Final Report

Lin Deng

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Contents

1. App Name

Olympics Games

2. App Purpose

This app was designed to manipulate RShiny to present modern Modern Olympic Games (from Athens 1896 to Rio 2016) Players' stastics. And present changes or distribution among different countries, sex, sports, etc,.

3. Availability

This shinyapp can be visited on **shinyapps.io**

4. Data Source

This project consists of 2 datasets

1) athlete_event.csv Datasets can be scraped from **Sports-Reference** which contains 271116 rows and 15 features. Each row corresponds to an individual athlete compete in an individual Olympic event. It is free for public to use, unfortunately it may shut down in the near future.

```
## Observations: 271,116
## Variables: 15
## $ ID     <dbl> 1, 2, 3, 4, 5, 5, 5, 5, 5, 5, 6, 6, 6, 6, 6, 6, 6, 6, 7...
## $ Name   <chr> "A Dijiang", "A Lamusi", "Gunnar Nielsen Aaby", "Edgar ...
## $ Sex    <chr> "M", "M", "M", "M", "F", "F", "F", "F", "F", "F", "M", ...
## $ Age    <dbl> 24, 23, 24, 34, 21, 21, 25, 25, 27, 27, 31, 31, 31, 31,...
## $ Height <dbl> 180, 170, NA, NA, 185, 185, 185, 185, 185, 185, 188, 18...
## $ Weight <dbl> 80, 60, NA, NA, 82, 82, 82, 82, 82, 82, 75, 75, 75, 75,...
## $ Team   <chr> "China", "China", "Denmark", "Denmark/Sweden", "Netherl...
## $ NOC    <chr> "CHN", "CHN", "DEN", "DEN", "NED", "NED", "NED", "NED",...
## $ Games  <chr> "1992 Summer", "2012 Summer", "1920 Summer", "1900 Summ...
## $ Year   <dbl> 1992, 2012, 1920, 1900, 1988, 1988, 1992, 1992, 1994, 1...
```

```
## $ Season <chr> "Summer", "Summer", "Summer", "Summer", "Winter", "Wint...
## $ City   <chr> "Barcelona", "London", "Antwerpen", "Paris", "Calgary",...
## $ Sport  <chr> "Basketball", "Judo", "Football", "Tug-Of-War", "Speed ...
## $ Event  <chr> "Basketball Men's Basketball", "Judo Men's Extra-Lightw...
## $ Medal  <chr> NA, NA, NA, "Gold", NA, NA, NA, NA, NA, NA, NA, NA, NA,...
```

2) noc_regions.csv This dataset contains nations name corresponding NOC name

```
## Observations: 230
## Variables: 3
## $ NOC    <chr> "AFG", "AHO", "ALB", "ALG", "AND", "ANG", "ANT", "ANZ",...
## $ region <chr> "Afghanistan", "Curacao", "Albania", "Algeria", "Andorr...
## $ notes  <chr> NA, "Netherlands Antilles", NA, NA, NA, NA, "Antigua an...
```

5. App Functions

- Show distributions of players' age, height, weight, etc Multiple comparison between countries, events, nations, ages, etc
- Show multiple visualization by different events, gender, players, height, weight, countries, etc.,
- By using heat geo map show medals distribution among countries
- By using word cloud to check the common medal winners's name

6. Programming Challenges

- Need more time to beautify the app than achieving functions
- In visualization part, by using `!!rlang::sym(input$yourinputname)` to deal with input as a axis

```
ui <- selectInput("attribute0", "Attribute",
                  choices = c("Mean", "Medium"), selected = "Medium")

server <- function(input, output, session){
  output$yearvis = renderHighchart({
    hchart(yeardata(), "line",
           hcaes(x = Year, y = !!rlang::sym(input$attribute0), group = region)) %>%
      hc_add_theme(hc_theme_flat())
  })
  }
```

- All of the visualizations used in this project were built on Highcharts which is the powerful but is not originally designed for R.

7. Division of Labor

Lin Deng is the only people in charged of this project. He is responsible for all of the coding work and UI design.

8. Future Work

This app will need more comprehensive data to manipulate including players' data like strength, attacking, skill, movement, special, etc.,

For current dataset, each player doesn't change their related data after first registration, I cannot determine the relationship between BMI with their achievements.