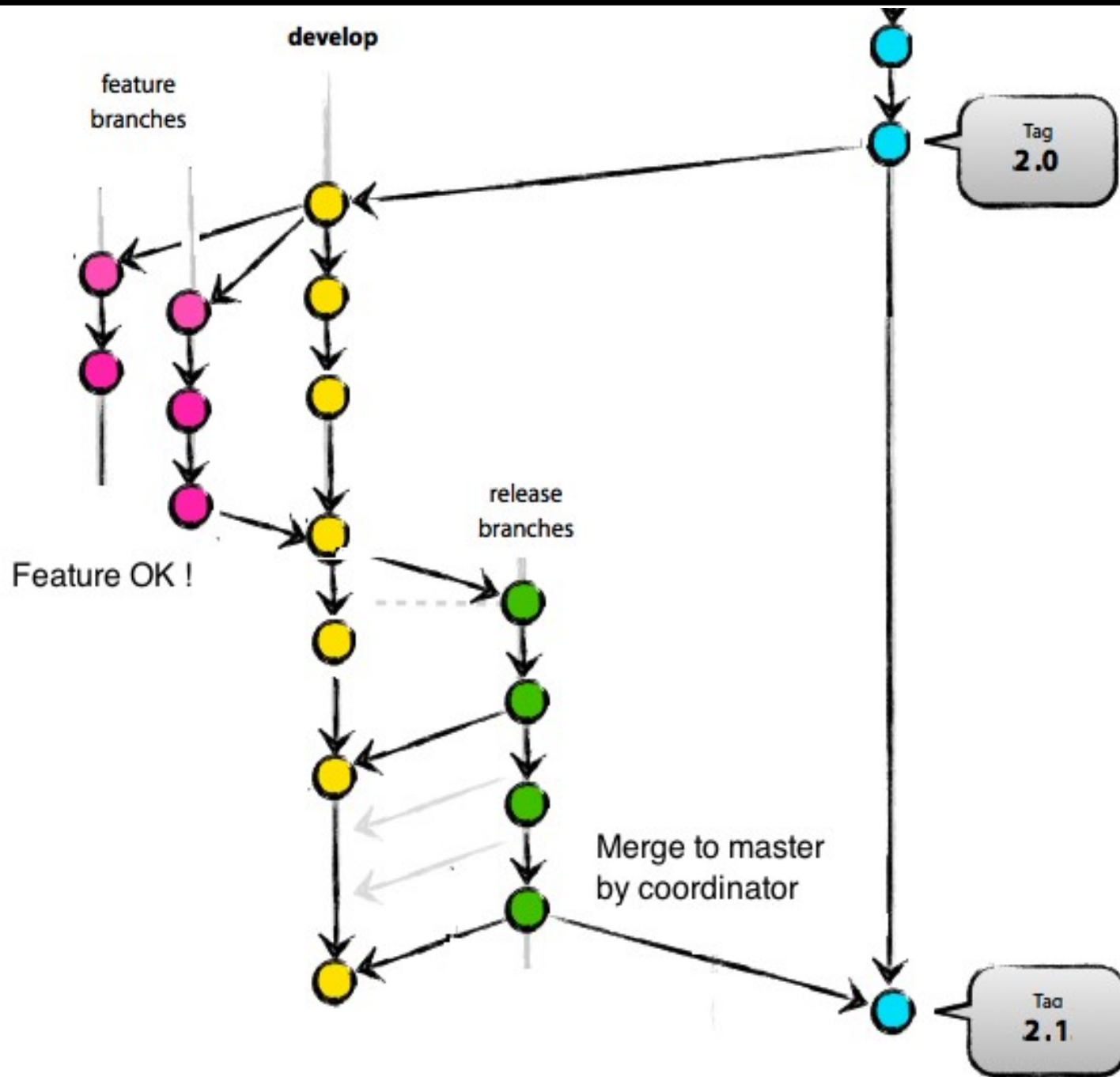
- Style and package changes

- After changes

The user can choose any branch they wish, but also has a frozen tagged master

- Releasing
- Coordinators

Collaboration

- Wiki as a reference for developers
- Every language has a wiki page with its style guide
- Every tool has a link to style guide, coordinator name and repository link on its wiki page

References

- Google's R style guide:
  http://google-styleguide.googlecode.com/svn/trunk/google-r-sty

- R package structure:
  http://cran.r-project.org/doc/manuals/R-exts.html

- Python package structure:
  http://guide.python-distribute.org

- Git review and reinforcement videos:

  /cfu/pub/tutorials/git/codeschool

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