

Team PJT – Outline (Team HAPPY)

1. Project Title

- What Factors Have Higher Correlation to the Level of Happiness?

2. Team Members

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3. Project Outline

- Given ‘The World Happiness Report 2019’ and country rankings, This project tries to find what factors relate more to the level of happiness.
- First, it delves into the given of the country happiness rankings, analyzes them, and visualizes the results.
 - ‘The World Happiness Report’ ranks 156 countries based entirely on the survey, and provides the ranks of 6 factors to help explain life evaluations: GDP, Social Supporting, Life Expectancy, Freedom, Generosity, and Corruption Level.
 - The project analyzes the datasets from 2015 to 2019, and visualizes the results with the geographical heatmap, ranking change line graph, etc.



- Second, it expands the horizon and tries to find more factors and related datasets that correlate the level of happiness of a country, analyzes them, and visualizes the results.
 - Possible datasets include: Obesity, Unemployment Rate, Birth Rate, Population Density
 - Scatter plots and geographical heatmap layers for each factors will be drawn.

4. Research Questions to Answer

[Part I – What are the Happy or Miserable Countries?]

- Which region and counties are the happiest? (2019)
 - ⇒ Geographical Heatmap
- What are the yearly changes of the rankings by region ? (2015-2019)
 - ⇒ Line Graph

[Part II – What Factors Correlate More to the Level of Happiness?]

- What are the top two highly correlated factors among 10 indices:
 - 1) GDP, 2) Social Supporting, 3) Life Expectancy, 4) Freedom,
 - 5) Generosity, 6)Corruption Level, 7) Obesity, 8) Unemployment,
 - 9) Birth Rate, 10) Population Density
 - ⇒ Scatter Plot of each factor
 - ⇒ Coefficients Line for each plot
 - ⇒ Bar Graph of the correlation ranks
- What are the correlations of 10 factors for each country's happiness level?
 - ⇒ Input Query
 - ⇒ Bar Graph

[Part III – Why and How the Top Two Factors Are Correlated to Level of Happiness]

- Try to explain the results, conclusions, limitations

5. Datasets to Be Used

- The World Happiness Report 2019, 2018, 2017, 2016, 2015 (csv files)
- CIA, World Banks datasets
- Gmaps API

6. Rough Breakdown of Tasks – By Research Question

- Collect, merge, and clean all the required data.
- Analyze the data and visualize the results.