

Automated slide decks with the officeverse

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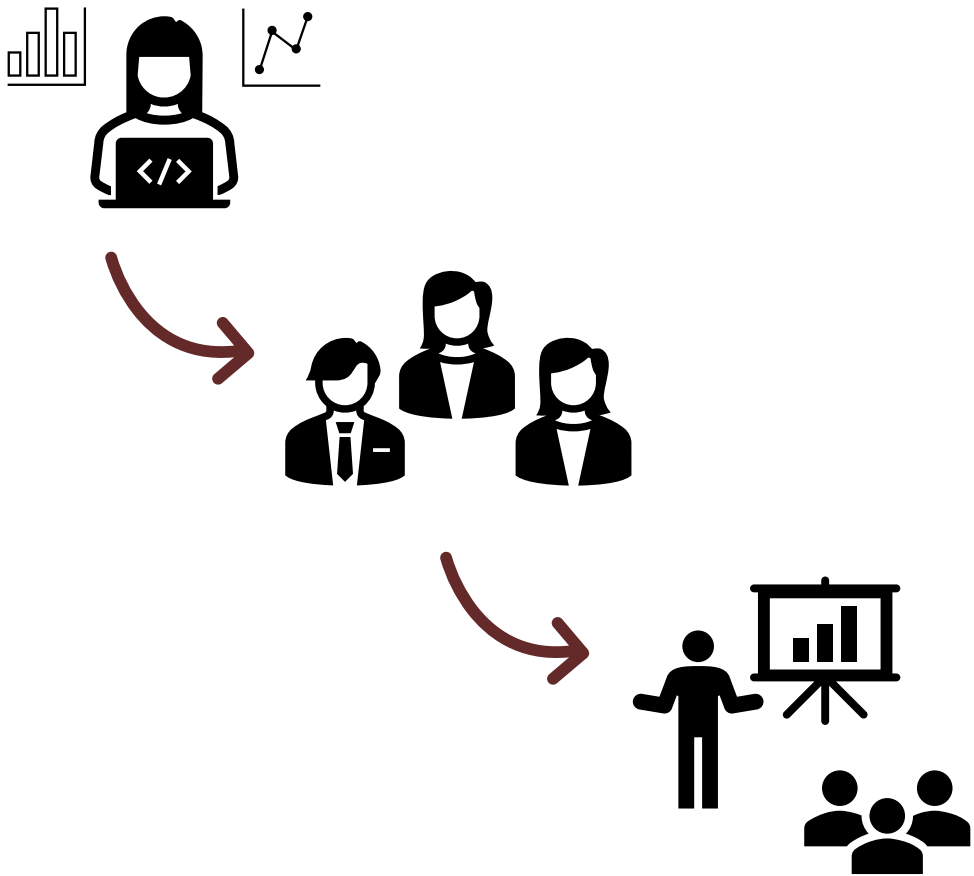
R-Ladies Toronto Lightning Talk

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Reality of a government data scientist



What I needed:

R + officeverse

R Markdown

- ✓ Microsoft PowerPoint compatible
- ✓ Slide design conforms to official corporate template
- ✓ Fast, automated, and accurate (eliminate copy-paste)
- ✓ Flexible slide layout (text + images + plots)
- ✓ Editable text, tables, and charts

The officeverse



officer

- Creates Word or PowerPoint docs based on template
- Best for mix of text, tables, graphs



mschart

- Native office charts for Word or PowerPoint
- Chart design, size, text, and underlying data can be edited



officedown

- Enhances R Markdown Word or PowerPoint output
- Better for text heavy docs



rvgl

- High-quality vector graphics for PowerPoint or Excel
- Graphic size, color, and text can be edited



flextable

- Design flexible tables or crosstabs for R Markdown (html, pdf), Word, or PowerPoint docs

Mastering the slide master

1 Create custom slide layouts

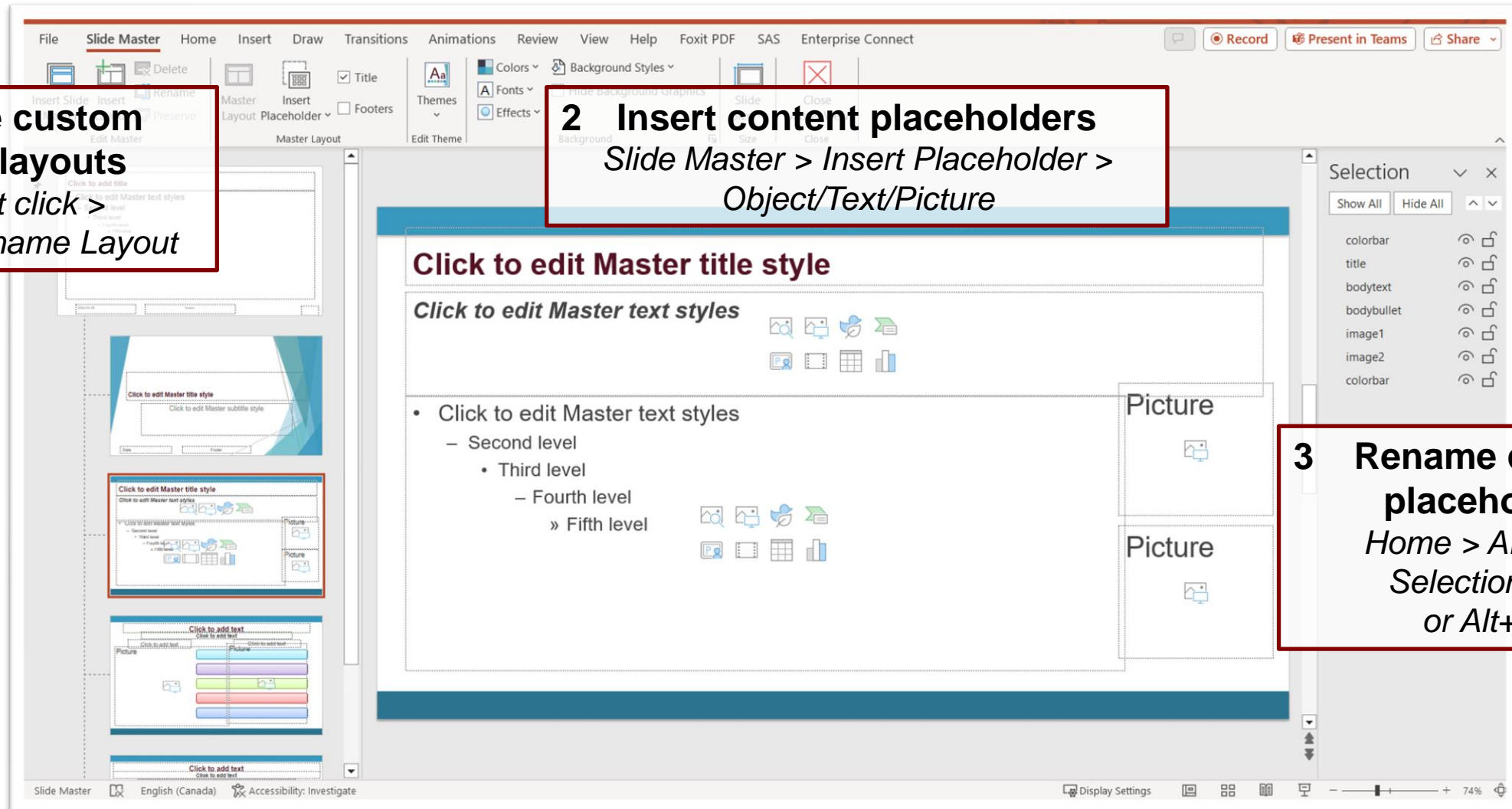
*Right click >
Insert/Rename Layout*

2 Insert content placeholders

*Slide Master > Insert Placeholder >
Object/Text/Picture*

3 Rename content placeholders

*Home > Arrange >
Selection Pane
or Alt+F10*



Mastering the code

- Read the PowerPoint template into R and add a slide

```
> my_deck <- officer::read_pptx("jennys_template.pptx") %>%  
  add_slide(my_deck, layout = "slide1_layout")
```

- Create editable graphics and charts

```
> my_ggplot <- rvg::dml(ggobj = my_ggplot, bg = "transparent")  
> my_mschart <- mscharts::ms_barchart() %>% chart_settings() %>% chart_labels()
```

- Insert data into the content placeholders

```
> my_deck <- my_deck %>% ph_with(value = "Hello world!", location =  
  ph_location_label(ph_label = "title")) %>%  
  ph_with(value = my_ggplot, location = ph_location_label("graph1"))
```

- Save the slides to a .pptx

```
> print(my_deck, target = "Final_Deck_2023-04-02.pptx")
```

officer in action!

Full code and dummy data available on [my github](#)

Click to edit Master title style

Click to edit Master text styles



Click to edit Master text styles

- Second level
- Third level
- Fourth level
- Fifth level

Picture



```
slide1_notes <- "Slide 1 features bulleted text and images.  
unordered_list() can be used to create bulletpoints with different levels.  
external_img() allows you to insert image files into a picture location in your pptx template."  
  
slide1_txt_title <- "Data-driven decision making"  
slide1_txt_bodytxt <- "We are making better use of the data and information collected during Cat
```

```
CE_txt <- read_excel(excel_fn, sheet = "Summary text", col_names = TRUE)  
slide1_bullets <- unordered_list(  
  level_list = c(1, 2, 2, 1, 2),  
  str_list = c(CE_txt$Slide_Text))
```

```
image_file1 <- external_img("mr_jones2.png")  
image_file2 <- external_img("mr_jones4.png")
```

```
### Slide 1 print to powerpoint
```

```
ppt_out <- add_slide(ppt_out, layout = "slide1", master = "Theme1") %>%  
  ph_with(value = slide1_txt_title, location = ph_location_label(ph_label = "title"))  
  ph_with(value = slide1_txt_bodytxt, location = ph_location_label(ph_label = "bodytext"))  
  ph_with(value = slide1_bullets, location = ph_location_label(ph_label = "bodybullets"))  
  ph_with(value = image_file1, location = ph_location_label(ph_label = "image1"))  
  ph_with(value = image_file2, location = ph_location_label(ph_label = "image2"))  
  set_notes(value = slide1_notes, location = notes_location_type("body"))
```

Slide Text
1,128 CEs in the GTA from April 1, 2022 to March 31, 2023
45% of encounters involved Tabby cats and 24% involved Calico cats
August was the peak month for CEs, with an increase in CEs in the second half of the year
41% of CEs resulted in a Positive Experience outcome, up from 35% previously
Purr, Meow, and Stretch were the most frequent cat actions during Positive Experience CEs

Data-driven decision making

We are making better use of the data and information collected during Cat Encounters (CEs) in the Greater Toronto Area (GTA) to inform decision-making and appropriate actions to increase positive cat experiences

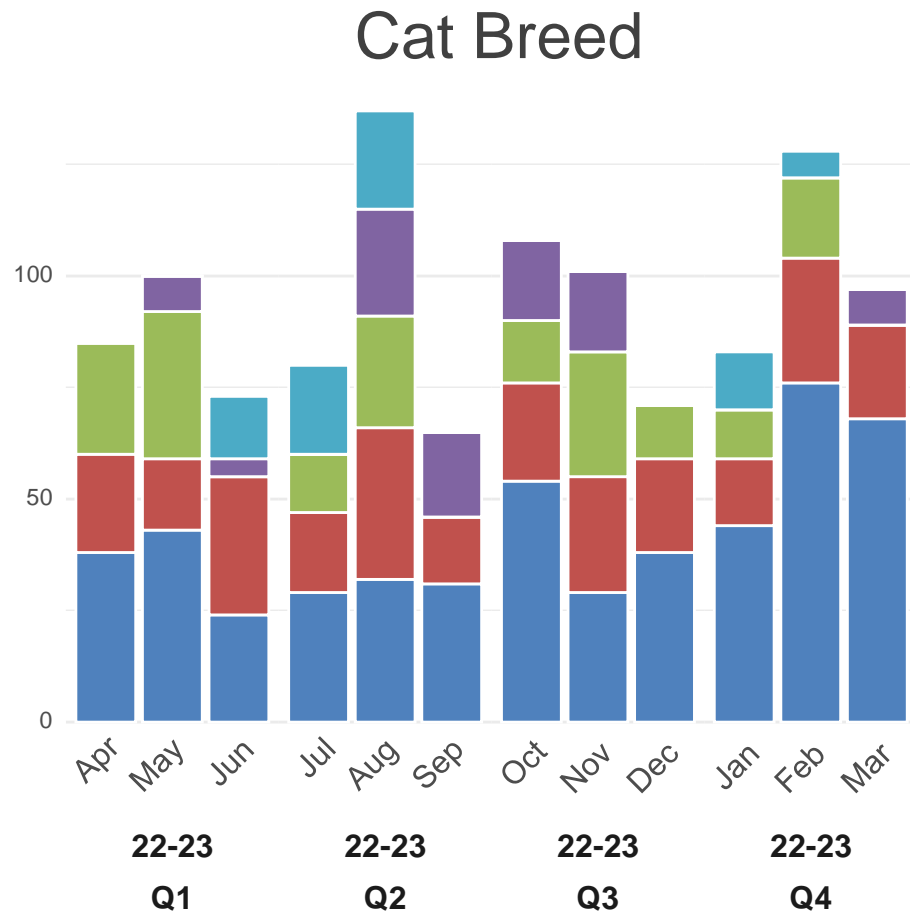
- 1,128 CEs in the GTA from April 1, 2022 to March 31, 2023
 - 45% of encounters involved Tabby cats and 24% involved Calico cats
 - August was the peak month for CEs, with an increase in CEs in the second half of the year
- 41% of CEs resulted in a Positive Experience outcome, up from 35% previously
 - Purr, Meow, and Stretch were the most frequent cat actions during Positive Experience CEs



Slide 1 features bulleted text and images.
unordered_list() can be used to create bulletpoints with different levels.
external_img() allows you to insert image files into a picture location in your pptx template.

Characteristics of GTA Cats Encountered

1 Apr 2022 and 31 Mar 2023



Cat Grade



```
> rvg::dm1(ggobj = my_ggplot)
```

```
> mscharts::ms_barchart()
```

Thank you for your attention!

- All code and materials available on my github:
<https://github.com/jennyrieck/auto-slide-deck-officer>
- Other helpful resources:
 - [officer for PowerPoint](#)
 - [officer vignette](#)
 - [charts with mschart](#)
 - [Up and running with officedown](#)
 - [PowerPoint slides in R via officer: A handholding guide](#)

Using officer to report on Cat Encounters in the GTA

- Specify data file and parameters
- officer setup
- Slide 1: Bulleted text + images
- Slide 2: Editable ggplot and mscharts
- Slide 3: Static ggplots
- Save PowerPoint slides

Automated slide decks with officer

Jenny Rieck
2024-03-30

Using officer to report on Cat Encounters in the GTA

This vignette will walk you through making a PowerPoint slide deck with `officer` for a toy dataset of Cat Encounters (CEs) in the Greater Toronto Area (GTA).

The slide deck in this vignette has 3 slides based on the the template file `slide-deck-officer-template.pptx`. With `officer`, we read this template into R, add slides based on different layouts specified in the template's slide master, and insert our R data or plots into the content placeholders on each slide. See [PowerPoint Slides in R via officer: A handholding guide](#) for more info on editing your template to create slide layouts and insert content placeholders.

Specify data file and parameters

For the purposes of this tutorial, the dataset (`officer_demo_cat_data.xlsx`) provides final summary measures that feed directly into the slide deck text and plots. The first sheet in the dataset file, "Report_Params", outlines the parameters used to generate the data, specifically the start and end date for the data in this report. These date variables are inserted into the text on our slides.

```
excel_fn <- "officer_demo_cat_data.xlsx"
report_params <- read_excel(excel_fn, sheet = "Report_Params")

start_date <- paste(day(report_params$Start_Date),
```

