

Module #9 Assignment

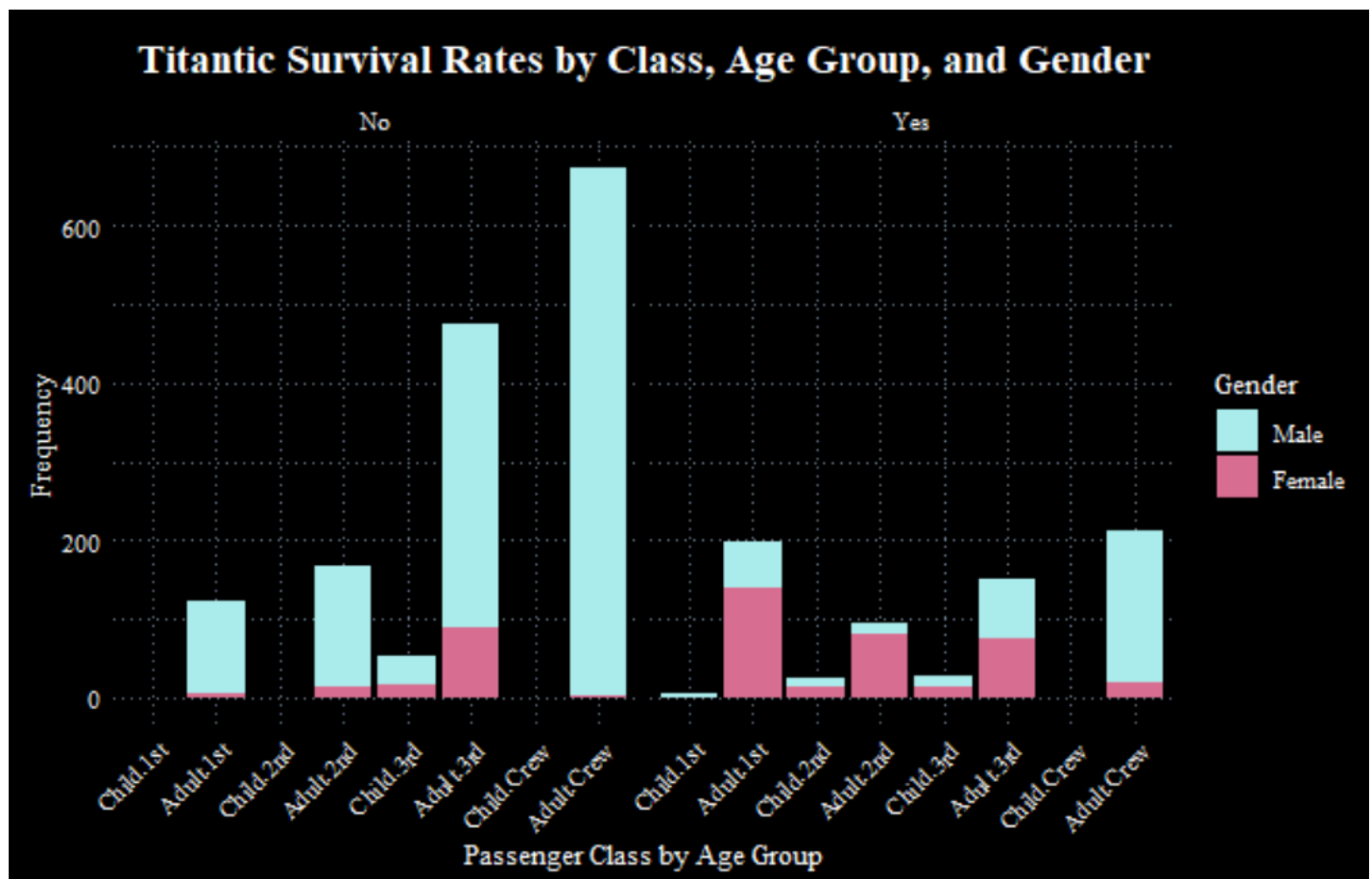
For this assignment, I made a multi-variate visualization using the Titanic survivor's dataset in R Studio. Here was the code i used to make my visualizations and my final chart:

```
library(ggplot2)
library(extrafont)

titanic <- data.frame(Titanic)

font_import(prompt = FALSE)
loadfonts(device = "win")

ggplot(titanic, aes(x = interaction(Age, Class), y = Freq, fill = Sex)) +
  geom_bar(stat = "identity", position = "stack") +
  facet_wrap(~Survived) +
  scale_fill_manual(values = c("Female" = "palevioletred", "Male" = "paleturquoise2")) +
  theme_minimal() +
  labs(
    x = "Passenger Class by Age Group",
    y = "Frequency",
    title = "Titanic Survival Rates by Class, Age Group, and Gender",
    fill = "Gender"
  ) +
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    panel.background = element_rect(fill = "black"),
    plot.background = element_rect(fill = "black"),
    plot.title = element_text(hjust = 0.5, size = 16, face = "bold"),
    text = element_text(color = "white", family = "Times New Roman"),
    axis.text = element_text(color = "white", family = "Times New Roman"),
    axis.title = element_text(color = "white", family = "Times New Roman"),
    legend.text = element_text(color = "white", family = "Times New Roman"),
    legend.title = element_text(color = "white", family = "Times New Roman"),
    strip.text = element_text(color = "white", family = "Times New Roman"),
    legend.background = element_rect(fill = "black"),
    panel.grid = element_line(color = "slategrey", linetype = "dotted")
  )
```



Alignment: "Aligning elements allows them to create a visual connection with each other." Everything in this chart is aligned and centered with its respective elements, creating a cohesive chart.

Repetition: "Repetition strengthens a design by tying together individual elements." I used repetition in this chart by using consistent color palettes across both facets and across all the different class and age categories. The only place where the color differs is the gender category; however, color is used to differentiate between the two different options.

Contrast: “Contrast allows you to emphasize or highlight key elements within your design.” I used contrast in two different ways: the color choices for the gender category (to differentiate them from each other) and in using paler colors set against a black background.

Proximity: “Proximity helps create organization.” I used proximity by placing the child and adult categories of each class next to each other in the bar chart. However, one improvement I could make in the future is finding a way to visually space the classes a little more to create a little more visual difference between when one class starts and ends.

Balance: “Balance provides stability and structure to a design.” This chart has balance because it displays two facets of the same date, the only difference being one shows who survived and the other shows who did die. These elements are both symmetrical and asymmetrical at the same time.

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