Figure 4

Overview

This script takes a data frame produced by roles.qmd and outputs a figure that adheres to PLOS submission guidelines.

Import packages and utilities

```r
project_root <- here::here() # requires that you be somewhere in the
# project directory (not above it)
# packages
suppressMessages(source(file.path(project_root, "scripts/packages.R")))
# functions and objects used across scripts
suppressMessages(source(file.path(project_root, "scripts/utils.R")))
```

Load data

```r
# This poorly named function from utils.R
# is basically just read.csv with my data path in there
maint_df <- load_qualtrics_data(file.path("data_for_plots/maintainers_bar.tsv"))
```

```r
#my_colors <-  c("#88CCEE", "#332288")
my_colors <- c("#999933", "#882255")
```

Order factor levels

```
# Reorder factor levels by the highest proportion of maintainers
ordered_jobs <- maint_df %>%
  group_by(job_category) %>%
  summarise(
    maintainer = n[Maintainer=="maintainer"],
    not_maintainer = n[Maintainer=="not_maintainer"],
    .groups = "drop"
  ) %>%
  mutate(ratio = maintainer / not_maintainer) %>%
  arrange(desc(ratio)) %>%
  pull(job_category)

maint_df$job_category <- factor(maint_df$job_category, levels = ordered_jobs)

maint_df$Maintainer <- factor(maint_df$Maintainer, levels = c("not_maintainer", "maintainer")

# Make the labels prettier for legend
legend_labs <- stringr::str_to_sentence(gsub("_", " ", levels(maint_df$Maintainer)))
```

Plot

```
stack <- stacked_bar_chart(
  df = maint_df,
  x_var = "job_category",
  y_var = "n",
  fill = "Maintainer",
  title = "Number of maintainers\nby job category",
  show_legend = FALSE,
  #legend_text_size = 6,
  margin_vals = c(0.1, 0.1, 0.1, 0.1),
  plot_title_size = 7,
  y_axis_text_size = 6,
  y_axis_title_size = 6,
  x_axis_text_size = 6
  )
```

```r
stack <- stack +
  scale_fill_manual(labels = legend_labs, values = my_colors)
```

```
Scale for fill is already present.
Adding another scale for fill, which will replace the existing scale.
```

```r
stack_prop <- stacked_bar_chart(
  df = maint_df,
  x_var = "job_category",
  y_var = "n",
  ylabel = "Percent of responses",
  #show_axis_title_y = FALSE,
  fill = "Maintainer",
  title = "Percent of maintainers\nby job category",
  proportional = TRUE,
  legend_text_size = 6,
  margin_vals = c(0.1, 0.1, 0.1, 0.1),
  plot_title_size = 7,
  y_axis_text_size = 6,
  y_axis_title_size = 6,
  x_axis_text_size = 6
)

stack_prop <- stack_prop +
  scale_y_continuous(labels = scales::percent)

stack_prop <- stack_prop +
  scale_fill_manual(labels = legend_labs, values = my_colors)
```

```
Scale for fill is already present.
Adding another scale for fill, which will replace the existing scale.
```

```r
p_combined <- stack + plot_spacer() + stack_prop + plot_layout(widths = c(1, 0.2, 1))
# Handy code to see the plot border, for troubleshooting
#& theme(plot.background = element_rect(color = "black", linewidth = 1))

ggsave(
  filename = file.path(FIGURE_PATH, "fig4.tif"),
  plot = p_combined + plot_annotation(tag_levels = "A") & theme(plot.tag = element_text(size
  device = "tiff",
```

```
  width = 5.2, height = 2.6, units = "in",
  dpi = 425,
  compression = "none",
  bg = "white"
)
```

```
  width = 5.2, height = 2.6, units = "in",
  dpi = 425,
```